



Appendix B. Air Quality and Greenhouse Gas Emissions Analysis Technical Report



This page is intentionally blank.

**Air Quality and Greenhouse Gas Emissions
Analysis Technical Report
for the Marja Acres Community Plan
Carlsbad, California**

Prepared for:

New Urban West Inc.
16935 West Bernardo Drive, Suite 260
San Diego, California 92127
Contact: Jonathan Frankel

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Adam Poll

APRIL 2019

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

TABLE OF CONTENTS

<u>Section</u>	<u>Page No.</u>
ACRONYMS AND ABBREVIATIONS.....	V
EXECUTIVE SUMMARY	IX
1 INTRODUCTION.....	1
1.1 Report Purpose and Scope	1
1.2 Project Description.....	1
2 AIR QUALITY.....	5
2.1 Environmental Setting	5
2.1.1 Meteorological and Topographical Conditions	5
2.1.2 Pollutants and Effects	6
2.1.3 Sensitive Receptors	12
2.2 Regulatory Setting	13
2.2.1 Federal Regulations	13
2.2.2 State Regulations	13
2.2.3 Local Regulations	18
2.3 Regional and Local Air Quality Conditions	25
2.3.1 San Diego Air Basin Attainment Designation	25
2.3.2 Local Ambient Air Quality	26
2.4 Significance Criteria and Methodology	27
2.4.1 Thresholds of Significance	27
2.4.2 Approach and Methodology	29
2.5 Impact Analysis	36
2.5.1 Would the project conflict with or obstruct implementation of the applicable air quality plan?	36
2.5.2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	38
2.5.3 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	40
2.5.4 Would the project expose sensitive receptors to substantial pollutant concentrations?	42
2.5.5 Would the project create objectionable odors affecting a substantial number of people?.....	46

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

TABLE OF CONTENTS (CONTINUED)

<u>Section</u>	<u>Page No.</u>
3 GREENHOUSE GAS EMISSIONS.....	48
3.1 Environmental Setting	48
3.1.1 Climate Change Overview	48
3.1.2 Greenhouse Gases	49
3.1.3 Global Warming Potential	51
3.2 Regulatory Setting	52
3.2.1 Federal Regulations	52
3.2.2 State Regulations	54
3.2.3 Local Regulations	67
3.3 Greenhouse Gas Inventories and Climate Change Conditions	69
3.3.1 Sources of Greenhouse Gas Emissions	69
3.3.2 Potential Effects of Climate Change	71
3.4 Significance Criteria and Methodology	76
3.4.1 Thresholds of Significance	76
3.4.2 Approach and Methodology	78
3.5 Impact Analysis	80
3.5.1 Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	80
3.5.2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	84
4 REFERENCES CITED.....	97
5 LIST OF PREPARERS.....	107

APPENDICES

A	CalEEMod Output Files
B	Health Risk Assessment
C	Carlsbad Climate Action Plan Consistency Checklist

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

TABLE OF CONTENTS (CONTINUED)

Page No.

FIGURE

1	Project Location	3
---	------------------------	---

TABLES

1	Ambient Air Quality Standards	14
2	San Diego Air Basin Attainment Classification	25
3	Local Ambient Air Quality Data.....	26
4	San Diego Air Pollution Control District Air Quality Significance Thresholds	28
5	Construction Phasing Assumptions	30
6	Construction Scenario Assumptions	30
7	AERMOD Principal Parameters	34
8	Estimated Maximum Daily Construction Criteria Air Pollutant Emissions.....	39
9	Estimated Maximum Daily Operational Criteria Air Pollutant Emissions.....	40
10	Construction Activity Health Risk Assessment Results	43
11	Six Top GHG Producer Countries and the European Community	69
12	GHG Emissions Sources in California	70
13	San Diego County GHG Emissions by Sectors	71
15	City of Carlsbad GHG Emissions by Sectors	71
15	Estimated Annual Construction GHG Emissions	80
16	Estimated Annual Operational GHG Emissions.....	81
17	City of Carlsbad Climate Action Plan Consistency Analysis	85
18	San Diego Forward: The Regional Plan Consistency Analysis.....	86
19	Project Consistency with Scoping Plan GHG Emission Reduction Strategies.....	90

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

INTENTIONALLY LEFT BLANK

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
°C	degrees Celsius
°F	degrees Fahrenheit
µg/m ³	micrograms per cubic meter
AB	Assembly Bill
AERMOD	American Meteorological Society/EPA Regulatory Model
amsl	above mean sea level
AQMP	Air Quality Management Plan
ATCM	Airborne Toxic Control Measures
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CALGreen	California's Green Building Standards
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbons
CH ₄	methane
City	City of Carlsbad
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
County	San Diego County
CPUC	California Public Utilities Commission
CY	cubic yard
DPM	diesel particulate matter
EO	Executive Order
EPA	U.S. Environmental Protection Agency
First Update	<i>First Update to the Climate Change Scoping Plan: Building on the Framework</i>
GHG	greenhouse gas
GWP	global warming potential
H ₂ S	hydrogen sulfide
HCFC	hydrochlorofluorocarbons
HFC	hydrofluorocarbon
HRA	Health Risk Assessment
IPCC	Intergovernmental Panel on Climate Change
LEED	Leadership in Energy and Environmental Design
LOS	level of service

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Acronym/Abbreviation	Definition
LST	localized significance thresholds
MMT	million metric ton
MT	metric tons
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NHTSA	National Highway Traffic Safety Administration
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen
O ₂	oxygen
O ₃	ozone
OEHHA	Office of Environmental Health Hazard Assessment
PFC	perfluorocarbon
PM ₁₀	particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter)
PM _{2.5}	particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter)
ppb	parts per billion
ppm	parts per million
Project	Marja Acres Community Plan
RAQS	Regional Air Quality Strategy
RCP	Regional Comprehensive Plan
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SCAQMD	South Coast Air Quality Management District
Scoping Plan	<i>Climate Change Scoping Plan: A Framework for Change</i>
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
Second Update	<i>2017 Climate Change Scoping Plan Update</i>
SF ₆	sulfur hexafluoride
SIP	State Implementation Plan
SLCP	short-lived climate pollutant
SO ₂	sulfur dioxide
SO ₄	sulfates
SO _x	sulfur oxides
SP	service population
SRA	source-receptor area
TAC	toxic air contaminants
TIS	traffic impact study

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Acronym/Abbreviation	Definition
VMT	Vehicle miles traveled
VOC	volatile organic compound
ZEV	Zero Emissions Vehicle
ZNE	zero net energy

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

INTENTIONALLY LEFT BLANK

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

EXECUTIVE SUMMARY

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) emissions impacts associated with implementation of the proposed Marja Acres Community Plan (Project). This assessment utilizes the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.).

Project Overview

The Marja Acres development plan proposes a total number of 298 dwelling units consisting of 236 townhomes within the R-15 General Plan designated area, and 46 age restricted affordable house units, 16 townhomes, a 4,000-square-foot restaurant pad and a 6,000 retail pad area within the General Commercial General Plan designated area. The proposed project has been designed to emphasize superior architecture, views, privacy, walkability, internal connectivity and recreational amenities.

In order to provide housing for low and very low-income seniors, the Project proposes to utilize the opportunities provided by the Residential Density Bonus section of the City of Carlsbad Zoning ordinance (CMC 21.86). For those projects that reserve 20% of total units for low income residents, CMC 21.86 allows an increase in the number of units beyond the maximum General Plan density calculations. The Project provides 20% of units for low and very low-income seniors. Section 21.86 is fully intended to implement the Housing Element of the General Plan and support existing City of Carlsbad policies designed to increase the stock of affordable housing.

Air Quality

The air quality impact analysis evaluated the potential for adverse impacts to air quality due to construction and operational emissions resulting from the Project. Impacts were evaluated for their significance based on the San Diego Air Pollution Control District's (SDAPCD) mass daily criteria air pollutant thresholds of significance (SDAPCD 2016a). Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM_{2.5}), and lead. Pollutants that are evaluated include volatile organic compounds (VOCs) (also referred to as reactive organic gases), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), PM₁₀, and PM_{2.5}. VOCs and NO_x are important because they are precursors to O₃.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Air Quality Plan Consistency

If a project proposes development that is greater than that anticipated in the local plan and San Diego Association of Government's (SANDAG's) growth projections, the project might be in conflict with the State Implementation Plan (SIP) and Regional Air Quality Strategy (RAQS) and may contribute to a potentially significant cumulative impact on air quality. The proposed Project was deemed to be consistent with the current air quality plan, because the anticipated growth associated with the Project does not exceed that projected by SANDAG. In addition, the Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations. Based on these considerations, impacts related to the Project's potential to conflict with or obstruct implementation of the applicable air quality plan would be less than significant.

Construction Criteria Air Pollutant Emissions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Maximum daily construction emissions would not exceed the SDAPCD significance thresholds for VOC, NO_x, CO, SO_x, PM₁₀, or PM_{2.5} during construction.

Operational Criteria Air Pollutant Emissions

Operational year 2023 was assumed consistent with the traffic report prepared for the project (Linscott Law & Greenspan 2018). Operation of the Project would generate operational criteria air pollutants from mobile sources (vehicles), area sources (consumer product use, architectural coatings, and landscape maintenance equipment), and energy (natural gas). Maximum operational emissions would not exceed the SDAPCD operational significance thresholds for VOC, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}.

Exposure of Sensitive Receptors

Construction activities would not generate emissions in excess of the SDAPCD site-specific mass daily thresholds; therefore, site-specific construction impacts during construction of the Project would be less than significant. In addition, diesel equipment would also be subject to the California Air Resources Board (CARB) Airborne Toxic Control Measures (ATCMs) for in-use off-road diesel fleets, which would minimize diesel particulate matter (DPM) emissions. The health risk assessment for construction showed cancer and non-cancer risks below levels of significance. No residual toxic air contaminants (TAC) emissions and corresponding cancer risk are anticipated after construction, since no long-term sources of TAC emissions are anticipated during operation of the Project. Therefore, impacts to sensitive receptors during construction would be less than significant.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

The CO hotspot analysis showed that the intersections that operated at a Level of Service of E or worse would not exceed the 1-hour or 8-hour ambient air quality standard. As such, potential Project-generated impacts associated with CO hotspots would be less than significant.

Odors

Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application, which would disperse rapidly from the Project site and generally occur at magnitudes that would not affect substantial numbers of people. Impacts associated with odors during construction would be less than significant. The Project is a residential development that would not include land uses with sources that have the potential to generate substantial odors, and impacts associated with odors during operation would be less than significant.

Cumulative Impacts

The potential for the Project to result in a cumulatively considerable impact, per the SDAPCD guidance and thresholds, is based on the Project's potential to exceed the project-specific daily thresholds. As discussed previously, maximum construction and operational emissions would not exceed the SDAPCD significance thresholds for VOC, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}. Therefore, the Project would not result in a cumulatively considerable increase in criteria air pollutants.

Greenhouse Gas Emissions

Global climate change is primarily considered a cumulative impact but must also be evaluated on a project-level under CEQA. A project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHG emissions. GHGs are gases that absorb infrared radiation in the atmosphere. Principal GHGs regulated under state and federal law and regulations include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). GHG emissions are measured in metric tons of CO₂ equivalent (MT CO₂e), which account for weighted global warming potential (GWP) factors for CH₄ and N₂O.

Project-Generated Construction and Operational Greenhouse Gas Emissions

Construction of the Proposed Project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. Total proposed Project-generated GHG emissions during construction were estimated to be 1,089.71 MT CO₂e, or 36.23 MT CO₂e per year when amortized over 30 years.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

The proposed Project would generate operational GHG emissions from area sources (landscape maintenance), energy sources (electricity consumption), mobile sources (vehicle trips), water supply and wastewater treatment, and solid waste. Estimated annual proposed Project-generated operational GHG emissions at buildout in 2023 would be approximately 2,298 MT CO₂e per year.

Estimated annual proposed Project-generated operational emissions in 2023, plus amortized Project construction emissions, would be approximately 2,334 MT CO₂e per year. The Project was deemed to be consistent with the City's Climate Action Plan (CAP) Measures. The Project did not have a cumulative impact on the environment when evaluated against the City's CAP Checklist and therefore, GHG impacts would be considered less than significant.

Consistency with Applicable Greenhouse Gas Reduction Plans

The proposed Project was shown to be consistent with SANDAG's Regional Plan, City of Carlsbad's CAP, Senate Bill (SB) 32, and Executive Order (EO) S-3-05. The proposed Project does not conflict with any plans adopted with the purpose of reducing GHG emissions; therefore, the proposed Project's impacts on GHG emissions would be less than significant.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

1 INTRODUCTION

1.1 Report Purpose and Scope

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) emissions impacts associated with implementation of the proposed Marja Acres Community Plan (Project). This assessment uses the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) and is based on the emissions-based significance thresholds recommended by the San Diego Air Pollution Control District (SDAPCD) and other applicable thresholds of significance.

This introductory section provides a description of the Project and the Project location (see Figure 1). Section 2, Air Quality, describes the air quality–related environmental setting, regulatory setting, existing air quality conditions, and thresholds of significance and analysis methodology and presents an air quality impact analysis per Appendix G of the CEQA Guidelines. Section 3, Greenhouse Gas Emissions, follows the same format as Section 2 and similarly describes the GHG emissions–related environmental setting, regulatory setting, existing climate change conditions, and thresholds of significance and analysis methodology and presents a GHG emissions impact analysis per Appendix G of the CEQA Guidelines. Section 4, References Cited, includes a list of the references cited. Section 5, List of Preparers, includes a list of those who prepared this technical report.

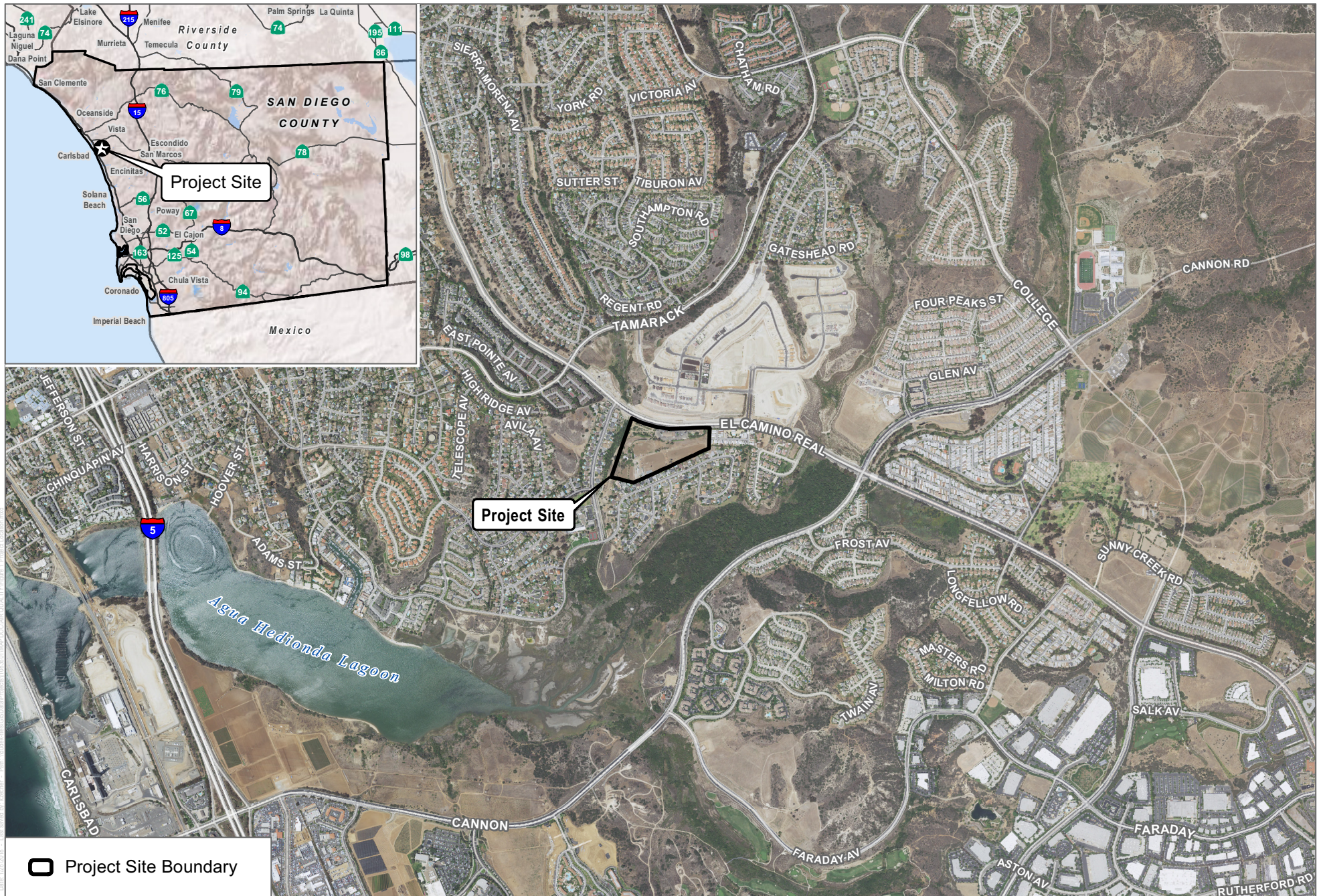
1.2 Project Description

The Marja Acres development plan proposes a total number of 298 dwelling units consisting of 236 townhomes within the R-15 General Plan designated area, and 46 age-restricted affordable house units, 16 townhomes, a 4,000-square-foot restaurant pad, and a 6,000-square-foot retail pad area within the General Commercial General Plan designated area. The proposed project has been designed to emphasize superior architecture, views, privacy, walkability, internal connectivity, and recreational amenities.

In order to provide housing for low and very low-income seniors, the Project proposes to utilize the opportunities provided by the Residential Density Bonus section of the City of Carlsbad Zoning ordinance (CMC 21.86). For those projects that reserve 20% of total units for low income residents, CMC 21.86 allows an increase in the number of units beyond the maximum General Plan density calculations. The Project provides 20% of units for low and very low-income seniors. Section 21.86 is fully intended to implement the Housing Element of the General Plan and support existing City of Carlsbad policies designed to increase the stock of affordable housing. The objectives of this project are to:

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

- Fill a need for housing type and density that is in low supply within the City's residential inventory pipeline
- Provide attainably priced homes for young families and professionals close to employment centers
- Provide income and age restricted affordable housing to implement the City's General Plan housing goals by increasing the stock of housing for both low-income and very-low income seniors
- Create a walkable mixed-use community that connects the neighborhood to community gathering areas and the commercial amenities within Marja Acres
- Foster a unique sense of place that establishes the identity of the Marja Acres in the City of Carlsbad
- Create a new neighborhood that will be consistent with the goals and objectives of the General Plan
- Minimize potential negative impacts to adjacent residential land uses through placement of the townhomes, grading techniques, landscape berms, retaining walls and fencing
- Provide for a variety of architectural styles yet maintain a cohesive overall character enhanced by the landscape plan for the community
- Develop a plan that is economically feasible and capable of being implemented based on existing and anticipated future economic conditions
- Preserve the privacy of existing neighbors
- Retain the existing agrarian architecture character of the site
- Provide an active, safe, pleasant environment that encourages human contact and social activity
- Provide housing types to serve a broad variety of residents at various stages in life
- Provide for 7,000 square feet of local neighborhood commercial uses



SOURCE: NAIP 2016

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

INTENTIONALLY LEFT BLANK

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

2 AIR QUALITY

2.1 Environmental Setting

The Project area is located within the San Diego Air Basin (SDAB) and is subject to the SDAPCD guidelines and regulations. The SDAB is one of 15 air basins that geographically divide the State of California. The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges (in degrees Fahrenheit (°F)) from the mid-40s to the high 90s. Most of the region's precipitation falls from November to April with infrequent (approximately 10%) precipitation during the summer. The average seasonal precipitation along the coast is approximately 10 inches; the amount increases with elevation as moist air is lifted over the mountains to the east.

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east. Along with local meteorology, the topography influences the dispersal and movement of pollutants in the SDAB. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers as described in the next section.

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

2.1.1 Meteorological and Topographical Conditions

The SDAB lies in the southwest corner of California, comprises the entire San Diego region, approximately covering 4,260 square miles, and is an area of high air pollution potential. The SDAB experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The climate also drives the pollutant levels. The climate of San Diego is classified as Mediterranean, but it is incredibly diverse due to the topography. The climate is dominated by the Pacific High pressure system that results in mild, dry summers and mild, wet winters. The Pacific High drives the prevailing winds in the SDAB. The winds tend to blow onshore during the daytime and offshore at night. In the fall months, the SDAB is often impacted by Santa Ana winds. These winds are the result of a high pressure system over the Nevada-Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean (SDAPCD 2015a). The winds blow the air basin's pollutants out to sea. However, a weak Santa

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Ana can transport air pollution from the South Coast Air Basin and greatly increase the San Diego O₃ concentrations. A strong Santa Ana also primes the vegetation for firestorm conditions.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. Another type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone (O₃), commonly known as smog.

Light daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and oxides of nitrogen (NO_x) emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the basin are associated with heavy traffic. Nitrogen dioxide (NO₂) levels are also generally higher during fall and winter days when O₃ concentrations are lower.

The local climate in the southern part of the County is characterized as semi-arid with consistently mild, warmer temperatures throughout the year. The average summertime high temperature in the region is approximately 72°F. The average wintertime low temperature is approximately 53°F. Average precipitation in the local area is approximately 10.5 inches per year, with the bulk of precipitation falling between December and March (WRCC 2017).

2.1.2 Pollutants and Effects

2.1.2.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O₃, NO₂, CO, sulfur dioxide (SO₂), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀), particulate matter with an aerodynamic diameter less than or

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

equal to 2.5 microns ($PM_{2.5}$), and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.¹ In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly NO_x and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface in the troposphere (ozone).² The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is, thus, considered "bad" O_3 . Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3 . NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources, such as electric utility and industrial boilers.

¹ The descriptions of each of the criteria air pollutants and associated health effects are based on the EPA's Criteria Air Pollutants (2016a) and the CARB Glossary of Air Pollutant Terms (2016a).

² The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

NO₂ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016b).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO₂ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels.

SO₂ is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO₂ can injure lung tissue and reduce visibility and the level of sunlight. SO₂ can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. Coarse particulate matter (PM₁₀) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

particulate matter (PM_{2.5}) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM₁₀ and PM_{2.5} (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O₃ are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O₃ and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO₂ in the atmosphere. Sulfates can result in respiratory impairment and reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in the air can cause nervous system effects such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for PM_{2.5}, described above.

2.1.2.2 Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair) and, thus, is a subset of PM_{2.5} (CARB 2016a). DPM is typically composed of carbon particles (“soot,” also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016a). The CARB classified “particulate emissions from diesel-fueled engines” (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of PM_{2.5}, DPM also contributes to the same non-cancer health effects as PM_{2.5} exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016b). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and, overall, is

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as “Valley Fever,” is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The fungus is very prevalent in the soils of California’s San Joaquin Valley, particularly in Kern County. Kern County is considered a highly endemic county (i.e., more than 20 cases annually of Valley Fever per 100,000 people) based on the incidence rates reported through 2016 (California Department of Public Health 2017). The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils.

San Diego County is not considered a highly endemic region for Valley Fever as the latest report from the California Department of Public Health listed San Diego County as having 4.4 cases per 100,000 people (California Department of Public Health 2017). Similarly, among the total reported incidents of Valley Fever in San Diego County from 2007 through 2016, only 0.6% of the cases were in in the zip code where the project is located (County of San Diego 2017).

2.1.3 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The SDAPCD identifies sensitive receptors as those who are especially susceptible to adverse health effects from exposure to toxic air contaminants, such as children, the elderly, and the ill. Sensitive receptors include schools (grades Kindergarten through 12), day care centers, nursing homes, retirement homes, health clinics, and hospitals within 2 kilometers of the facility (SDAPCD 2015b). The closest sensitive receptors to the Proposed Project are residences adjacent to the southern, western, and eastern property boundaries.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

2.2 Regulatory Setting

2.2.1 Federal Regulations

2.2.1.1 *Criteria Air Pollutants*

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the CAA, including the setting of the National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O₃ protection, and enforcement provisions.

Under the CAA, NAAQS are established for the following criteria pollutants: O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The CAA requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

2.2.1.2 *Hazardous Air Pollutants*

The 1977, federal CAA amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. Hazardous air pollutants include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA amendments, which expanded the control program for Hazardous Air Pollutants, 189 substances and chemical families were identified as Hazardous Air Pollutants.

2.2.2 State Regulations

2.2.2.1 *Criteria Air Pollutants*

The federal CAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to the CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

ensuring implementation of the California Clean Air Act of 1988, responding to the CAA and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, PM₁₀, PM_{2.5}, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 1.

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
O ₃	1 hour	0.09 ppm (180 µg/m ³)	—	Same as Primary Standard ^f
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³) ^f	
NO ₂ ^g	1 hour	0.18 ppm (339 µg/m ³)	0.100 ppm (188 µg/m ³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	
CO	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	None
	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	
SO ₂ ^h	1 hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m ³)
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^g	—
	Annual	—	0.030 ppm (for certain areas) ^g	—
PM ₁₀ ⁱ	24 hours	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m ³	—	
PM _{2.5} ⁱ	24 hours	—	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	12.0 µg/m ³	15.0 µg/m ³
Lead ^{j,k}	30-day Average	1.5 µg/m ³	—	—
	Calendar Quarter	—	1.5 µg/m ³ (for certain areas) ^k	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m ³	

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)	—	—
Vinyl chloride ^f	24 hours	0.01 ppm (26 µg/m ³)	—	—
Sulfates	24 hours	25 µg/m ³	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016b.

Notes: µg/m³ = micrograms per cubic meter; mg/m³ = milligrams per cubic meter; ppm = parts per million by volume; O₃ = ozone; NO₂ = nitrogen dioxide; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

^a California standards for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, suspended particulate matter (PM₁₀, PM_{2.5}), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

^b National standards (other than O₃, NO₂, SO₂, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

^c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

^d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

^e National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

^f On October 1, 2015, the national 8-hour O₃ primary and secondary standards were lowered from 0.075 to 0.070 ppm.

^g To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

^h On June 2, 2010, a new 1-hour SO₂ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

ⁱ On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

^j California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

^k The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

2.2.2.2 Toxic Air Contaminants

A TAC is defined by California law as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. Federal laws use the Hazardous Air Pollutants to refer to the same types of compounds that are referred to as TACs under state law. California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588).

AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. Pursuant to AB 2588, existing facilities that emit air pollutants above specified levels were required to (1) prepare a TAC emission inventory plan and report, (2) prepare a risk assessment if TAC emissions were significant, (3) notify the public of significant risk levels, and (4) if health impacts were above specified levels, prepare and implement risk reduction measures.

The following regulatory measures pertain to the reduction of DPM and criteria pollutant emissions from off-road equipment and diesel-fueled vehicles:

Idling of Commercial Heavy Duty Trucks (13 CCR 2485)

In July 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to control emissions from idling trucks. The ATCM prohibits idling for more than 5 minutes for all commercial trucks with a gross vehicle weight rating over 10,000 pounds. The ATCM contains an exception that allows trucks to idle while queuing or involved in operational activities.

In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.)

In July 2007, CARB adopted an ATCM for in-use off-road diesel vehicles. This regulation requires that specific fleet average requirements are met for NO_x emissions and for particulate matter emissions. Where average requirements cannot be met, Best Available Control Technology requirements apply. The regulation also includes several recordkeeping and reporting requirements.

In response to AB 8 2X, the regulations were revised in July 2009 (effective December 3, 2009) to allow a partial postponement of the compliance schedule in 2011 and 2012 for existing fleets. On December 17, 2010, CARB adopted additional revisions to further delay the deadlines reflecting reductions in diesel emissions due to the poor economy and overestimates of diesel emissions in California. The revisions delayed the first compliance date until no earlier than

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

January 1, 2014, for large fleets, with final compliance by January 1, 2023. The compliance dates for medium fleets were delayed until an initial date of January 1, 2017, and final compliance date of January 1, 2023. The compliance dates for small fleets were delayed until an initial date of January 1, 2019, and final compliance date of January 1, 2028. Correspondingly, the fleet average targets were made more stringent in future compliance years. The revisions also accelerated the phaseout of equipment with older equipment added to existing large and medium fleets over time, requiring the addition of Tier 2 or higher engines starting on March 1, 2011, with some exceptions: Tier 2 or higher engines on January 1, 2013, without exception; and Tier 3 or higher engines on January 1, 2018 (January 1, 2023, for small fleets).

On October 28, 2011 (effective December 14, 2011), the Executive Officer approved amendments to the regulation. The amendments included revisions to the applicability section and additions and revisions to the definition. The initial date for requiring the addition of Tier 2 or higher engines for large and medium fleets, with some exceptions, was revised to January 1, 2012. New provisions also allow for the removal of emission control devices for safety or visibility purposes. The regulation also was amended to combine the particulate matter and NO_x fleet average targets under one, instead of two, sections. The amended fleet average targets are based on the fleet's NO_x fleet average, and the previous section regarding particulate matter performance requirements was deleted completely. The Best Available Control Technology requirements, if a fleet cannot comply with the fleet average requirements, were restructured and clarified. Other amendments to the regulations included minor administrative changes to the regulatory text.

In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025)

On December 12, 2008, CARB adopted an ATCM to reduce NO_x and particulate matter emissions from most in-use on-road diesel trucks and buses with a gross vehicle weight rating greater than 14,000 pounds. The original ATCM regulation required fleets of on-road trucks to limit their NO_x and particulate matter emissions through a combination of exhaust retrofit equipment and new vehicles. The regulation limited particulate matter emissions for most fleets by 2011, and limited NO_x emissions for most fleets by 2013. The regulation did not require any vehicle to be replaced before 2012 and never required all vehicles in a fleet be replaced.

In December 2009, the CARB Governing Board directed staff to evaluate amendments that would provide additional flexibility for fleets adversely affected by the poor California economy. On December 17, 2010, CARB revised this ATCM to delay its implementation along with limited relaxation of its requirements. Starting on January 1, 2015, lighter trucks with a gross vehicle weight rating of 14,001 to 26,000 pounds with 20-year-old or older engines need to be replaced with newer trucks (2010 model year emissions equivalent as defined in the regulation). Trucks with a gross vehicle weight rating greater than 26,000 pounds with 1995 model year or older

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

engines needed to be replaced as of January 1, 2015. Trucks with 1996–2006 model year engines must install a Level 3 (85% control) diesel particulate filter starting on January 1, 2012, to January 1, 2014, depending on the model year, and then must be replaced after 8 years. Trucks with 2007–2009 model year engines have no requirements until 2023, at which time they must be replaced with 2010 model year emissions equivalent engines, as defined in the regulation. Trucks with 2010 model year engines would meet the final compliance requirements. The ATCM provides a phase-in option under which a fleet operator would equip a percentage of trucks in the fleet with diesel particulate filters, starting at 30% as of January 1, 2012, with 100% by January 1, 2016. Under each option, delayed compliance is granted to fleet operators who have or will comply with requirements before the required deadlines.

On September 19, 2011 (effective December 14, 2011), the Executive Officer approved amendments to the regulations, including revisions to the compliance schedule for vehicles with a gross vehicle weight rating of 26,000 pounds or less to clarify that *all* vehicles must be equipped with 2010 model year emissions equivalent engines by 2023. The amendments included revised and additional credits for fleets that have downsized; implement early particulate matter retrofits; incorporate hybrid vehicles, alternative-fueled vehicles, and vehicles with heavy-duty pilot ignition engines; and implement early addition of newer vehicles. The amendments included provisions for additional flexibility, such as for low-usage construction trucks, and revisions to previous exemptions, delays, and extensions. Other amendments to the regulations included minor administrative changes to the regulatory text, such as recordkeeping and reporting requirements related to other revisions.

California Health and Safety Code Section 41700

Section 41700 of the California Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

2.2.3 Local Regulations

2.2.3.1 San Diego Air Pollution Control District

While CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

standards and regulating stationary sources. The Project area is located within the SDAB and is subject to the guidelines and regulations of the SDAPCD.

In the County, O₃ and particulate matter are the pollutants of main concern, since exceedances of state ambient air quality standards for those pollutants have been observed there in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM₁₀, PM_{2.5}, and O₃ standards. The SDAB is also a federal O₃ attainment (maintenance) area for 1997 8-hour O₃ standard, an O₃ nonattainment area for the 2008 8-hour O₃ standard, and a CO maintenance area (western and central part of the SDAB only, including the Project area).

Federal Attainment Plans

In December 2016, the SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County (2008 O₃ NAAQS). The 2016 Eight-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O₃ standard (1997 O₃ NAAQS) by 2018 (SDAPCD 2016a). In this plan, SDAPCD relies on the Regional Air Quality Strategy (RAQS) to demonstrate how the region will comply with the federal O₃ standard. The RAQS details how the region will manage and reduce O₃ precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these pollutants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

Currently, the County is designated as moderate nonattainment for the 2008 NAAQS and maintenance for the 1997 NAAQS. As documented in the 2016 8-Hour Ozone Attainment Plan for San Diego County, the County has a likely chance of obtaining attainment due to the transition to low-emission cars, stricter new source review rules, and continuing the requirement of general conformity for military growth and the San Diego International Airport. The County will also continue emission control measures, including ongoing implementation of existing regulations in O₃ precursor reduction to stationary and area-wide sources, subsequent inspections of facilities and sources, and the adoption of laws requiring Best Available Retrofit Control Technology for control of emissions (SDAPCD 2016a).

State Attainment Plans

The SDAPCD and the SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

RAQS for the SDAB was initially adopted in 1991 and is updated on a triennial basis, most recently in 2016 (SDAPCD 2016b). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O₃. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans (SANDAG 2017a, 2017b).

In December 2016, the SDAPCD adopted the revised RAQS for the County. Since 2007, the San Diego region reduced daily VOC emissions and NO_x emissions by 3.9% and 7.0%, respectively; the SDAPCD expects to continue reductions through 2035 (SDAPCD 2016b). These reductions were achieved through implementation of six VOC control measures and three NO_x control measures adopted in the SDAPCD's 2009 RAQS (SDAPCD 2009a); in addition, the SDAPCD is considering additional measures, including three VOC measures and four control measures to reduce 0.3 daily tons of VOC and 1.2 daily tons of NO_x, provided they are found to be feasible region-wide. In addition, SDAPCD has implemented nine incentive-based programs, has worked with SANDAG to implement regional transportation control measures, and has reaffirmed the state emission offset repeal.

In regards to particulate matter emissions reduction efforts, in December 2005, the SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required additional controls to reduce ambient concentrations of PM₁₀ and PM_{2.5}) (SDAPCD 2005). In the report, SDAPCD evaluated implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

SDAPCD Rules and Regulations

As stated above, the SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations apply to all sources in the jurisdiction of SDAPCD and would apply to the Project.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

SDAPCD Regulation II: Permits; Rule 20.2: New Source Review Non-Major Stationary Sources. Requires new or modified stationary source units (that are not major stationary sources) with the potential to emit 10 pounds per day or more of VOC, NO_x, SO_x, or PM₁₀ to be equipped with Best Available Control Technology. For those units with a potential to emit above Air Quality Impact Assessments Trigger Levels, the units must demonstrate that such emissions would not violate or interfere with the attainment of any national air quality standard (SDAPCD 2016b).

The Project does not propose specific stationary sources. If stationary sources were to be included as part of the Project, or at a later date, those sources would be subject to Rule 20.2 and would require appropriate operating permits from the SDAPCD. Because the SDAPCD has not adopted specific criteria air pollutant thresholds for CEQA analyses, the thresholds identified in Rule 20.2 are utilized in this analysis as screening-level thresholds to evaluate project-level impacts, as discussed in Section 2.4.1.

SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions. Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes, which is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (SDAPCD 1997).

Construction of the Project may result in visible emissions, primarily during earth-disturbing activities, which would be subject to SDAPCD Rule 50. Although visible emissions are less likely to occur during operation of the Project, compliance with SDAPCD Rule 50 would be required during both construction and operational phases.

SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance. Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1969).

Any criteria air pollutant emissions, TAC emissions, or odors that would be generated during construction or operation of the Project would be subject to SDAPCD Rule 51. Violations can be reported to the SDAPCD in the form of an air quality complaint by telephone, email, and online form. Complaints are investigated by the SDAPCD as soon as possible.

SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust. Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions,

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project area (SDAPCD 2009b).

Construction of the Project, primarily during earth-disturbing activities, may result in fugitive dust emissions that would be subject to SDAPCD Rule 55. Fugitive dust emissions are not anticipated during operation of the Project.

SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings. Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015b). Construction and operation of the Project would include application of architectural coatings (e.g., paint and other finishes), which are subject to SDAPCD Rule 67.0.1. Architectural coatings used in the reapplication of coatings during operation of the Project would be subject to the VOC content limits identified in SDAPCD Rule 67.0.1, which applies to coatings manufactured, sold, or distributed within San Diego County.

SDAPCD Regulation XII: Toxic Air Contaminants; Rule 1200: Toxic Air Contaminants - New Source Review. Requires new or modified stationary source units with the potential to emit TACs above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above 1 in 1 million at every receptor location, demonstrate that toxics best available control technology will be employed if maximum incremental cancer risk is equal to or less than 10 in 1 million, or demonstrate compliance with the SDAPCD's protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in 1 million but less than 100 in 1 million (SDAPCD 2017a).

The Project does not propose specific stationary sources that would generate TACs that are not commonly associated with residential and commercial development projects. If stationary sources with the potential to emit TACs were to be included as part of the Project, or at a later date, those sources would be subject to SDAPCD Rule 1200, and would be subject to New Source Review requirements.

SDAPCD Regulation XII: Toxic Air Contaminants; Rule 1210: Toxic Air Contaminant Public Health Risks –Public Notification and Risk Reduction. Requires each stationary source required to prepare a public risk assessment to provide written public notice of risks at or above the following levels: maximum incremental cancer risks equal to or greater than 10 in 1 million, cancer burden equal to or greater than 1.0, total acute noncancer health hazard index equal to or greater than 1.0, or total chronic noncancer health hazard index equal to or greater than 1.0 (SDAPCD 2017b).

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

The Project does not propose specific stationary sources that would generate TACs. If stationary sources with the potential to emit TACs were to be included as part of the Project, or at a later date, those sources would be subject to SDAPCD Rule 1210 and would be subject to Public Notification and Risk Reduction requirements.

2.2.3.2 San Diego Association of Governments

SANDAG is the regional planning agency for the County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SANDAG serves as the federally designated metropolitan planning organization for the County. With respect to air quality planning and other regional issues, SANDAG has prepared *San Diego Forward: The Regional Plan* (Regional Plan) for the San Diego region (SANDAG 2015). The Regional Plan combines the big-picture vision for how the region will grow over the next 35 years with an implementation program to help make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy (SCS), is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050.

In regards to air quality, the Regional Plan sets the policy context in which SANDAG participates in and responds to the air district's air quality plans and builds off the air district's air quality plan processes that are designed to meet health-based criteria pollutant standards in several ways (SANDAG 2015). First, it complements air quality plans by providing guidance and incentives for public agencies to consider best practices that support the technology-based control measures in air quality plans. Second, the Regional Plan emphasizes the need for better coordination of land use and transportation planning, which heavily influences the emissions inventory from the transportation sectors of the economy. This also minimizes land use conflicts, such as residential development near freeways, industrial areas, or other sources of air pollution.

On September 23, 2016, SANDAG's Board of Directors adopted the final 2016 Regional Transportation Improvement Program. The 2016 Regional Transportation Improvement Program is a multi-billion dollar, multi-year program of proposed projects for major transportation projects in the San Diego region. Transportation projects funded with federal, state, and TransNet (the San Diego transportation sales tax program) must be included in an approved Regional Transportation Improvement Program. The programming of locally funded projects also may be programmed at the discretion of the agency. The 2016 Regional Transportation Improvement Program covers five fiscal years and incrementally implements the Regional Plan (SANDAG 2016).

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

2.2.3.3 Carlsbad General Plan

In the Open Space, Conservation and Recreation Element of the Carlsbad General Plan, the City outlines in Chapter 4.8, Air Quality, the background of air quality in the region and the following objectives and policies related to air quality (City of Carlsbad 2015a):

- 4-G.13** Protect air quality within the city and support efforts for enhanced regional air quality.

The following policies related to air quality are found in Chapter 4.10 of the Conservation and Recreation Element in the Carlsbad General Plan:

- 4-P.52** Participate in the implementation of transportation demand management programs on a regional basis.
- 4-P.53** To the extent practical and feasible, maintain a system of air quality alerts (such as through the city website, internet, email to city employees, and other tools) based on San Diego Air Pollution Control District forecasts. Consider providing incentives to city employees to use alternative transportation modes during alert days.
- 4-P.54** Provide, whenever possible, incentives for carpooling, flex-time, shortened work weeks, and telecommunications and other means of reducing vehicular miles traveled.
- 4-P.55** Cooperate with the ongoing efforts of the U.S. Environmental Protection Agency, the San Diego Air Pollution Control District, and the State of California Air Resources Board in improving air quality in the regional air basin.
- 4-P.56** Ensure that construction and grading projects minimize short-term impacts to air quality.
- a. Require grading projects to provide a storm water pollution prevention plan (SWPPP) in compliance with city requirements, which include standards for best management practices that control pollutants from dust generated by construction activities and those related to vehicle and equipment cleaning, fueling and maintenance;
 - b. Require grading projects to undertake measures to minimize mono-nitrogen oxides (NO_x) emissions from vehicle and equipment operations; and
 - c. Monitor all construction to ensure that proper steps are implemented.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

2.3 Regional and Local Air Quality Conditions

2.3.1 San Diego Air Basin Attainment Designation

Pursuant to the 1990 federal CAA amendments, the EPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “nonattainment” for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable.” The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as “attainment” or “nonattainment,” but based on CAAQS rather than the NAAQS. Table 2 depicts the current attainment status of the project site with respect to the NAAQS and CAAQS.

Table 2
San Diego Air Basin Attainment Classification

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone (O ₃) – 1 hour	Attainment ^a	Nonattainment
O ₃ (8-hour – 1997) (8-hour – 2008)	Attainment (maintenance) Nonattainment (moderate)	Nonattainment
Nitrogen Dioxide (NO ₂)	Unclassifiable/attainment	Attainment
Carbon Monoxide (CO)	Attainment (maintenance)	Attainment
Sulfur Dioxide (SO ₂)	Unclassifiable/attainment	Attainment
Coarse Particulate Matter (PM ₁₀)	Unclassifiable/attainment	Nonattainment
Fine Particulate Matter (PM _{2.5})	Unclassifiable/attainment	Nonattainment
Lead (Pb)	Unclassifiable/attainment	Attainment
Hydrogen Sulfide	No federal standard	Attainment
Sulfates	No federal standard	Unclassified
Visibility-Reducing Particles	No federal standard	Unclassified
Vinyl Chloride	No federal standard	No designation

Sources: EPA 2016c (federal); CARB 2016c (state).

Notes:

Attainment = meets the standards; Attainment/maintenance = achieve the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

If nonattainment for Federal Standards, a clarifying classification will be provided indicating the severity of the nonattainment status.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

In summary, the SDAB is designated as an attainment area for the 1997 8-hour O₃ NAAQS and as a nonattainment area for the 2008 8-hour O₃ NAAQS. The SDAB is designated as a nonattainment area for O₃, PM₁₀, and PM_{2.5} CAAQS. The portion of the SDAB where the Project is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

2.3.2 Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. Local ambient air quality is monitored by the SDAPCD. The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest SDAPCD-operated monitoring station is the Camp Pendleton monitoring station, which is located approximately 7.2 miles northeast of the Project site. This site was used to show the background ambient air quality for O₃, PM_{2.5}, and NO₂. The Escondido monitoring station (13.7 miles east of the project) was the closest monitoring station for PM₁₀ and CO. The closest monitoring station for SO₂ was the El Cajon monitoring station (30 miles south of the project). The most recent background ambient air quality data and number of days exceeding the ambient air quality standards from 2014 to 2016 are presented in Table 3.

**Table 3
Local Ambient Air Quality Data**

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2014	2015	2016	2014	2015	2016
Ozone (O ₃) – Camp Pendleton									
Maximum 1-hour concentration	ppm	State	0.09	0.097	0.093	0.083	1	0	0
Maximum 8-hour concentration	ppm	State	0.070	0.080	0.077	0.073	6	3	5
		Federal	0.070	0.079	0.076	0.073	5	2	4
Nitrogen Dioxide (NO ₂) – Camp Pendleton									
Maximum 1-hour concentration	ppm	State	0.18	0.060	0.060	0.072	0	0	0
		Federal	0.100	0.060	0.060	0.072	0	0	0
Annual concentration	ppm	State	0.030	0.007	0.007	0.006	–	–	–
		Federal	0.053	0.007	0.007	0.006	–	–	–
Carbon Monoxide (CO) – Escondido									
Maximum 1-hour concentration	ppm	State	20	3.8	3.1	3.1	0	0	0
		Federal	35	3.8	3.1	3.1	0	0	0
Maximum 8-hour concentration	ppm	State	9.0	3.1	2.0	2.0	0	0	0
		Federal	9	3.1	2.0	2.0	0	0	0
Sulfur Dioxide (SO ₂) – El Cajon									

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 3
Local Ambient Air Quality Data

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2014	2015	2016	2014	2015	2016
Maximum 1-hour concentration	ppm	Federal	0.075	0.01	0.01	0.02	0	0	0
Maximum 24-hour concentration	ppm	State	0.04	0.0003	0.0004	0.0005	0	0	0
	ppm	Federal	0.140	0.0003	0.0004	0.0005	0	0	0
Annual concentration	ppm	Federal	0.030	0.0014	0.0011	0.0011	–	–	–
<i>Coarse Particulate Matter (PM₁₀)^a – Escondido</i>									
Maximum 24-hour concentration	µg/m ³	State	50	44	30	39	0 (0)	0 (0)	0 (0)
		Federal	150	43	31	39	0 (0)	0 (0)	0 (0)
Annual concentration	µg/m ³	State	20	21.5	17.5	ND	–	–	–
<i>Fine Particulate Matter (PM_{2.5})^a – Camp Pendleton</i>									
Maximum 24-hour concentration	µg/m ³	Federal	35	77.5	29.4	34.4	1 (1.0)	0 (0)	0 (0)
Annual concentration	µg/m ³	State	12	9.6	8.6	9.7	–	–	–
		Federal	12.0	9.9	8.6	9.7	–	–	–

Sources: CARB 2016d; EPA 2016e.

Notes: — = not available; µg/m³ = micrograms per cubic meter; ND = insufficient data available to determine the value; ppm = parts per million. Data taken from CARB iADAM (<http://www.arb.ca.gov/adam>) and Environmental Protection Agency AirData (<http://www.epa.gov/airdata/>) represent the highest concentrations experienced over a given year.

Daily exceedances for particulate matter are estimated days because PM₁₀ and PM_{2.5} are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O₃, annual PM₁₀, or 24-hour SO₂, nor is there a state 24-hour standard for PM_{2.5}.

^a Measurements of PM₁₀ and PM_{2.5} are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

2.4 Significance Criteria and Methodology

2.4.1 Thresholds of Significance

The significance criteria used to evaluate the project impacts to air quality is based on the recommendations provided in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. For the purposes of this air quality analysis, a significant impact would occur if the project would (14 CCR 15000 et seq.):

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the project would have a significant impact on air quality.

As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources (SDAPCD 2016c). The SDAPCD sets forth quantitative emissions thresholds below which a stationary source would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4 are exceeded.

Table 4
San Diego Air Pollution Control District Air Quality Significance Thresholds

Construction Emissions			
Pollutant	Total Emissions (Pounds per Day)		
Respirable Particulate Matter (PM ₁₀)	100		
Fine Particulate Matter (PM _{2.5})	55		
Oxides of Nitrogen (NO _x)	250		
Oxides of Sulfur (SO _x)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOC)	75 ^a		
Operational Emissions			
Pollutant	Total Emissions		
	Pounds per Hour	Pounds per Day	Tons per Year
Respirable Particulate Matter (PM ₁₀)	—	100	15
Fine Particulate Matter (PM _{2.5})	—	55	10
Oxides of Nitrogen (NO _x)	25	250	40
Sulfur Oxides (SO _x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Operational Emissions			
Pollutant	Total Emissions		

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 4
San Diego Air Pollution Control District Air Quality Significance Thresholds

	<i>Pounds per Hour</i>	<i>Pounds per Day</i>	<i>Tons per Year</i>
Lead and Lead Compounds	—	3.2	0.6
Volatile Organic Compounds (VOC)	—	75*	13.7

Sources: San Diego Air Pollution Control District Rules 1501 (SDAPCD 1995) and 20.2(d)(2) (SDAPCD 2016b).

^a VOC threshold based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley as stated in the San Diego County Guidelines for Determining Significance.

The thresholds listed in Table 4 represent screening-level thresholds that can be used to evaluate whether Project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 4, the Project could have the potential to result in a cumulatively considerable net increase in these pollutants and, thus, could have a significant impact on the ambient air quality.

With respect to odors, SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

The SDAPCD *Supplemental Guidelines for Submission of Air Toxics “Hot Spots” Program Health Risk Assessments* provides guidance with which to perform HRAs within the SDAB. The current SDAPCD thresholds of significance for TAC emissions from the operations of both permitted and non-permitted sources are combined and are less than 10 in 1 million for cancer and less than 1 for the chronic hazard index (SDAPCD 2015c).

2.4.2 Approach and Methodology

2.4.2.1 Construction

Emissions from the construction phase of the Project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2017).

As described in Section 1.2, Project Description, the Project would develop 252 townhomes, 46 age-restricted affordable single-family homes, a 4,000-square-foot restaurant pad, and a 6,000-square-foot retail pad on 20.65 acres. For the purposes of modeling, it was assumed that construction of the Project would commence in January 2019 and would last approximately 39 months, ending in March 2022. The analysis contained herein is based on the assumptions outlined

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

in Table 5 (duration of phases is approximate). The Project schedule was based on information provided by the Project applicant.

**Table 5
Construction Phasing Assumptions**

Proposed Project Construction Phase	Construction Start Month/Year	Construction End Month/Year
Demo Structures & Improvements	01/2019	01/2019
Haul off Demo Debris	01/2019	01/2019
Clear & Grub	01/2019	01/2019
Remedial, Remedial & Mass Excavation	01/2019	03/2019
Export Excavation	03/2019	04/2019
Wet Utilities	03/2019	06/2019
Dry Utilities	06/2019	07/2019
Street Improvements – Balancing/Aggregate Base	07/2019	07/2019
Building Construction – 1	07/2019	12/2019
Street Improvements – Curb & Gutter	07/2019	08/2019
Street Improvements – Asphalt Paving	08/2019	08/2019
Street Improvements – Concrete Flatwork	08/2019	08/2019
Building Construction – 2	12/2019	08/2020
Architectural Coating	08/2020	05/2021
Building Construction – 3	05/2021	03/2022

Source: New Urban West Inc. 2018

The construction equipment mix used for estimating the construction emissions of the Project is based on information provided by the applicant and is shown in Table 6.

**Table 6
Construction Scenario Assumptions**

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Demo Structures & Improvements	18	0	0	Excavators	1	8
				Off-Highway Trucks	1	8
				Off-Highway Trucks	1	8
				Rubber Tired Dozers	1	8
				Rubber Tired Loaders	1	8
				Skid Steer Loaders	1	8
Haul Off Demo Debris	6	0	440	Rubber Tired Loaders	1	8

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 6
Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Clear and Grub	12	0	0	Crawler Tractors	1	8
				Off-Highway Trucks	1	8
				Rubber Tired Loaders	1	8
Remedial, Remedial & Mass Excavation	26	0	0	Crawler Tractors	1	8
				Graders	1	8
				Off-Highway Trucks	1	8
				Rubber Tired Dozers	1	8
				Scrapers	4	8
Export Excavation	12	0	8,230	Graders	1	8
				Off-Highway Trucks	1	8
				Rubber Tired Dozers	1	8
				Rubber Tired Loaders	1	8
Wet Utilities	86	0	0	Excavators	2	8
				Off-Highway Trucks	2	8
				Rubber Tired Loaders	2	8
				Tractors/Loaders/Backhoes	2	8
Dry Utilities	32	0	0	Off-Highway Trucks	2	8
				Rubber Tired Loaders	2	8
				Tractors/Loaders/Backhoes	2	8
Street Improvements - Balancing/Aggregate Base	30	0	0	Graders	2	8
				Off-Highway Trucks	2	8
				Rollers	2	8
				Scrapers	2	8
				Tractors/Loaders/Backhoes	2	8
Building Construction – 1	12	2	8	Skid Steer Loaders	1	8
				Tractors/Loaders/Backhoes	1	8
Street Improvements - Curb & Gutter	40	0	0	Pavers	2	8
Street Improvements - Asphalt Paving	26	0	0	Graders	2	8
				Graders	2	8
				Pavers	2	8
				Rollers	2	8

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 6
Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Street Improvements - Concrete Flatwork	42	0	0	Tractors/Loaders/Backhoes	3	8
Building Construction – 2	14	0	0	Forklift	1	8
Architectural Coating	12	2	0	Air Compressors	1	8
				Cement and Mortar Mixers	1	8
				Pumps	1	8
Building Construction – 3	8	2	2	Forklift	1	8

Notes: See Appendix A for details.

For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week (22 days per month) during Project construction. The project has assumed all off-road construction equipment would be on average Tier 4 Interim or better³. The Project applicant provided construction worker trip estimates. Hauling trips were also included for the Project to account for soil import and export.

Construction of Project components would be subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that construction of Project components include steps to restrict visible emissions of fugitive dust beyond the property line (SDAPCD 2009b). Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) that may be generated during grading and construction activities.

A detailed depiction of the construction schedule—including information regarding subphases and equipment used during each subphase—is included in Appendix A of this report. The information contained in Appendix A was used as CalEEMod model inputs.

³ For example, if a Tier 4 Interim piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment could be upgraded from a Tier 4 Interim to a higher tier (i.e., Tier 4 Final) or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 Interim standards.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Health Risk Assessment

As a precautionary measure, a health risk assessment (HRA) was performed to assess the impact of construction on sensitive receptors proximate to the project. This report includes an HRA associated with emissions from construction of the project based on the methodologies prescribed in the Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015). To implement the OEHHA Guidelines based on Project information, the SDAPCD has developed a three-tiered approach where each successive tier is progressively more refined, with fewer conservative assumptions. The SDAPCD *Supplemental Guidelines for Submission of Air Toxics “Hot Spots” Program Health Risk Assessments* provides guidance with which to perform HRAs within the SDAB (SDAPCD 2015b).

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends a carcinogenic (cancer) risk threshold of 10 in a million. Additionally, some TACs increase non-cancer health risk due to long-term (chronic) exposures. The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. The SDAPCD recommends a Chronic Hazard Index significance threshold of 1.0 (project increment). The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in this assessment. This HRA evaluated the risk to future residents from diesel emissions from exhaust from onsite construction equipment and diesel haul and vendor trucks.

The dispersion modeling of DPM was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model SDAPCD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2015). For the Project, AERMOD was run with all sources emitting unit emissions (1 gram per second) to obtain the “X/Q” values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength and is used as a way to simplify the representation of emissions from many sources. The X/Q values of ground-level concentrations were determined for construction emissions using AERMOD and the maximum concentrations determined for the 1-hour and Period averaging periods. Principal parameters of this modeling are presented in Table 7.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 7
AERMOD Principal Parameters

Parameter	Details
Meteorological Data	The latest 3-year meteorological data (2010–2012) for the Camp Pendleton Station (Station ID 3177) from SDAPCD were downloaded and then input to AERMOD. For cancer or chronic noncancer risk assessments, the average cancer risk of all years modeled was used.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. However, based on the SDAPCD guidelines, the rural dispersion option was selected due to the Project's proximity to the ocean.
Terrain Characteristics	The terrain in the vicinity of the modeled Project site is generally flat. The elevation of the modeled site is about 103 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the United States Geological Survey's National Elevation Dataset format with a 30-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of DPM from construction equipment was conducted using emissions estimated using the CalEEMod, assuming emissions would occur 8 hours per day, 5 days per week. The Project area was modeled as a raised area source.
Source Release Characterizations	The source release height was assumed to be 5 meters with an initial vertical plume dimension of 1.2 meters.
Discrete Receptors	A uniform Cartesian grid overlaying the project site with 20-meter resolution was converted into discrete Cartesian receptors to represent sensitive receptors.

Note: See Appendix B.

Dispersion model plotfiles from AERMOD were then imported into CARB's Hotspots Analysis and Reporting Program Version 2 to determine health risk, which requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. For the residential health risk, the HRA assumes exposure would start in the third trimester of pregnancy. Based on the HRA included in Appendix B, the maximally exposed individual resident would be located at the northeastern corner of the Project site. The results of the HRA are provided in Section 2.5.4, and detailed results and methodology are provided in Appendix B.

2.4.2.2 Operation

Emissions from the operational phase of the Project were estimated using CalEEMod. Operational year 2023 was assumed as it would be the first full year following completion of construction.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Emissions associated with natural gas usage in space heating and water heating are calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2017). Consumer product VOC emissions are estimated in CalEEMod based on the floor area of buildings and on the default factor of pounds of VOC per building square foot per day. The CalEEMod default values for consumer products were assumed.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings, such as in paints and primers used during building maintenance. CalEEMod calculates the VOC evaporative emissions from the application of surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emissions factor is based on the VOC content of the surface coatings, and SDAPCD's Rule 67.0.1 (Architectural Coatings) governs the VOC content for interior and exterior coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015b). The Project would use architectural coatings that would not exceed 50 grams per liter (g/L) for interior applications and 100 g/L for exterior applications. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults, it is assumed that the surface area for painting equals 2.7 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating (CAPCOA 2017). CalEEMod defaults were assumed for the application of architectural coatings during operation, as that would not be controlled by the Project applicant.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated with landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For San Diego County, the average annual number of summer days is estimated at 180 days (CAPCOA 2017).

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site.

Mobile Sources

Following the completion of construction activities, the Project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of the residents and patrons at the commercial uses of the Project. The maximum weekday trip rates were taken from the Traffic Impact Analysis for the Project (Linscott Law & Greenspan 2018). The estimated trip lengths and trip modes were based on CalEEMod defaults. The CalEEMod model was used to estimate emissions from proposed vehicular sources (refer to Appendix A). CalEEMod default data, including temperature, trip characteristics, variable start information, emissions factors, and trip distances, were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with the associated use, as modeled within the CalEEMod. Emission factors representing the vehicle mix and emissions for 2023 were conservatively used to estimate emissions associated with vehicular sources.

2.5 Impact Analysis

2.5.1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

As mentioned in Section 2.2.3, Local Regulations, the SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the basin—specifically, the SIP and RAQS.⁴ The federal O₃ maintenance plan, which is part of the SIP, was adopted in 2012. The most recent O₃ attainment plan was adopted in 2016. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated on a triennial basis (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O₃. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County as a whole and the cities in the County, to

⁴ For the purpose of this discussion, the relevant federal air quality plan is the ozone maintenance plan (SDAPCD 2012). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. The Project is currently zoned as C-2-Q (General Neighborhood Commercial with Qualified Development Overlay) and RD-M (Residential Density – Multiple). The C-2-Q zone includes commercial and office uses providing convenience goods, personal services, and day-to-day living needs plus a wide range of retail, wholesale, and service uses, which requires a site development plan. The RD-M zone includes all types of residential dwellings over a broad range of densities. The Projects proposed restaurant and retail pads are consistent with the C-2-Q zoning and the residential portion of the Project is consistent with the RD-M zoning. Therefore, the Project is consistent with the land-use zoning for the site.

Implementation of the Project would result in an increase in 299 residential units. SANDAG's 2050 Regional Growth Forecast, adopted in October 2013, is the current growth forecast, and estimates that the City would have 45,171 housing units in 2012, 48,448 units in 2020, 50,261 units in 2035, and 50,505 units in 2050 (SANDAG 2013). This would equate to an additional 409 units per year from 2012 to 2020, 120 units per year from 2021 to 2035, and 16 units per year from 2036 through 2050. The Project is expected to bring 298 units to market in 2023. However, the units will be released to the public in phases as they are constructed and thus would be within SANDAG's growth projection for housing for that year. Therefore, the Project would not conflict with SANDAG's regional growth forecast for the City.

While the SDAPCD and City do not provide guidance regarding the analysis of impacts associated with air quality plan conformance, the County's *Guidelines for Determining Significance and Report and Format and Content Requirements – Air Quality* does discuss conformance with the RAQS (County of San Diego 2007). The guidance indicates that if a project, in conjunction with other projects, contributes to growth projections that would not exceed SANDAG's growth projections for the City, the project would not be in conflict with the RAQS (County of San Diego 2007). As previously discussed, this Project would not contribute to growth in the region that is not already accounted for. Therefore, impacts would be considered **less than significant**.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

The Project is less than significant prior to mitigation.

2.5.2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction Emissions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (worker vehicle trips). Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Criteria air pollutant emissions associated with construction activity were quantified using CalEEMod. Default values provided by the program were used where detailed Project information was not available. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Section 2.4.2.1. The information contained in Appendix A was used as CalEEMod inputs.

Implementation of the Project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, asphalt pavement application, and architectural coatings. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM₁₀ and PM_{2.5} emissions. The Project is subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that the Project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM₁₀ and PM_{2.5}) generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least two times daily, resulting in an approximately 55% reduction of particulate matter.

Exhaust from internal combustion engines used by construction equipment and worker vehicles would result in emissions of VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. The application of asphalt pavement and architectural coatings would also produce VOC emissions.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Table 8 shows the estimated maximum daily construction emissions associated with construction of the Project without mitigation. Complete details of the emissions calculations are provided in Appendix A of this document.

Table 8
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	<i>pounds per day</i>					
2019	7.46	130.60	116.96	0.43	9.70	3.20
2020	12.12	1.67	6.91	0.01	0.34	0.26
2021	12.07	1.65	6.86	0.01	0.31	0.23
2022	0.07	0.88	1.41	0.00	0.08	0.03
<i>Maximum</i>	12.12	130.60	116.96	0.43	9.70	3.20
<i>SDAPCD Threshold</i>	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

Notes:

VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.

See Appendix A for complete results.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. Although not considered mitigation, these emissions reflect the CalEEMod "mitigated" output, which accounts for the required compliance with SDAPCD Rule 55 (Fugitive Dust) and Rule 67.0.1 (Architectural Coatings).

As shown in Table 8, daily construction emissions would not exceed the significance thresholds for any criteria air pollutant. Therefore, impacts during construction would be **less than significant**.

Operational Emissions

Operation of the Project would generate VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} emissions from mobile sources, including vehicle trips; area sources, including the use of consumer products, and landscape maintenance equipment; and energy sources. As discussed in Section 2.4.2.2, Operation, pollutant emissions associated with long-term operations were quantified using CalEEMod. Project-generated mobile source emissions were estimated in CalEEMod based on Project-specific trip rates. CalEEMod default values were used to estimate emissions from the Project area and energy sources.

Table 9 presents the maximum daily area, energy, and mobile source emissions associated with operation (Year 2023) of the Project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix A.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Table 9
Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	<i>pounds per day</i>					
Area	8.00	0.28	24.60	0.00	0.14	0.14
Energy	0.14	1.24	0.61	0.01	0.10	0.10
Mobile	2.84	10.34	30.10	0.11	9.50	2.59
Total	10.98	11.86	55.31	0.12	9.74	2.83
<i>SDAPCD Threshold</i>	75	250	550	250	100	55
Threshold Exceeded?	No	No	No	No	No	No

Notes:

VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.

See Appendix A for complete results.

The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect the CalEEMod “mitigated” output, which accounts for compliance with SDAPCD Rule 67.0.1 (Architectural Coatings).

As shown in Table 9, the combined daily area, energy, and mobile source emissions would not exceed the SDAPCD’s operational thresholds for VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. Impacts associated with Project-generated operational criteria air pollutant emissions would be **less than significant**.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

The Project would have a less-than-significant impact prior to mitigation.

2.5.3 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project’s individual emissions would have a cumulatively significant impact on air quality. As described under Section 2.5.2, the Project would have a less-than-significant impact for short-term construction and long-term operations.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

The SDAB is a nonattainment area for O₃ under the NAAQS and CAAQS. The poor air quality in the SDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOCs and NO_x for O₃) potentially contribute to poor air quality. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, a project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the basin to ensure the SDAB continues to make progress toward NAAQS- and CAAQS-attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents upon which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O₃ and a state nonattainment area for O₃, PM₁₀, and PM_{2.5}. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the basin. As discussed previously, the Project would not exceed significance thresholds during construction or operation. As such, the Project would result in less-than-significant impacts to air quality.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the Project would be consistent with the existing zoning and land use designation

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

for the site and would not result in significant regional growth that is not accounted for within the RAQS. As a result, the Project would not result in a cumulatively considerable contribution to regional O₃ concentrations or other criteria pollutant emissions. Cumulative impacts would be less than significant during operation.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

The Project would have a less-than-significant impact prior to mitigation.

2.5.4 Would the project expose sensitive receptors to substantial pollutant concentrations?

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed “sensitive receptors” are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. As such, sensitive receptors include residences, schools, playgrounds, child-care centers, athletic facilities, long-term health-care facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest sensitive receptors to the Project are residences adjacent to the south, western, and eastern property boundaries. The Project would also introduce new on-site sensitive receptors to the area.

Health Impacts of Toxic Air Contaminants

“Incremental cancer risk” is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard OEHHA risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB ATCMs to reduce DPM emissions. According to the OEHHA, HRAs should be based on a 30-year exposure duration based on typical residency period; however, such assessments should

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, the duration of proposed construction activities (approximately 36 months) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs. After construction is completed there would be no long-term source of TAC emissions during operation. The urban farm, which would be professionally managed, would be considered a land use that is commonly associated with odors due to the presence of fertilizers, pesticides, and herbicides. The urban farm will be completely organic and biodynamic which will significantly reduce the application of pesticides and fertilizers. The organic farm will be approximately 7,000 square feet and consist of raised beds. As the urban farm will apply pesticides and fertilizers in a very limited manner, TAC emissions related to the urban farm are minimal.

However, as a precautionary measure a HRA was performed to evaluate the risk from diesel exhaust emissions on existing sensitive receptors from construction activities. The HRA methodology was further described in Section 2.4.2.1, and the detailed assessment is provided in Appendix B. The results of the HRA for Project construction are summarized in Table 10.

**Table 10
Construction Activity Health Risk Assessment Results**

Impact Parameter	Units	Proposed Project Impact	CEQA Threshold	Level of Significance
Cancer Risk	Per Million	1.89	10.0	Less than significant
HIC	Not Applicable	0.0009	1.0	Less than Significant

Sources: Appendix B

Notes: CEQA = California Environmental Quality Act; HIC = Chronic Hazard Index.

The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in cancer risk on site below the 10 in 1 million threshold, as well as Chronic Hazard Index less than 1. Therefore, TAC emissions from operation of the Project would not expose sensitive receptors to substantial pollutant concentrations.

Health Impacts of Carbon Monoxide

Mobile-source impacts occur on two basic scales of motion. Regionally, Project-related travel will add to regional trip generation and increase the vehicle miles traveled (VMT) within the local airshed and the SDAB. Locally, Project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the Project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. A traffic impact analysis evaluated the level of service (LOS) (i.e., increased congestion) impacts at intersections affected by the Project (Linscott Law & Greenspan 2019). The potential for CO hotspots was evaluated based on the results of the traffic report. As the City does not have CO hotspot guidelines, the County of San Diego's Guidelines (County of San Diego 2007) CO hotspot screening guidance was followed to determine if the Project would require a site-specific hotspot analysis. The County recommends that a quantitative analysis of CO hotspots be performed for intersections operating at or below a LOS of "E" and have peak-hour trips exceeding 3,000 trips. The Project's traffic impact analysis determined that there would be no intersections that would operate at a LOS E or worse (Linscott Law & Greenspan 2019). Therefore, a quantitative analysis is not required for the Project.

Accordingly, the project would not cause or contribute to violations of the CAAQS and would not result in exposure of sensitive receptors to localized high concentrations of CO. As such, impacts would be less than significant to sensitive receptors with regard to potential CO hotspots resulting from project contribution to cumulative traffic-related air quality impacts, and no mitigation is required.

Health Impacts of Other Criteria Air Pollutants

Construction and operation of the Project would not result in emissions that exceed the SDAPCD's emission thresholds for any criteria air pollutants. Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of which would not result in the exceedances of the SDAPCD's thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

In addition, VOCs and NO_x are precursors to O₃, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by the EPA as an attainment area for the 1-hour O₃ NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O₃, as discussed in Section 2.1.2, are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O₃ concentrations is the result of complex photochemistry. The increases in O₃ concentrations in the SDAB due to O₃ precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O₃ concentrations would also depend on the time of

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

year that the VOC emissions would occur, because exceedances of the O₃ AAQS tend to occur between April and October when solar radiation is highest.

The holistic effect of a single project's emissions of O₃ precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with Project construction and operations could minimally contribute to regional O₃ concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in Coastal San Diego areas, health impacts would be considered less than significant.

Regarding NO₂, according to the construction emissions analysis, construction of the Proposed Project would not contribute to exceedances of the NAAQS and CAAQS for NO₂. As described in Section 2.1.2, health impacts from exposure to NO₂ and NO_x are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term. Additionally, off-road construction equipment would operate at various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the proposed Project would not require any stationary emission sources that would create substantial, localized NO_x impacts. Therefore, health impacts would be considered less than significant.

The VOC and NO_x emissions, as described previously, would minimally contribute to regional O₃ concentrations and its associated health effects. In addition to O₃, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO₂. As shown in Table 3, the existing NO₂ concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected that the Project's operational NO_x emissions would result in exceedances of the NO₂ standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less-than-significant impact. Thus, the proposed Project's CO emissions would not contribute to significant health effects associated with this pollutant. PM₁₀ and PM_{2.5} would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter, would not obstruct the SDAB from coming into attainment for these pollutants, and would not contribute to significant health effects associated with particulates.

Based on the preceding considerations, health impacts associated with criteria air pollutants would be considered less than significant.

Mitigation Measures

No mitigation is required.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Level of Significance After Mitigation

The Project would have a less-than-significant impact prior to mitigation.

2.5.5 Would the project create objectionable odors affecting a substantial number of people?

The State of California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700 and SDAPCD Rule 51, commonly referred to as public nuisance law, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Projects required to obtain permits from SDAPCD are evaluated by SDAPCD staff for potential odor nuisance, and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors. Odor issues are very subjective by the nature of odors themselves and due to the fact that their measurements are difficult to quantify. As a result, this guideline is qualitative and will focus on the existing and potential surrounding uses and location of sensitive receptors.

The occurrence and severity of potential odor impacts depends on numerous factors: the nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying, cause distress among the public, and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the Project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the Project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The Project includes residential and commercial uses, as well as an on-site urban farm. The urban farm, which would be professionally managed, would

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

be considered a land use that is commonly associated with odors due to the presence of fertilizers, pesticides, and herbicides. The urban farm was located as the furthest amenity from planned and existing residents, providing a buffer from any potential odors. The urban farm will be completely organic and biodynamic which will significantly reduce the application of pesticides and fertilizers. The organic farm will be approximately 7,000 square feet and consist of raised beds. As the urban farm will apply pesticides and fertilizers in a very limited manner, odors related to the urban farm are minimal. Therefore, Project operations would result in an odor impact that would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

The Project would have a less-than-significant impact prior to mitigation.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

3 GREENHOUSE GAS EMISSIONS

3.1 Environmental Setting

3.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the Sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and greenhouse gasses (GHGs) in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century and is the most significant driver of observed climate change (IPCC 2013; EPA 2017a). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 3.3.2, Potential Effects of Climate Change.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

3.1.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).⁵ Some GHGs, such as CO₂, CH₄, and N₂O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF₆, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text.⁶ Also included is a discussion of other climate-forcing substances.

Carbon Dioxide. CO₂ is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO₂ include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO₂ are from the combustion of fuels, such as coal, oil, natural gas, and wood, and changes in land use.

Methane. CH₄ is produced through both natural and human activities. CH₄ is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N₂O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N₂O. Sources of N₂O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N₂O as a propellant (such as in rockets, race cars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for

⁵ California Health and Safety Code 38505 identifies seven GHGs that the CARB is responsible for monitoring and regulating to reduce emissions: CO₂, CH₄, N₂O, SF₆, HFCs, PFCs, and nitrogen trifluoride.

⁶ The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's Glossary of Terms Used in GHG Inventories (2015), and the U.S. Environmental Protection Agency's (EPA's) Glossary of Climate Change Terms (2016f).

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

stratospheric O₃-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O₃-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as byproducts of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the O₃-depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF₆ is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF₆ is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF₃ is used in the manufacture of a variety of electronics, including semiconductors, and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O₃.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds with a structure very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter (PM_{2.5}), which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential (GWP). DPM emissions are a major source of black carbon and are TACs that have been regulated and controlled in California for several decades to protect public

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

health. In relation to declining DPM from the CARB's regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014a).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O₃, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O₃, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O₂), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O₃, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

3.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2016f). The Intergovernmental Panel on Climate Change (IPCC) developed the GWP concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO₂; therefore, GWP-weighted emissions are measured in metric tons (MT) of carbon dioxide equivalent (CO₂e).

The current version of California Emissions Estimator Model (CalEEMod) (version 2016.3.2) assumes that the GWP for CH₄ is 25 (so emissions of 1 MT of CH₄ are equivalent to emissions of 25 MT of CO₂), and the GWP for N₂O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the Project.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

3.2 Regulatory Setting

3.2.1 Federal Regulations

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the U.S. Environmental Protection Agency (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, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act (CAA):

- The administrator found that elevated concentrations of GHGs—CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations. This is 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 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 CAA.

Energy Independence and Security Act. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams/mile of CO₂ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200), and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines (76 FR 57106–57513).

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

Clean Power Plan and New Source Performance Standards for Electric Generating Units. In October 2015, EPA published a final rule (effective December 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO₂ emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1)

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

fossil-fuel-fired electric utility steam-generating units and (2) stationary combustion turbines. Concurrently, EPA published a final rule in October 2015 establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO₂ emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. Implementation of the Clean Power Plan has been stayed by the U.S. Supreme Court pending resolution of several lawsuits; additionally, President Trump has called upon the EPA to review the Clean Power Plan.

3.2.2 State Regulations

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

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

Assembly Bill 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, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 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* (Scoping Plan) in accordance with Health and Safety Code Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33%.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard.
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In the Scoping Plan, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% 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"). 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.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

In the 2011 Final Supplement to the Scoping Plan’s Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the Business-As-Usual conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS; CPUC 2015; 12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the Business-As-Usual conditions.

More recently, 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 is 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% below 1990 levels by 2050” (CARB 2014b). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified “six key focus areas comprising major components of the state’s economy to evaluate and describe the larger transformative actions that will be needed to meet the state’s more expansive emission reduction needs by 2050” (CARB 2014b). Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05’s 2050 reduction goal.

CARB’s research efforts presented in the First Update indicate that it has a “strong sense of the mix of technologies needed to reduce emissions through 2050” (CARB 2014b). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the First Update, CARB recalculated the state’s 1990 emissions level using more recent GWPs identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO₂e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the Business-As-Usual conditions.

On January 20, 2017, CARB released *The 2017 Climate Change Scoping Plan Update* (Second Update) for public review and comment (CARB 2017b). This update presents CARB's strategy for achieving the state's 2030 GHG target as established in SB 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017) and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2017b). When discussing project-level GHG emissions reduction actions and thresholds, the Second Update states "achieving no net increase in GHG emissions is the correct overall objective, but it may not be appropriate or feasible for every development project. An inability to mitigate a project's GHG emissions to zero does not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA" (CARB 2017b). The Final Proposed Scoping Plan Update was adopted by CARB's Governing Board on December 14, 2017.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% 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% 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. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets, 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% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

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; 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, requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state, and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH₄ and HFCs and 50% below 2013 levels by 2030 for anthropogenic black carbon) and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its *Short-Lived Climate Pollutant Reduction Strategy* (SLCP Reduction Strategy) in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH₄, and fluorinated gases.

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 and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). 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 are the currently applicable building energy efficiency standards and became effective on January 1, 2017. In general, single-family homes built to the 2016 standards are anticipated to use about 28% less energy for lighting, heating, cooling, ventilation, and water heating

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a).

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 (CALGreen 2016) is commonly referred to as CALGreen and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (CALGreen 2016):

- 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.
- 65% of construction and demolition waste must be diverted from landfills.
- Mandatory inspections of energy systems to ensure optimal working efficiency.
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations.
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

The California Public Utilities Commission (CPUC), CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

policy timelines include: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013).⁷ As most recently defined by the CEC in its 2015 *Integrated Energy Policy Report*, a ZNE code building is “one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building” using the CEC’s Time Dependent Valuation metric (CEC 2015b).

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.

SB 1. SB 1 (2006) established a \$3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry in which solar energy systems are a viable mainstream option for both homes and businesses within 10 years of adoption and to place solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed “GoSolarCalifornia,” was previously titled “Million Solar Roofs.”

AB 1470. This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified

⁷ It is expected that achievement of the ZNE goal will occur via revisions to the Title 24 standards.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

pilot program and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

Renewable Energy and Energy Procurement

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

SB 1368. SB 1368 (2006) requires the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the CPUC. This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants for which GHG emissions are as low as or lower than new combined-cycle natural gas plants by requiring imported electricity to meet GHG performance standards in California and by requiring that the standards be developed and adopted in a public process.

SB X1 2. SB X1 2 (2011) expanded the RPS by establishing that 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% 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% 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

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

Mobile Sources

AB 1493. In a 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 the state board 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% 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%.

EO S-1-07. Issued on January 18, 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 target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

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 are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). 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, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, a metropolitan planning organization 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), an SCS does not: (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

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 the San Diego Association of Governments (SANDAG) are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035.

SANDAG completed and adopted its *2050 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) in October 2011 (SANDAG 2011). In November 2011, 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.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. The matter is pending before the California Supreme Court (Case No. S223603) for determination of whether an environmental impact report for an RTP must include an analysis of the plan's consistency with the GHG reduction goals reflected in EO S-3-05 to comply with the California Environmental Quality Act (CEQA).

Although the environmental impact report for SANDAG's 2050 RTP/SCS is pending before the California Supreme Court, in 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines, and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted *San Diego Forward: The Regional Plan*. Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). 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.

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 2011). To improve air quality, CARB has implemented new emissions standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that, in 2025, cars will emit 75% less smog-forming pollution than the average new car sold before 2012. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The Zero-Emissions Vehicle (ZEV) program will act as the focused

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

EO B-16-12. EO B-16-12 (2012) directs state entities under the governor's direction and control to support and facilitate development and distribution ZEVs. This EO also sets a long-term target of reaching 1.5 million ZEVs 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% less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

AB 1236. AB 1236 (2015) as enacted in California's Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits, unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact on public health or safety and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provides for appeal of that decision to the planning commission, as specified. The bill requires local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance by September 30, 2016, that creates an expedited and streamlined permitting process for electric vehicle charging stations, as specified. Prior to this statutory deadline, in August 2016, the County Board of Supervisors adopted Ordinance No. 10437 (N.S.) adding a section to its County Code related to the expedited processing of electric vehicle charging stations permits consistent with AB 1236.

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).

Solid Waste

AB 939 and AB 341. In 1989, AB 939, known as the Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

through source reduction, recycling, and composting activities of 25% by 1995 and 50% 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% 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% goal by 2020.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% 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.

Other State Regulations and Goals

SB 97. SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resources Agency adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4(a)). The

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)). The Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The California Natural Resources Agency also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a “model or methodology” to quantify the emissions or by relying on “qualitative analysis or other performance based standards” (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final *2009 California Climate Adaptation Strategy* report was issued in December 2009 (CNRA 2009a), and an update, *Safeguarding California: Reducing Climate Risk*, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the *Safeguarding California: Implementation Action Plans* followed in March 2016 (CNRA 2016). Presently, a draft of the *Safeguarding California Plan: 2017 Update* is being prepared to communicate current and needed actions that the state government should take to build climate change resiliency (CNRA 2017).

2015 State of the State Address. In January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals that would further reduce GHG

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

2016 State of the State Address. In his January 2016 address, Governor Brown established a statewide goal to bring per capita GHG emissions down to two tons per person, which reflects the goal of the Global Climate Leadership Memorandum of Understanding to limit global warming to less than 2°C by 2050. The Global Climate Leadership Memorandum of Understanding agreement pursues emission reductions of 80% to 95% below 1990 levels by 2050 and/or reach a per-capita annual emissions goal of less than two metric tons by 2050. A total of 187 jurisdictions representing 38 countries and 6 continents, including California, have signed or endorsed the Global Climate Leadership Memorandum of Understanding (Under 2 Coalition 2017).

3.2.3 Local Regulations

3.2.3.1 San Diego Air Pollution Control District

The SDAPCD does not have established GHG rules, regulations, or policies.

3.2.3.2 City of Carlsbad

City of Carlsbad General Plan

The State of California requires cities and counties to prepare and adopt a general plan to set out a long-range vision and comprehensive policy framework for its future. The State also mandates that the general plan be updated periodically to ensure relevance and utility. The *City of Carlsbad General Plan* (General Plan) was unanimously adopted by the City Council on September 22, 2015. The General Plan builds upon many of the goals and strategies of the former 1994 General Plan, in addition to offering new policy direction in the areas of urban form, neighborhood character, historic preservation, public facilities, recreation, conservation, mobility, housing affordability, economic prosperity, and equitable development. It also outlines the plan amendment process, and other implementation strategies, and considers the continued growth of the City beyond the year 2020 (City of Carlsbad 2015a).

Sustainability Element. The Sustainability Element provides the overarching framework and includes policies focused on topics central to sustainability not covered elsewhere. This element provides the overarching framework for sustainability in the City and outlines policies focused on:

- Climate change and GHG reduction;

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

- Water conservation, recycling, and supply;
- Green building;
- Sustainable energy and energy security; and
- Sustainable food.

The Sustainability Element is closely tied to the City's Community Vision Core Value 6-Sustainability, which aims to build on the City's sustainability initiatives to emerge as a leader in green development and sustainability, and pursue public/ private partnerships, particularly on sustainable water, energy, recycling, and foods. The following goals identified in the Sustainability Element support reduction of GHG emissions in the City:

- **9-G.2:** Undertake initiatives to enhance sustainability by reducing the community's GHG emissions and fostering green development patterns—including buildings, sites, and landscapes.
- **9-G.3:** Promote energy efficiency and conservation in the community.

The following policies identified in the Sustainability Element support reduction of GHG emissions in the City:

- **9-P.1:** Enforce the Climate Action Plan as the city's strategy to reduce greenhouse gas emissions.
- **9-P.2:** Continue efforts to decrease use of energy and fossil fuel consumption in municipal operations, including transportation, waste reduction and recycling, and efficient building design and use.

The Sustainability Element also identifies policies for water conservation, recycling, and supply; green building; sustainable energy; and sustainable food.

City of Carlsbad Climate Action Plan

The *City of Carlsbad Climate Action Plan* (CAP) was unanimously adopted by the City Council on September 22, 2015 (City of Carlsbad 2015b). The CAP is designed to reduce the City's GHG emissions and streamline environmental review of future development projects in the city in accordance with the California Environmental Quality Act (CEQA).

The CAP includes goals, policies, and actions for the City to reduce GHG emissions and combat climate change and includes: an inventory of citywide and local government GHG emissions; forecasts of future citywide and local government GHG emissions; a comprehensive, citywide

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

strategy and actions to manage and reduce GHG emissions, with emission targets through 2035; and actions that demonstrate the City's commitment to achieve state GHG reduction targets by creating enforceable measures, and monitoring and reporting processes to ensure targets are met. The timeframe for the CAP extends from the date of adoption through 2035. The CAP is considered a qualified plan as described in CEQA Guidelines Section 15183.5(b).

The CAP is intended to be a tool for policy makers, community members and others to guide the implementation of actions that limit the City's GHG emissions. Ensuring that the mitigation measures in the CAP translate from policy language to on-the-ground results is critical to the success of the CAP.

3.3 Greenhouse Gas Inventories and Climate Change Conditions

3.3.1 Sources of Greenhouse Gas Emissions

Global Inventory

Anthropogenic GHG emissions worldwide in 2012 (the most recent year for which data is available) totaled approximately 44,816 million metric tons (MMT) CO₂e (WRI 2015). Six countries—China, the United States, the Russian Federation, India, Japan, and Brazil—and the European community accounted for approximately 65% of the total global emissions, approximately 29,300 MMT CO₂e (WRI 2015). Table 11 presents the top GHG-emissions-producing countries.

Table 11
Six Top GHG Producer Countries and the European Community

Emitting Countries	GHG Emissions (MMT CO ₂ e)
China	10,975.5
United States	6,235.1
European Union	4,399.2
India	3,013.8
Russian Federation	2,322.2
Japan	1,344.6
Brazil	1,012.6
Total	29,302.9

Source: WRI 2015

Notes: Total may not sum due to rounding.

GHG = greenhouse gas; MMT = million metric tons; CO₂e = carbon dioxide equivalent.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

National and State Inventories

Per the EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2015 (EPA 2017b), total U.S. GHG emissions were approximately 6,586.7 MMT CO₂e in 2015. The primary GHG emitted by human activities in the United States was CO₂, which represented approximately 82.2% of total GHG emissions (5,411.4 MMT CO₂e). The largest source of CO₂, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.3% of CO₂ emissions in 2015 (5,049.8 MMT CO₂e). Relative to 1990, gross United States GHG emissions in 2015 are higher by 3.5%, down from a high of 15.5% above 1990 levels in 2007. GHG emissions decreased from 2014 to 2015 by 2.3% (153.0 MMT CO₂e) and overall, net emissions in 2015 were 11.5% below 2005 levels (EPA 2017c).

According to California's 2000–2015 GHG emissions inventory (2017 edition), California emitted 440.36 MMT CO₂e in 2015, including emissions resulting from out-of-state electrical generation (CARB 2017a). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high GWP substances, and recycling and waste. The California GHG emission source categories (as defined in CARB's 2008 Scoping Plan) and their relative contributions in 2015 are presented in Table 12.

Table 12
GHG Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO ₂ e)	Percent of Total ^a
Transportation	164.63	37%
Industrial uses ^b	91.71	21%
Electricity generation ^c	83.67	19%
Residential and commercial uses	37.92	9%
Agriculture	34.65	8%
High GWP substances	19.05	4%
Recycling and waste	8.73	2%
Totals	440.36	100%

Source: CARB 2017a.

Notes: GHG = greenhouse gas; GWP = global warming potential; MMT CO₂e = million metric tons of carbon dioxide equivalent. Emissions reflect 2015 California GHG inventory.

^a Percentage of total has been rounded and total may not sum due to rounding.

^b The Aliso Canyon natural gas leak event released 1.96 MMT CO₂e of unanticipated emissions in 2015 and 0.52 MMT CO₂e in 2016. These leak emissions will be fully mitigated according to legal settlement and are tracked separately from routine inventory emissions.

^c Includes emissions associated with imported electricity, which account for 33.74 MMT CO₂e.

According to the GHG inventory data compiled by the Energy Policy Initiative Center, in 2010, the County emitted 34.5 MMT CO₂e (EPIC 2013). As outlined in Table 13, on-road transportation created 42% of these emissions. Similar to emissions trends statewide, electricity generation is the second biggest emitter.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 13
San Diego County GHG Emissions by Sectors

Source Category	Annual GHG Emissions (MMT CO ₂ e)	Percent of Total
On-road transportation	14.4	42%
Electricity generation	8.3	24%
Natural gas end uses	2.9	8%
Off-road equipment and vehicles	1.4	4%
Civil aviation	1.9	5%
Industrial processes and products	1.8	5%
Waste	0.6	2%
Water-borne navigation	0.1	<1%
Rail	0.32	<1%
Other fuels	1.58	5%
Agriculture (livestock)	0.05	<1%
Wildfires	0.28	<1%
Development (loss of vegetation)	0.18	<1%
Sequestration from land cover	0.66	2%
Total	34.5	100%

Source: EPIC 2013.

Note: GHG = greenhouse gas; MMT CO₂e = million metric tons of carbon dioxide equivalent.

The City developed a GHG emission inventory as part of the development of the CAP in 2014 (City of Carlsbad 2015). The inventory accounted for GHG emissions within the City as well as a detailed look into City operational GHG emissions. Table 14 shows the community-wide emissions as provided in the 2015 CAP.

Table 15
City of Carlsbad GHG Emissions by Sectors

Sector	Annual GHG Emissions (MT CO ₂ e)	Percent of Total
Residential	176,405	25.0
Commercial	178,712	25.3
Industrial	46,248	6.6
Transportation	273,745	38.8
Solid Waste	24,317	3.5
Wastewater	6,317	0.9
Total	705,744	100%

Source: City of Carlsbad 2015b.

Notes: MT CO₂e = metric tons of carbon dioxide equivalent per year

3.3.2 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Intergovernmental Panel on Climate Change Synthesis Report indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (CCCC 2006). The primary effect of global climate change has been a 0.2° Celsius (°C) rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36° Fahrenheit (°F)) per decade is projected, and there are identifiable signs that global warming could be taking place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the Western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been the greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California and much of the state's water supply, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

the mid-to-late 21st century in Central and, most notably, Southern California. By late-century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CCCC 2012).

A summary of current and future climate change impacts to resource areas in California, as discussed in the *Safeguarding California: Reducing Climate Risk* (CNRA 2014), is provided below.

Agriculture. The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. The agriculture sector and farmers face some specific challenges that include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding and extreme drought to destructive storm events; significant shifts in water availability and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests, and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. Nonetheless, it is predicted that current crop and livestock production will suffer long-term negative effects resulting in a substantial decrease in the agricultural sector if not managed or mitigated.

Biodiversity and Habitat. The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift and novel combinations of species; pathogens, parasites, and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurred). Habitat restoration, conservation, and resource management across California and through collaborative efforts among public, private, and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate as a result of climate change based on geographic region.

Energy. The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events, and sea level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants, since power plant cooling is less efficient at higher

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

ambient temperatures. Increased temperatures will also increase electricity demand associated with air conditioning. Natural gas infrastructure in Coastal California is threatened by sea level rise and extreme storm events.

Forestry. Forests occupy approximately 33% of California's 100 million acres and provide key benefits, such as wildlife habitat, absorption of CO₂, renewable energy, and building materials. The most significant climate change-related risks to forests are accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities and, combined with increasing temperatures, have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat, and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes or quickly occupy areas denuded by fire, insect mortality, or other climate change effects on vegetation.

Ocean and Coastal Ecosystems and Resources. Sea level rise, changing ocean conditions, and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea level rise, in addition to more frequent and severe coastal storms and erosion, are threatening vital infrastructure, such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting the coastal recreational assets, such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the 21st century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events, such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves is likely to increase the risk of mortality due to heat-related illness, as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness, such as asthma and allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition injuries. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Transportation. Residents of California rely on airports, seaports, public transportation, and an extensive roadway network to gain access to destinations, goods, and services. While the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. Particularly, sea level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports, and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Water resources in California support residences, plants, wildlife, farmland, landscapes, and ecosystems and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter. Increased risk of flooding has a variety of public health concerns, including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively affect groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat.

In May 2017, the California Natural Resources Agency (CNRA) released the draft *Safeguarding California Plan: 2017 Update*, which is a survey of current programmatic responses for climate change and contains recommendations for further actions (CNRA 2017).

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

3.4 Significance Criteria and Methodology

3.4.1 Thresholds of Significance

The significance criteria used to evaluate the project's GHG emissions impacts is based on the recommendations provided in Appendix G of the CEQA Guidelines. For the purposes of this GHG emissions analysis, the Project would have a significant environmental impact if it would (14 CCR 15000 et seq.):

1. Generate GHG 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 GHGs?

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the Project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a). The State of California has not adopted emissions-based thresholds for GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory titled "CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review" states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Guidelines specifies that “when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”

As discussed in Section 3.2.3, the City adopted a CAP in September 2015 that outlines actions that the City will undertake to achieve its proportional share of GHG reductions. The CAP identified project screening thresholds based on guidance from the California Air Pollution Control Officers Association (CAPCOA). These thresholds assume projects of a certain size would emit less than 900 MT CO₂e per year and thus would not contribute considerably to cumulative climate change impacts, and therefore do not need to demonstrate consistency with the CAP (City of Carlsbad 2015b). Projects that exceed these screening thresholds must complete a CAP Consistency Checklist.

The City developed a CAP Consistency Checklist to provide a streamlined review process for proposed new development projects that are subject to CEQA (City of Carlsbad 2017a). This Checklist contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP’s assumption for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP as determined through the use of this Checklist may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

The CAP Checklist includes a two-step process to determine project consistency (City of Carlsbad 2017a). Step 1 consists of an evaluation to determine the project’s consistency with existing General Plan, Community Plan, and zoning designations for the site. If the project is able to answer “yes” to Step 1 and demonstrate the project would be consistent with existing General Plan, Community Plan, and zoning designations for the site, or the project can demonstrate consistency with existing land uses by comparing the project’s GHG emissions with those that would be generated under existing land uses, then the project may proceed to Step 2. If the project must answer “no” to Step 1, then the project would be deemed inconsistent with the CAP, and GHG impacts as identified under CEQA would be considered significant and unavoidable.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Step 2 includes the list of measures each project would be required to implement. Regardless of whether the project would answer “yes” or “no” to Step 1, implementation of the measures listed in Step 2 would be required for all projects, if applicable.

3.4.2 Approach and Methodology

As discussed in Section 3.1.3, this analysis assumes that the GWP for CH₄ is 25 and the GWP for N₂O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007).

3.4.2.1 Construction

CalEEMod Version 2016.3.2 was used to estimate potential Project-generated GHG emissions during construction. Construction of the Project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 2.4.2.1, are also applicable for the estimation of construction-related GHG emissions. As such, see Section 2.4.2.1 for a discussion of construction emissions calculation methodology and assumptions.

3.4.2.2 Operation

CalEEMod Version 2016.3.2 was used to estimate potential Project-generated operational GHG emissions from area sources (landscape maintenance), energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. Emissions from each category are discussed in the following text with respect to the Project. For additional details, see Section 2.4.2.2, Operation, for a discussion of operational emission calculation methodology and assumptions, specifically for area, energy (natural gas), and mobile sources. Operational year 2023 was assumed consistent with the Project’s traffic report.

Energy Sources

As represented in CalEEMod, energy sources include GHG emissions associated with building electricity and natural gas usage (non-hearth).

CalEEMod default values for energy consumption for each land use were applied for the Project analysis. The energy use from residential land uses is calculated in CalEEMod based on the California Residential End-Use Survey database. The program uses data collected during the Residential Appliance Saturation Survey to develop energy intensity values (electricity and natural gas usage per square foot per year) for residential buildings. Energy use in buildings (both natural gas and electricity) is divided by the program into end use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the HVAC system, water

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous “plug-in” uses).

Title 24 of the California Code of Regulations serves to enhance and regulate California’s building standards. The most recent amendments to Title 24, Part 6, referred to as the 2016 standards, became effective on January 1, 2017. The previous amendments were referred to as the 2013 standards. CalEEMod 2016.3.2 includes compliance with the 2016 Title 24 standards. The Project applicant is committed to exceeding the 2016 Title 24 energy standards; however, as a conservative measure compliance with the 2016 Title 24 standard was assumed.

The Project would incorporate solar photovoltaic panels on site for both the residential and commercial components. The residential units will include a solar photovoltaic system equal to at least 1.6 kilowatts (kW) per unit, or at least 480 kW. The commercial component of the Project will include at a minimum a 74 kW solar photovoltaic system. The Project would also include Energy Star appliances and at least 75% light emitting diode lighting fixtures for interior and exterior. The Project will include natural gas water heaters rated at a minimum 95 percent thermal efficiency. All residential unit garages will be equipped to be electric vehicle (EV) Ready⁸ and the commercial component will include at least four EV Capable⁹ parking spaces. The Project would also include two EV charging stations for public use.

Solid Waste

The Project would generate solid waste and would, therefore, result in CO₂e emissions associated with landfill off-gassing. Solid waste generation was derived from the CalEEMod default rates for each land use type. Emission estimates associated with solid waste were estimated using CalEEMod. A solid waste diversion rate of 75% was assumed in accordance with AB 939.

Water Supply and Wastewater

Water supplied to the Project requires the use of electricity. Accordingly, the supply, conveyance, treatment, and distribution of water would indirectly result in GHG emissions through use of electricity. Annual water use for the Project and GHG emissions associated with the electricity used for water supply were calculated based upon default water use estimates for each land-use

⁸ EV Ready means a parking space that is pre-wired with a dedicated 208/240 branch circuit installed in conduit that originates at the electrical service panel or sub-panel and 40 ampere minimum overcurrent protection device, and terminates into a cabinet, box or enclosure, in a manner approved by the building official (City of Carlsbad 2017a).

⁹ EV Capable means a parking space that has a cabinet, box or enclosure connected to a conduit linking the parking space to the electrical service panel in a manner approved by the building official. The electrical service panel shall provide sufficient capacity to simultaneously charge all electric vehicles with or without a load management system (City of Carlsbad 2017a).

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

type, as estimated by CalEEMod and San Diego Gas and Electric factors. The Project would include low-flow fixtures in all buildings and use non-potable water for irrigation of the parks and greenbelts. Additional reclaimed water will be available for the Project to use, but as a conservative measure, it was only assumed to be used for the parks and greenbelts.

3.5 Impact Analysis

3.5.1 Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Construction of the Project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. GHG emissions associated with temporary construction activity were quantified using CalEEMod. A detailed depiction of the construction schedule—including information regarding phasing, equipment utilized during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Section 2.4.2.1 of this report.

Table 15 shows the estimated annual GHG construction emissions associated with the Project, as well as the amortized construction emissions over a 30-year “project life.”

Table 15
Estimated Annual Construction GHG Emissions

Year	CO ₂	CH ₄	N ₂ O	CO ₂ e
	Metric Tons per Year			
2019	924.59	0.20	0.00	929.70
2020	77.08	0.01	0.00	77.27
2021	74.82	0.01	0.00	75.00
2022	7.70	0.00	0.00	7.74
Total				1,089.71
Amortized Emissions				36.32

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent.
See Appendix A for complete results.

Total construction emissions for the Project were 1,090 MT CO₂e. Estimated amortized Project-generated construction emissions would be approximately 36 MT CO₂e. However, because there is no separate GHG threshold for construction emissions alone, the evaluation of significance is discussed in the operational emissions analysis below.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Operational Emissions

Operation of the Project would generate GHG emissions through motor vehicle trips to and from the Project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the Project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 3.4.2.2, Operation.

The estimated operational (year 2023) Project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation are shown in Table 16.

Table 16
Estimated Annual Operational GHG Emissions

Emission Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
	<i>Metric Tons per Year</i>			
Area	3.62	0.00	0.00	3.70
Energy	430.60	0.01	0.01	432.73
Mobile	1,714.09	0.09	0.00	1,716.33
Solid waste	10.52	0.62	0.00	26.06
Water supply and wastewater	96.37	0.69	0.02	118.68
Total				2,297.50
<i>Amortized Construction Emissions</i>				36.32
Operation + Amortized Construction Total				2,333.82

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent.

See Appendix A for detailed results.

These emissions reflect California Emissions Estimator Model “mitigated” output and operational year 2023 including increased diversity, increased transit accessibility, and below market-rate housing.

As shown in Table 16, estimated annual Project-generated GHG emissions in 2023 would be approximately 2,298 MT CO₂e per year as a result of Project operations. Estimated annual Project-generated emissions in 2023 from area, energy, mobile, solid waste, and water/wastewater sources and amortized Project construction emissions would be approximately 2,334 MT CO₂e per year.

As discussed in Section 3.2.3.2, if a project exceeds 900 MT CO₂e per year it must evaluate GHG significance based on the Project’s consistency with the City’s CAP using the CAP Consistency Checklist. Consistency with Steps 1 and 2 of the Checklist are presented below in accordance with the City’s *Guidance to Demonstrating Consistency with the Climate Action Plan For Discretionary Projects Subject to CEQA* (City of Carlsbad 2017b).

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Step 1: Land Use Consistency

Question 1

Step 1 of the Checklist determines the Project's consistency with the land use assumptions used in the CAP. The first question of Step 1 asks if the Project would emit fewer than 900 MT CO₂e per year or exceed specified development characteristics. The Project would answer YES to Question 1 as it would emit greater than 900 MT CO₂e and would include 299 units, which is greater than the 50 dwelling units noted in the checklist question. The completed CAP Consistency Checklist for the Project is included in Appendix C and the Project's consistency with the Checklist is discussed in detail below.

Question 2

Question 2 of Step 1 asks if the Project is consistent with the General Plan and Zoning Designations, or if the Project is not consistent with the existing land use plan and zoning designations, does the Project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG intensive project when compared to the existing designations. The Project is currently zoned as C-2-Q (General Neighborhood Commercial with Qualified Development Overlay) and RD-M (Residential Density – Multiple). The C-2-Q zone includes commercial and office uses providing convenience goods, personal services, and day-to-day living needs plus a wide range of retail, wholesale, and service uses which requires a site development plan. The RD-M zone includes all types of residential dwellings over a broad range of densities. The Projects proposed restaurant and retail pads are consistent with the C-2-Q zoning and the residential portion of the Project is consistent with the RD-M zoning. Therefore, the Project is consistent with the land-use zoning for the site and would answer YES to Question 2. Because the project answered YES to Question 2 of Step 1, it must now answer the questions within Step 2 as shown below.

Step 2: CAP Measures Consistency

The second step of the CAP consistency review is to review and evaluate a project's consistency with the applicable measures and actions of the CAP.

Question 1

This CAP consistency measure asks if the project is residential and if it include photovoltaic systems with a minimum average system size of 1.6 kilowatts per residential unit. The project would include solar photovoltaic systems for the residential units of at least 1.6 kilowatts per unit. Therefore, the project would answer YES to this checklist question.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Question 2

This CAP consistency measure asks for commercial and industrial photovoltaic systems if the project includes solar onsite. This measure requires at least 2.5 kW per covered parking space for nonresidential projects with more than 50 parking spots. The project has 59 parking spots associated with the retail and restaurant components of the development and thus this measure would apply. The project has included at least a 74 kW solar photovoltaic system for the retail and restaurant components of the project, which is estimated to offset at least 45 percent of the electricity use of the retail and restaurant components. Therefore, the project would answer YES to this checklist question.

Question 3

This CAP consistency measure asks if the project would have at least 75 percent of the luminaires provided by the project be comprised of LED or other similarly efficient lighting. The project would include LED or other efficient lighting for both interior and exterior lighting fixtures for the residential and commercial portions of the project. Therefore, the project would exceed this requirement and would answer YES to this checklist question.

Question 4

This CAP consistency measure asks whether the project incorporates solar water heating into the project. The checklist item specifically requires 2,300 kWh/year or 112 therms of offset for residential units and at least 50 percent of commercial projects energy use offset by solar water heating. The project will include natural gas service water heaters with a minimum of 95 percent thermal efficiency which is an acceptable exception for this checklist item. Therefore, the project would exceed this requirement and would answer YES to this checklist question.

Question 5

This CAP consistency measure asks for non-residential projects with more than 50 employees if the project include a transportation demand management plan. The project would not employ more than 50 employees. Therefore, the project would answer N/A to this checklist question.

Question 6

This CAP consistency measure asks for single family residential with attached garages if the projects required parking would be EV Ready. For non-residential projects, the question asks if six percent of total parking spaces would be EV Capable and at least 50 percent of these have charging stations installed. The project's residential units would be prewired with a dedicated

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

208/240 branch circuit installed in conduit that originates at the electrical service panel or sub-panel and 40 ampere minimum overcurrent protection device, and terminates into a cabinet, box or enclosure. The project also has 59 parking spaces associated with the retail and restaurant components of the project and thus would be required to have four EV Capable spaces. The project would include four EV Capable spaces that have a cabinet, box or enclosure connected to a conduit linking the parking space to the electrical service panel. The electrical service panel will provide sufficient capacity to simultaneously charge all electric vehicles with or without a load management system. The project would also include two EV charging stations for public use. Therefore, the project would answer YES to this checklist question.

Question 7

This CAP consistency measure asks for one- and two-family residential projects does the project include waste piping to permit the discharge of greywater to be used for outdoor irrigation in compliance with Section 1502 of the California Plumbing Code. This checklist question applies to one- and two-family residential projects. Therefore, the project would answer N/A to this checklist question as it does not apply.

The project would be consistent with the City's CAP Checklist Steps 1 and 2 as discussed above. Accordingly, the project is consistent with the City's CAP. Therefore, the project would have a less than significant impact.

Mitigation

No mitigation is required.

Level of Significance After Mitigation

The Project's impact would be less than significant prior to mitigation.

3.5.2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

This section discusses the Project's consistency with the City's CAP, SANDAG's Regional Plan, and CARB's Scoping Plan.

Consistency with the CAP

As discussed in Section 3.2.3.2, the City's CAP is considered a qualified GHG reduction plan in accordance with CEQA Guidelines Section 15183.5. The project was shown to be consistent with the CAP in Section 3.5.1 as determined by completing the City's CAP Checklist.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

The Project includes several design features that will help reduce its GHG emissions in line with the City's CAP. Table 17 identifies the measures and goals within the CAP and the project's consistency with them.

Table 17
City of Carlsbad Climate Action Plan Consistency Analysis

Measure	Consistency Analysis
<i>Residential, Commercial and Industrial Photovoltaic Systems</i>	
A: Promote Installation of Residential Photovoltaic Systems	<i>Consistent.</i> The project would include solar photovoltaic systems for both the residential and commercial components of the project.
B: Promote Installation of Commercial and Industrial Photovoltaic Systems	<i>Consistent.</i> The project would include solar photovoltaic systems for both the residential and commercial components of the project.
<i>Building Cogeneration</i>	
C: Promote Building Cogeneration for Large Commercial and Industrial Facilities	This does not apply to the project.
<i>Single-family, Multi-family, Commercial, and City Facility Efficiency Retrofits</i>	
D: Encourage Single-Family Residential Energy Efficiency Retrofits	This does not apply to the project as it is for existing buildings.
E: Encourage Multi-Family Residential Efficiency Retrofits	This does not apply to the project as it is for existing buildings.
F: Encourage Commercial and City Facility Efficiency Retrofits	This does not apply to the project as it is for existing buildings.
<i>Commercial and City Facility Commissioning</i>	
G: Promote Commercial and City Facility Commissioning	<i>Consistent.</i> The commercial component of the project will be commissioned prior to operation.
<i>Green Building Code</i>	
H: Implement Green Building Measures	This does not apply to the project as it is for the City to implement.
<i>Efficient Lighting Standards</i>	
I: Promote Replacement of Incandescent and Halogen Bulbs with LED or Other Energy Efficient Lamps	This does not apply to the project as it is for the City to implement. However, the project will include LED lighting for at least 75 percent of lighting throughout the project.
<i>Solar Water Heater/Heat Pump Installation</i>	
J: New Construction Residential and Commercial Solar Water Heater Installation	<i>Consistent.</i> In lieu of solar water heaters, the project will install natural gas water heaters that have at least a 95 percent efficiency rating.
<i>Transportation Demand Management</i>	
K: Promote Transportation Demand Management Strategies	This does not apply to the project.
<i>Increased Zero-Emissions Vehicle (ZEV) Travel</i>	
L: Promote an Increase in the Amount of Zero-Emissions Vehicle Travel	This does not apply to the project as it is for the City to implement. However, the project will include EV-Capable, EV-Ready, and public EV charging stations onsite.
<i>Citywide Renewable Projects</i>	
M: Develop More Citywide Renewable Energy Projects	This does not apply to the project.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 17
City of Carlsbad Climate Action Plan Consistency Analysis

Measure	Consistency Analysis
<i>Water Utilities System Improvements</i>	
N: Reduce GHG Intensity of Water Utilities Supply Conveyance, Treatment, and Distribution	This does not apply to the project.

Source: City of Carlsbad 2017a

Notes: City = City of Carlsbad; Project = Marja Acres Community Plan.

As shown in Table 17, the Project would be consistent with the applicable measures within the City's CAP.

Consistency with SANDAG's San Diego Forward: the Regional Plan

Regarding consistency with SANDAG's Regional Plan, the Project would include site design elements and Project design features developed to support the policy objectives of the RTP and SB 375. The convenient availability of walking and bicycling trails and parks that are accessible for use by residents will serve to reduce VMT. Finally, because this Project is an infill project, it would have inherently fewer VMT than a project located at the outskirts of a city.

Table 18 illustrates the Project's consistency with all applicable goals and policies of *San Diego Forward: The Regional Plan* (SANDAG 2015).

Table 18
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
<i>The Regional Plan – Policy Objectives</i>		
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.	<i>Consistent.</i> The Project incorporates smart growth and sustainable design principles in its development plan. More specifically, the Project's design and compact setting facilitates a comprehensive, multi-modal transportation network and puts more people in areas that are more accessible to a range of transportation options, including public transit. The design and locational attributes of the Project positively emphasize particular commuting choices and convenient access to the rest of the City and the region, which will reduce the number of vehicle trips and overall VMT.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 18
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Mobility Choices	Take advantage of new technologies to make the transportation system more efficient and environmentally friendly.	<i>Consistent.</i> The Project includes electric vehicle charging stations to support electric vehicle adoption. Additionally, the Project would not impair SANDAG's ability to employ new technologies to make travel more reliable and convenient.
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.	<i>Consistent.</i> The Project would be located close to major urban and employment centers. As such, the Project proposes to develop future housing opportunities in an infill location that capitalizes on existing infrastructure rather than other non-developed areas—including open space areas, sensitive habitats, or areas otherwise constrained due to topography, flooding, or other factors.
Habitat and Open Space Preservation	Protect and restore our region's urban canyons, coastlines, beaches, and water resources.	<i>Not Applicable.</i> The Project would not impair the ability of SANDAG to protect and restore urban canyons, coastlines, beaches, and water resources.
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.	<i>Not Applicable.</i> The Project would not impair the ability of SANDAG to invest in transportation projects available to all members of the Community.
Regional Economic Prosperity	Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	<i>Not Applicable.</i> The Project does not propose regional freight movement, nor would it impair SANDAG's ability to preserve and expand options for regional freight movement.
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, works for everyone, and fosters a high quality of life for all.	<i>Not Applicable.</i> The Project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations.
Partnerships/Collaboration	As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.	<i>Not Applicable.</i> The Project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico.
Healthy and Complete Communities	Create great places for everyone to live, work, and play.	<i>Consistent.</i> The Project proposes new residential development in an infill location that would facilitate the creation of a more livable

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 18
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
		<p>neighborhood that integrates residents into the existing community. The Project's design and compact mixed land use setting would improve land use access, as well as the neighborhood's multi-modal transportation network. The Project's internal circulation features would provide residents with the opportunity to access employment, recreational, and commercial uses via multiple modes of transportation.</p> <p>Additionally, the Project was designed to promote health and sustainability by focusing on a compact pattern of development and by offering many amenities to its residents within walking distance.</p>
Healthy and Complete Communities	Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.	<i>Consistent.</i> The Project's internal circulation features would provide residents with the opportunity to access employment, recreational, and commercial uses via multiple modes of transportation. The Project would also encourage non-vehicular modes of transportation through its proximate location to nearby amenities.
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.	<i>Consistent.</i> The Project was designed to promote health and sustainability by focusing on a compact pattern of development. The Project includes electric-vehicle charging stations.
Environmental Stewardship	Support energy programs that promote sustainability.	<i>Consistent.</i> The Project would include on-site renewable energy production through solar photovoltaic rooftop systems.
<i>Sustainable Communities Strategy – Strategies</i>		
Strategy #1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	<i>Consistent.</i> The Project would be located close to major urban and employment centers. The Project would provide a significant infill opportunity for the community. As such, the Project proposes to develop future housing opportunities in an infill location that capitalizes on existing infrastructure rather than other non-developed areas—including open space areas, sensitive habitats, or areas otherwise constrained due to topography, flooding, or other factors.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 18
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Strategy #2	Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.	<i>Consistent.</i> The Project would be located close to major urban and employment centers. As such, the Project proposes to develop future housing opportunities in an infill location that capitalizes on existing infrastructure rather than other non-developed areas—including open space areas, sensitive habitats, or areas otherwise constrained due to topography, flooding, or other factors.
Strategy #3	Invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions.	<i>Consistent.</i> The Project would help reduce greenhouse gas emissions from vehicles in the region compared to a non-infill project.
Strategy #4	Address the housing needs of all economic segments of the population.	<i>Consistent.</i> With a variety of housing types and choices, the Project seeks to increase the housing supply and the mix of housing sizes, tenure, and affordability in the City. These housing types would support a range of buyers from various categories.
Strategy #5	Implement the Regional Plan through incentives and collaboration.	<i>Not Applicable.</i> The Project would not impair the ability of SANDAG to implement the Regional Transportation Plan through incentives and collaborations.

Source: SANDAG 2015

Notes: City = City of Carlsbad; Project = Marja Acres Community Plan; SANDAG = San Diego Association of Governments.

As shown in Table 18, the Project is consistent with all applicable Regional Plan Policy Objectives or Strategies. SANDAG worked with the local jurisdictions to identify Regional Housing Needs Assessment allocation options that meet the four goals of housing element law (Government Code Section 65484(d)(1)-(4)) within the Regional Plan. The second of the four objectives of the SANDAG Regional Housing Needs Assessment is to promote infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns. Also, one of the key achievements projected for the Regional Plan is for nearly three-quarters of multi-family housing to be built on redevelopment or infill sites. This Project would be consistent with that goal as it would be developed on an infill site.

In summary, the Project promotes a pedestrian experience for the Project's residents and visitors that facilitates non-vehicular travel, consistent with SB 375 and SANDAG's Regional Plan. As shown in Table 18, the Project would be consistent with policy objectives of SANDAG's Regional Plan. Impacts would be less than significant.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Consistency with CARB's Scoping Plan

The Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Relatedly, in the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the CNRA observed that "[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009a). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., low-carbon fuel standard), among others. The Project would comply with all applicable regulations adopted in furtherance of the Scoping Plan to the extent required by law.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 19 highlights measures that have been developed under the Scoping Plan and the Project's consistency with Scoping Plan measures. The table also includes measures proposed in the Draft 2017 Scoping Plan Update. To the extent that these regulations are applicable to the Project, its inhabitants, or uses, the Project would comply with all applicable regulations adopted in furtherance of the Scoping Plan.

Table 19
Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
<i>Transportation Sector</i>		
Advanced Clean Cars	T-1	The Project's residents would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
1.5 million zero-emission and plug-in hybrid light-duty electric vehicles by 2025 (4.2 million Zero-Emissions Vehicles by 2030)	Proposed	The Project includes electric vehicle charging stations.
Low Carbon Fuel Standard	T-2	Motor vehicles driven by the Project's residents would use compliant fuels.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 19
Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Low Carbon Fuel Standard (18% reduction in carbon intensity by 2030)	Proposed	Motor vehicles driven by the Project's residents would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	The Project would encourage use of alternative forms of transportation.
Advanced Clean Transit	Proposed	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Last Mile Delivery	Proposed	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Reduction in Vehicle Miles Traveled	Proposed	The Project is located on an infill site, which promotes compact walkable communities with an emphasis on proximity and accessibility.
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	T-4	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Ship Electrification at Ports (Shore Power)	T-5	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
California Sustainable Freight Action Plan	Proposed	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Heavy-Duty Vehicle GHG Emission Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Project	T-8	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Medium and Heavy-Duty GHG Phase 2	Proposed	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 19
Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
High-Speed Rail	T-9	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
<i>Electricity and Natural Gas Sector</i>		
Energy Efficiency Measures (Electricity)	E-1	The Project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Energy Efficiency (Natural Gas)	CR-1	The Project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	The Project would not employ solar water heating as part of the design.
Combined Heat and Power	E-2	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Renewable Portfolios Standard (33% by 2020)	E-3	The Project would use energy supplied by San Diego Gas and Electric, which is in compliance with the Renewable Portfolio Standard.
Renewable Portfolios Standard (50% by 2050)	Proposed	The Project would use energy supplied by San Diego Gas and Electric, which is in compliance with the Renewable Portfolio Standard.
Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	The Project would include solar roofs installations.
<i>Water Sector</i>		
Water Use Efficiency	W-1	The Project is going to utilize water saving features including low-flow fixtures and non-potable water for landscape irrigation.
Water Recycling	W-2	Recycled water will not be used on site.
Water System Energy Efficiency	W-3	This is applicable for the transmission and treatment of water, but it is not applicable for the Project.
Reuse Urban Runoff	W-4	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Renewable Energy Production	W-5	Applicable for wastewater treatment systems. Not applicable for the Project.
<i>Green Buildings</i>		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	The Project would be required to be constructed in compliance with state or local green building standards in effect at the time of building construction.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-2	The Project's buildings would meet green building standards that are in effect at the time of construction.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 19
Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-3	The Project would be required to be constructed in compliance with local green building standards in effect at the time of building construction.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-4	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
<i>Industry Sector</i>		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	Proposed	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Refinery Flare Recovery Process Improvements	I-4	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Work with the local air districts to evaluate amendments to their existing leak detection and repair rules for industrial facilities to include methane leaks	I-5	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
<i>Recycling and Waste Management Sector</i>		
Landfill Methane Control Measure	RW-1	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Mandatory Commercial Recycling	RW-3	During both construction and operation of the Project, the Project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all wastes would be recycled to the maximum extent possible.
Increase Production and Markets for Compost and Other Organics	RW-4	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Anaerobic/Aerobic Digestion	RW-5	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Extended Producer Responsibility	RW-6	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Environmentally Preferable Purchasing	RW-7	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
<i>Forests Sector</i>		
Sustainable Forest Target	F-1	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

Table 19
Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
<i>High Global Warming Potential Gases Sector</i>		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
SF ₆ Limits in Non-Utility and Non-Semiconductor Applications	H-2	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Reduction of Perfluorocarbons in Semiconductor Manufacturing	H-3	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Limit High Global Warming Potential Use in Consumer Products	H-4	The Project's residents would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
SF ₆ Leak Reduction Gas Insulated Switchgear	H-6	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
40 percent reduction in methane and hydrofluorocarbon emissions	Proposed	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
50 percent reduction in black carbon emissions	Proposed	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.
<i>Agriculture Sector</i>		
Methane Capture at Large Dairies	A-1	This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan Measure.

Source: CARB 2008, CARB 2017b.

Notes: CARB = California Air Resources Board; GHG = greenhouse gas; Project = Marja Acres Community Plan.

Based on the analysis in Table 19, the Project would be consistent with the applicable strategies and measures in the Scoping Plan.

In addition to the measures outlined in the table above, the Scoping Plan also highlights, in several areas, the goals and importance of infill projects. Specifically, the Scoping Plan calls out an ongoing and proposed measure to streamline CEQA compliance and other barriers to infill development. The plan encourages infill projects and sees them as crucial to achieving the State's long-term climate goals. The plan encourages accelerating equitable and affordable infill development through enhanced financing and policy incentives and mechanisms.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

The State will complete an Integrated Natural and Working Lands Climate Change Action Plan by 2018, which will consider aggregation of eco-regional plans and efforts to achieve net sequestration goals. The Action Plan will include goals and plans to promote and provide incentives for infill development through community revitalization and urban greening and promote the adoption of regional transportation and development plans, such as SB 375 Sustainable Communities Strategies and Climate Action Plans, that prioritize infill and compact development and also consider the climate change impacts of land use and management.

The following strategies were outlined to expand infill development within the scoping plan:

- Encouraging regional Transfer of Development Rights programs to allow owners of natural and working lands to sell their development rights to developers who can use those rights to add additional density to development projects in preferred infill areas.
- Promoting regional Transit-Oriented Development funds that leverage public resources with private-sector investment capital to provide flexible capital for Transit-Oriented Development projects.
- Rebates for low-VMT/location-efficient housing, similar to programs that use rebates to encourage adoption of energy-efficient appliances, ZEVs, water-efficient yards, or renewable energy installation. For example, the rebate could reimburse residents for a portion of the down payment for purchasing or renting a qualified home in exchange for a minimum term of residence.
- Promotion of cross-subsidizing multi-station financing districts along transit corridors to leverage revenues from development in strong-market station areas in order to seed needed infrastructure and development in weaker-market station areas.
- Abatement of residential property tax increases in exchange for property-based improvements in distressed infill areas.
- Ways to promote reduced parking in areas where viable transportation alternatives are present.
- Additional creative financing mechanisms to enhance the viability of priority infill projects.
- Ways to promote and strengthen Urban Growth Boundaries to promote infill development and conservation of natural and working lands by defining and limiting developable land within a metropolitan area according to projected growth needs.

In summary, the Project would be consistent with the measures and policy goals as shown in Table 19. The Project would also be consistent with the various efforts the Scoping Plan established to encourage infill development projects. Therefore, the Project would be consistent with CARB's Scoping Plan.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

Finally, the SDAPCD has not adopted GHG reduction measures that would apply to the GHG emissions associated with the Project. Therefore, this impact would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

The Project's impact would be less than significant prior to mitigation.

Air Quality and Greenhouse Gas Emissions Analysis

Technical Report for the Marja Acres Community Plan

4 REFERENCES CITED

- 13 CCR 2025. Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.
- 13 CCR 2449–2449.3 and Appendix A. General Requirements for In-Use Off-Road Diesel-Fueled Fleets. 14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.
- 13 CCR 2485. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. https://www.arb.ca.gov/msprog/truck-idling/13ccr2485_09022016.pdf.
- 14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.
- 14 CCR 15064.4. Determining the Significance of Impacts from Greenhouse Gas Emissions. [https://govt.westlaw.com/calregs/Document/I710A58805F7511DFBF66AC2936A1B85A?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Document/I710A58805F7511DFBF66AC2936A1B85A?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)).
- 17 CCR 93000. Substances Identified as Toxic Air Contaminants. In Subchapter 7, Toxic Air Contaminants.
- 75 FR 25324–25728. Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule. <https://www.gpo.gov/fdsys/pkg/FR-2010-05-07/html/2010-8159.htm>.
- 76 FR 57106–57513. Automobile and Truck Fuel Economy (CAFE) and Greenhouse Gas Standards. <https://fas.org/sgp/crs/misc/R42721.pdf>.
- 77 FR 62624–63200. 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards; Final Rule. <https://www.gpo.gov/fdsys/pkg/FR-2012-10-15/pdf/2012-21972.pdf>.
- 80 FR 64510–64660. Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units. <https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22837.pdf>.
- 80 FR 64661–65120. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units. <https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22842.pdf>.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

- CALGreen (California Green Building Code). 2016. 2016 Green Building Standards Code. Accessed November 2017. <http://codes.iccsafe.org/app/book/toc/2016/California/Green/index.html>.
- California Department of Public Health. 2017. Epidemiologic Summary of Coccidioidomycosis in California, 2016. June. Accessed November 2017. <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2016.pdf>.
- California Public Resources Code Sections 40000–40511. Part 1. Integrated Waste Management.
- Caltrans (California Department of Transportation). 1998a. CALINE4 - A Dispersion Model for Predicting Air Pollutant Concentrations Near Roadways. Version 1.32. Written by Sonoma Technology, Inc. Petaluma, CA. Sponsored by the University of California, Davis Institute of Transportation Studies and Caltrans. <http://www.dot.ca.gov/hq/InfoSvcs/EngApps/>.
- Caltrans. 1998b. *User's Guide for CL4: A User-Friendly Interface for the CALINE4 Model for Transportation Project Impact Assessments*. User's Guide STI-997480-1814-UG. June 1998. <http://www.dot.ca.gov/hq/env/air/documents/CL4Guide.pdf>.
- Caltrans. 2010. "Users of CO Protocol." October 13, 2010. Accessed March 2017. http://www.dot.ca.gov/hq/env/air/documents/COProtocol_searchable.pdf.
- CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008.
- CAPCOA. 2017. *California Emissions Estimator Model (CalEEMod) User's Guide Version 2016.3.2* Prepared by Trinity Consultants and the California Air Districts. Accessed October 2017. http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2.
- CARB (California Air Resources Board). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000. Accessed August 2016. <http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf>.
- CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. Accessed August 2016. <http://www.arb.ca.gov/ch/landuse.htm>.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

- CARB. 2008. *Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*. Sacramento, California. October 24, 2008.
- CARB. 2011. *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document*. August 19, 2011. https://www.arb.ca.gov/cc/scopingplan/document/final_supplement_to_sp_fed.pdf.
- CARB. 2014a. “California Greenhouse Gas Inventory for 2000–2012—by Category as Defined in the 2008 Scoping Plan.” Last updated March 24, 2014. Accessed October 2017. http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-12_2014-03-24.pdf.
- CARB. 2014b. First Update to the Climate Change Scoping Plan Building on the Framework Pursuant to AB 32 – The California Global Warming Solutions Act of 2006. May 2014. Accessed October 2017. http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.
- CARB. 2016a. “Glossary of Air Pollution Terms.” CARB website. Accessed June 2016. <http://www.arb.ca.gov/html/gloss.htm>.
- CARB. 2016b. “Ambient Air Quality Standards.” May 4, 2016. Accessed August 2016. <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.
- CARB. 2016c. “Area Designation Maps/State and National.” Last updated May 5, 2016. <http://www.arb.ca.gov/desig/adm/adm.htm>.
- CARB. 2016d. “iADAM: Air Quality Data Statistics.” Accessed July 2016. <http://www.arb.ca.gov/adam/topfour/topfour1.php>.
- CARB. 2017a. “California Greenhouse Gas Inventory – 2017 Edition.” June 6, 2017. Accessed July 2017. <http://www.arb.ca.gov/cc/inventory/data/data.htm>.
- CARB. 2017b. The 2017 Climate Change Scoping Plan Update. January 20. Accessed January 2017. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.
- CAT (California Climate Action Team). 2006. *Climate Action Team Report to the Governor Schwarzenegger and the Legislature*. Sacramento, California. March 2006. Accessed August 2016. http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

- CAT. 2010. *Climate Action Team Biennial Report*. Sacramento, California. April 2010. Accessed August 2016. <http://www.energy.ca.gov/2010publications/CAT-1000-2010-004/CAT-1000-2010-004.PDF>.
- CCCC (California Climate Change Center). 2006. *Our Changing Climate: Assessing the Risks to California*. CEC-500-2006-077. July 2006. Accessed August 2016. <http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF>.
- CCCC. 2012. *Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California*. July 2012. Accessed August 2016. <http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf>.
- CEC (California Energy Commission). 2015. “2016 Building Efficiency Standards Frequently Asked Questions.” Accessed August 2016. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.
- CEC. 2015a. 2016 Building Energy Efficiency Standards – Frequently Asked Questions. Accessed October 2017. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.
- CEC. 2015b. *2016 Residential Compliance Manual*. Chapter 7 – Solar Ready. November 2015.
- City of Carlsbad. 2015a. General Plan. Accessed February 2018. <http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=29357>.
- City of Carlsbad. 2015b. Climate Action Plan. September. Accessed August 2017. <http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=29361>.
- City of Carlsbad. 2017a. Climate Action Plan Consistency Checklist. February. Accessed August 2017. <http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=32816>.
- City of Carlsbad. 2017b. Guidance to Demonstrating Consistency with the Climate Action Plan. February. Accessed February 2018. <http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=32821>.
- CNRA (California Natural Resources Agency). 2009a. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97*. December 2009.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

- CNRA. 2009b. *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*. Accessed August 2016. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf.
- CNRA. 2014. *Safeguarding California: Reducing Climate Risk*. An update to the 2009 California Climate Adaptation Strategy. Accessed October 2017. http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf.
- CNRA. 2017. *Draft Report Safeguarding California Plan: 2017 Update, California's Climate Adaptation Strategy*. May 2017. Accessed October 2017. <http://resources.ca.gov/wp-content/uploads/2017/05/DRAFT-Safeguarding-California-Plan-2017-Update.pdf>.
- County of San Diego. 2007. *Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality*. Department of Planning and Land Use, Department of Public Works. March 19, 2007.
- County of San Diego. 2017. *County of San Diego Communicable Disease Registry*. County of San Diego, Health and Human Services Agency, Public Health Services, Epidemiology and Immunization Services Branch. December 21.
- CPUC (California Public Utilities Commission). 2013. "California's Zero Net Energy Policies and Initiatives." In *NASEO Getting to Zero Conference*. Prepared by C. Fogel. Demand Side Programs, Energy Division, CPUC. September 18, 2013.
- CPUC. 2015. Senate Bill 350. http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350.
- CRNA. 2016. *Safeguarding California: Implementing Action Plans*. March 2016. Accessed October 2017. <http://resources.ca.gov/docs/climate/safeguarding/Safeguarding%20California-Implementation%20Action%20Plans.pdf>.
- EPA (U.S. Environmental Protection Agency). 2007. *The Energy Independence and Security Act of 2007*. December 19. Accessed October 2017. <https://www.gpo.gov/fdsys/pkg/BILLS-110hr6enr/pdf/BILLS-110hr6enr.pdf>.
- EPA and NHTSA (Department of Transportation's National Highway Traffic Safety Administration). 2016. *Regulations and Standards: Heavy-Duty*. EPA and DOT Finalize Greenhouse Gas and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles. Last updated on August 30, 2016. Accessed October 2017. <https://www3.epa.gov/otaq/climate/regs-heavy-duty.htm>.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

- EPA. 2009. *Integrated Science Assessment for Particulate Matter*. U.S. EPA, EPA/600/R-08/139F, 2009.
- EPA. 2013. *Integrated Science Assessment of Ozone and Related Photochemical Oxidants*. U.S. EPA, EPA/600R-10/076F, 2013.
- EPA. 2016a. “Criteria Air Pollutants.” July 21, 2016. Accessed August 2016. <https://www.epa.gov/criteria-air-pollutants>.
- EPA. 2016b. *Integrated Science Assessment for Oxides of Nitrogen-Health Criteria (2016 Final Report)*. U.S. EPA, EPA/600/R-15/068, 2016.
- EPA. 2016c. “EPA Region 9 Air Quality Maps and Geographic Information.” Last updated April 27, 2016. Accessed August 2016. <http://www.epa.gov/region9/air/maps/>.
- EPA. 2016d. “Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 3.” July 22, 2016. Accessed February 2017. <https://www.epa.gov/sites/production/files/2016-07/documents/areadesign.pdf>.
- EPA. 2016e. “AirData: Access to Air Pollution Data.” Last updated February 23, 2016. Accessed August 2016. http://www.epa.gov/airdata/ad_rep_mon.html.
- EPA. 2016f. “Glossary of Climate Change Terms.” August 9, 2016. Accessed August 2016. <https://www3.epa.gov/climatechange/glossary.html>.
- EPA. 2017a. “Climate Change.” Last updated January 19, 2017. Accessed January 2017. <https://www.epa.gov/climatechange>.
- EPA. 2017b. *Carbon Pollution Standards for Cars and Light Trucks to Remain Unchanged Through 2025*. January 13. Accessed February 2017. <https://www.epa.gov/newsreleases/carbon-pollution-standards-cars-and-light-trucks-remain-unchanged-through-2025>.
- EPA. 2017c. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2015* EPA 430-P-17-001. Washington, D.C.: EPA. April 15, 2017. Accessed July 2017. https://www.epa.gov/sites/production/files/2017-02/documents/2017_complete_report.pdf.
- EPIC (Energy Policy Initiatives Center). 2013. San Diego County Updated Greenhouse Gas Inventory – An Analysis of Regional Emissions and Strategies to Achieve AB 32 Targets Revised and Updated to 2010. University of San Diego. March 2013.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

- IPCC. 2007. *IPCC Fourth Assessment Synthesis of Scientific-Technical Information Relevant to Interpreting Article 2 of the U.N. Framework Convention on Climate Change*.
- IPCC. 2013. *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Accessed October 2017. <http://www.ipcc.ch/report/ar5/wg1>.
- IPCC. 2014. *Climate Change 2014 Synthesis Report: A Report of the Intergovernmental Panel on Climate Change*. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Accessed August 2016. <http://www.ipcc.ch/report/ar5/syr/>.
- Linscott Law & Greenspan. 2018. *Traffic Impact Analysis for Marja Acres*. February 7.
- New Urban West Inc. 2018. Air Quality Data Needs. March 29.
- OPR (Governor's Office of Planning and Research). 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*.
- SANDAG (San Diego Association of Governments). 2011. *2050 Regional Transportation Plan/Sustainable Communities Strategy*. October 2011.
- SANDAG. 2013. Series 13 Regional Growth Forecast. October. Accessed November 2017. http://datasurfer.sandag.org/download/sandag_forecast_13_jurisdiction_chula-vista.pdf.
- SANDAG. 2015. *San Diego Forward: The Regional Plan*. October 2015. Accessed April 2017. http://www.sdforward.com/pdfs/RP_final/The%20Plan%20-%20combined.pdf.
- SANDAG. 2016. *2016 Regional Transportation Improvement Program*. Accessed November 2016. http://www.sandag.org/uploads/publicationid/publicationid_2071_21174.pdf.
- SANDAG. 2017a. *Series 13: 2050 Regional Growth Forecast*. Accessed June 2017. <http://www.sandag.org/index.asp?classid=12&subclassid=84&projectid=503&fuseaction=projects.detail>.
- SANDAG. 2017b. *2050 Regional Transportation Plan*. Accessed June 2017. <http://www.sandag.org/index.asp?projectid=349&fuseaction=projects.detail>.
- SCAQMD (South Coast Air Quality Management District). 1993. *CEQA Air Quality Handbook*.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

- SDACPD. 2017a. Regulation XII. Toxic Air Contaminates; Rule 1200: Toxic Air Contaminates – New Source Review. Accessed October 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Toxic_Air_Cotaminants/ACPD_R1200.pdf.
- SDAPCD (San Diego Air Pollution Control District). 1969. Rules and Regulations. Regulation IV. Prohibitions. Rule 51. Nuisance. Effective January 1, 1969.
- SDAPCD. 1995. Rules and Regulations. Regulation XV. Federal Conformity. Rule 1501. Conformity with General Federal Actions. Adopted March 7, 1995.
- SDAPCD. 1997. Rules and Regulations. Regulation IV. Prohibitions. Rule 50. Visible Emissions. Effective August 13, 1997. Accessed June 2017. http://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R50.pdf.
- SDAPCD. 2005. *Measures to Reduce Particulate Matter in San Diego County*. December 2005. Accessed October 2017. <http://www.sdapcd.org/planning/plan.html>.
- SDAPCD. 2009a. *2009 Regional Air Quality Strategy Revision*. April 2009. Accessed October 2017. <http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2009-RAQS.pdf>.
- SDAPCD. 2009b. SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust. June 24, 2009. Accessed October 2017. http://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R55.pdf.
- SDAPCD. 2015a. 5-Year Air Quality Monitoring Network Assessment 2015. July. Accessed December 2017. http://www.sdapcd.org/content/dam/sdc/apcd/monitoring/2015_Network_Assessment.pdf.
- SDAPCD. 2015b. SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings. June 24. Accessed May 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Prohibitions/APCD_R67-0-1.pdf.
- SDAPCD. 2015c. *Supplemental Guidelines for Submission of Air Toxics “Hot Spots” Program Health Risk Assessments (HRAs)*. June 2015. Accessed May 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/APCD_HRA_Guidelines.pdf.

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

SDAPCD. 2016a. *2008 Eight-Hour Ozone Attainment Plan for San Diego County*. Updated December 2016. <http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/8-Hr-O3%20Attain%20Plan-08%20Std.pdf>.

SDAPCD. 2016b. *2016 Revision of the Regional Qir Quality Strategy for San Diego County*. December 2016. Accessed June 2017. <http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2016%20RAQS.pdf>.

SDAPCD. 2016c. SDAPCD Regulation II: Permits; Rule 20.2: New Source Review—Non-Major Sources. January 29, 2016. Accessed October 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Permits/APCD_R20-2.pdf.

SDAPCD. 2017b. Regulation XII. Toxic Air Contaminates; Rule 1210: Toxic Air Contaminates – Public Notification and Risk Reduction. Accessed October 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Toxic_Air_Cotaminants/APCD_R1210.pdf.

Under 2 Coalition. 2017. “Background on the Under 2. Accessed August 2017. <http://under2mou.org/background/>.

WRCC (Western Region Climate Center). 2017. Climate Summary for Oceanside, California. Accessed February 2018. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6377>.

WRI (World Resources Institute). 2015. CAIT Climate Data Explorer, Total 2012 GHG Emissions. June. Accessed December 2016. [http://cait.wri.org/historical/Country%20GHG%20Emissions?indicator\[\]=Total%20GHG%20Emissions%20Excluding%20Land-Use%20Change%20and%20Forestry&indicator\[\]=Total%20GHG%20Emissions%20Including%20Land-Use%20Change%20and%20Forestry&year\[\]=2012&sortIdx=NaN&chartType=geo](http://cait.wri.org/historical/Country%20GHG%20Emissions?indicator[]=Total%20GHG%20Emissions%20Excluding%20Land-Use%20Change%20and%20Forestry&indicator[]=Total%20GHG%20Emissions%20Including%20Land-Use%20Change%20and%20Forestry&year[]=2012&sortIdx=NaN&chartType=geo).

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

INTENTIONALLY LEFT BLANK

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

5 LIST OF PREPARERS

Adam Poll, Air Quality Specialist

Matthew Morales, Air Quality Specialist

Steve Taffolla, Publications Specialist

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Marja Acres Community Plan

INTENTIONALLY LEFT BLANK

APPENDIX A

CalEEMod Output Files

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Marja Acres Community Plan
San Diego County APCD Air District, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	59.00	Space	0.53	23,600.00	0
Quality Restaurant	4.00	1000sqft	0.09	4,000.00	0
Condo/Townhouse	252.00	Dwelling Unit	15.75	252,000.00	721
Apartments Low Rise	46.00	Dwelling Unit	2.88	46,000.00	132
Hardware/Paint Store	6.00	1000sqft	0.14	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2023
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Retail consists of a bike shop and unspecified retail modeled as a hardware/paintstore.

Construction Phase - Based on applicant provided construction schedule.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Off-road Equipment - Based on applicant provided data.
Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Trips and VMT - Based on applicant provided data.

On-road Fugitive Dust - CalEEMod defaults.

Demolition -

Grading - Based on applicant provided data.

Architectural Coating - In accordance with SDAPCD Rule 67.0.1.

Vehicle Trips - Based on LLG Traffic Report.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Road Dust - CalEEMod defaults.

Woodstoves - Does not apply.

Consumer Products - CalEEMod defaults.

Area Coating - In accordance with SDAPCD Rule 67.0.1.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEMod defaults.

Water And Wastewater - CalEEMod defaults.

Solid Waste - CalEEMod defaults.

Construction Off-road Equipment Mitigation - Watering twice daily. Tier 4 Interim equipment assumed as project design feature.

Mobile Land Use Mitigation - The project is mixed-use, is 0.04 from closest transit stop, and 46/298 units are affordable.

Area Mitigation - No hearth. In accordance with SDAPCD Rule 67.0.1.

Energy Mitigation - 554 kW of solar PV installed onsite.

Water Mitigation - Greywater used for outdoor irrigation.

Waste Mitigation - In accordance with AB 939.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00

Marja Acres Community Plan - San Diego County APCD Air District, Annual

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	20.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

2.0 Emissions Summary

Marja Acres Community Plan - San Diego County APCD Air District, Annual

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	0.4522	5.7284	3.2094	9.9400e-003	0.2222	0.1880	0.4102	0.0432	0.1731	0.2164	0.0000	924.5900	924.5900	0.2044	0.0000	929.7009
2020	0.6827	0.4486	0.4920	8.9000e-004	0.0146	0.0276	0.0421	3.8800e-003	0.0270	0.0308	0.0000	77.0808	77.0808	7.4400e-003	0.0000	77.2669
2021	0.6395	0.4102	0.4613	8.6000e-004	0.0118	0.0230	0.0347	3.1600e-003	0.0224	0.0256	0.0000	74.8215	74.8215	7.2200e-003	0.0000	75.0021
2022	4.6600e-003	0.0406	0.0445	9.0000e-005	2.4900e-003	2.2600e-003	4.7500e-003	6.7000e-004	2.0800e-003	2.7500e-003	0.0000	7.7039	7.7039	1.5600e-003	0.0000	7.7428
Maximum	0.6827	5.7284	3.2094	9.9400e-003	0.2222	0.1880	0.4102	0.0432	0.1731	0.2164	0.0000	924.5900	924.5900	0.2044	0.0000	929.7009

Marja Acres Community Plan - San Diego County APCD Air District, Annual

2.1 Overall Construction**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	0.2580	2.5360	3.5987	9.9400e-003	0.1641	0.0689	0.2330	0.0369	0.0641	0.1010	0.0000	924.5894	924.5894	0.2044	0.0000	929.7003
2020	0.6607	0.1451	0.4907	8.9000e-004	0.0146	0.0126	0.0272	3.8800e-003	0.0126	0.0165	0.0000	77.0807	77.0807	7.4400e-003	0.0000	77.2669
2021	0.6208	0.1556	0.4618	8.6000e-004	0.0118	0.0104	0.0221	3.1600e-003	0.0104	0.0135	0.0000	74.8215	74.8215	7.2200e-003	0.0000	75.0020
2022	2.1300e-003	0.0284	0.0448	9.0000e-005	2.4900e-003	1.1000e-004	2.6000e-003	6.7000e-004	1.1000e-004	7.8000e-004	0.0000	7.7039	7.7039	1.5600e-003	0.0000	7.7428
Maximum	0.6607	2.5360	3.5987	9.9400e-003	0.1641	0.0689	0.2330	0.0369	0.0641	0.1010	0.0000	924.5894	924.5894	0.2044	0.0000	929.7003

	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	13.35	56.77	-9.24	0.00	23.14	61.81	42.07	12.50	61.19	52.18	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	4.1293	1.9236
2	4-1-2019	6-30-2019	1.3863	0.6443
3	7-1-2019	9-30-2019	0.5634	0.1937
4	10-1-2019	12-31-2019	0.1085	0.0494
5	1-1-2020	3-31-2020	0.0500	0.0261
6	4-1-2020	6-30-2020	0.0496	0.0258
7	7-1-2020	9-30-2020	0.4071	0.2951
8	10-1-2020	12-31-2020	0.6167	0.4531

Marja Acres Community Plan - San Diego County APCD Air District, Annual

9	1-1-2021	3-31-2021	0.5830	0.4409
10	4-1-2021	6-30-2021	0.3703	0.2771
11	7-1-2021	9-30-2021	0.0515	0.0317
12	10-1-2021	12-31-2021	0.0516	0.0319
13	1-1-2022	3-31-2022	0.0455	0.0307
		Highest	4.1293	1.9236

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	20.4481	0.3907	25.2949	0.0419		3.2484	3.2484		3.2484	3.2484	307.8214	132.7114	440.5328	0.2876	0.0242	454.9368
Energy	0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	814.3267	814.3267	0.0273	9.3700e-003	817.8025
Mobile	0.5055	1.9869	5.8029	0.0205	1.8600	0.0160	1.8760	0.4981	0.0149	0.5129	0.0000	1,889.9309	1,889.9309	0.0969	0.0000	1,892.3541
Waste						0.0000	0.0000		0.0000	0.0000	42.0719	0.0000	42.0719	2.4864	0.0000	104.2314
Water						0.0000	0.0000		0.0000	0.0000	6.6860	135.3934	142.0794	0.6922	0.0173	164.5514
Total	20.9798	2.6032	31.2083	0.0638	1.8600	3.2825	5.1425	0.4981	3.2814	3.7795	356.5793	2,972.3625	3,328.9417	3.5903	0.0509	3,433.8762

Marja Acres Community Plan - San Diego County APCD Air District, Annual

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3914	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026
Energy	0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	430.5952	430.5952	0.0119	6.1800e-003	432.7326
Mobile	0.4860	1.8866	5.3699	0.0186	1.6740	0.0146	1.6886	0.4483	0.0136	0.4618	0.0000	1,714.0947	1,714.0947	0.0893	0.0000	1,716.3262
Waste						0.0000	0.0000		0.0000	0.0000	10.5180	0.0000	10.5180	0.6216	0.0000	26.0578
Water						0.0000	0.0000		0.0000	0.0000	6.6860	89.6798	96.3658	0.6903	0.0170	118.6784
Total	1.9036	2.1378	7.6942	0.0201	1.6740	0.0449	1.7189	0.4483	0.0439	0.4922	17.2039	2,237.9853	2,255.1892	1.4165	0.0231	2,297.4976

	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	90.93	17.88	75.35	68.50	10.00	98.63	66.57	10.00	98.66	86.98	95.18	24.71	32.26	60.55	54.56	33.09

3.0 Construction Detail**Construction Phase**

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo Structures and Improvements	Demolition	1/2/2019	1/17/2019	5	12	
2	Haul off Demo Debris	Demolition	1/17/2019	1/21/2019	5	3	
3	Clear and Grub	Site Preparation	1/22/2019	1/28/2019	5	5	
4	Remedial, Remedial & Mass Excavation	Grading	1/29/2019	3/18/2019	5	35	
5	Export Excavation	Grading	3/2/2019	4/10/2019	5	28	
6	Wet Utilities	Trenching	3/19/2019	6/20/2019	5	68	
7	Dry Utilities	Trenching	6/20/2019	7/17/2019	5	20	
8	Street Improvements - Balancing/Aggregate Base	Building Construction	7/18/2019	7/25/2019	5	6	
9	Building Construction-1	Building Construction	7/18/2019	12/6/2019	5	102	
10	Street Improvements - Curb & Gutter	Paving	7/26/2019	8/1/2019	5	5	
11	Street Improvements - Asphalt Paving	Paving	8/2/2019	8/7/2019	5	4	
12	Street Improvements - Concrete Flatwork	Paving	8/8/2019	8/23/2019	5	12	
13	Building Construction-2	Building Construction	12/17/2019	8/3/2020	5	165	
14	Architectural Coating	Architectural Coating	8/4/2020	5/24/2021	5	210	
15	Building Constructicon-3	Building Construction	5/25/2021	3/31/2022	5	223	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.53

Residential Indoor: 603,450; Residential Outdoor: 201,150; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 2,376 (Architectural Coating – sqft)

OffRoad Equipment

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo Structures and Improvements	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Structures and Improvements	Excavators	1	8.00	323	0.38
Demo Structures and Improvements	Off-Highway Trucks	1	6.00	313	0.38
Demo Structures and Improvements	Off-Highway Trucks	1	8.00	200	0.38
Demo Structures and Improvements	Rubber Tired Dozers	1	8.00	328	0.40
Demo Structures and Improvements	Rubber Tired Loaders	1	8.00	253	0.36
Demo Structures and Improvements	Skid Steer Loaders	1	8.00	80	0.37
Haul off Demo Debris	Concrete/Industrial Saws	0	8.00	81	0.73
Haul off Demo Debris	Excavators	0	8.00	158	0.38
Haul off Demo Debris	Rubber Tired Dozers	0	8.00	247	0.40
Haul off Demo Debris	Rubber Tired Loaders	1	8.00	253	0.36
Clear and Grub	Crawler Tractors	1	8.00	328	0.43
Clear and Grub	Off-Highway Trucks	1	8.00	200	0.38
Clear and Grub	Rubber Tired Dozers	0	8.00	247	0.40
Clear and Grub	Rubber Tired Loaders	1	8.00	253	0.36
Clear and Grub	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Remedial, Remedial & Mass Excavation	Crawler Tractors	1	8.00	328	0.43
Remedial, Remedial & Mass Excavation	Excavators	0	8.00	158	0.38
Remedial, Remedial & Mass Excavation	Graders	1	6.00	180	0.41
Remedial, Remedial & Mass Excavation	Off-Highway Trucks	1	8.00	200	0.38
Remedial, Remedial & Mass Excavation	Rubber Tired Dozers	1	8.00	450	0.40
Remedial, Remedial & Mass Excavation	Scrapers	4	8.00	700	0.48
Remedial, Remedial & Mass Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Export Excavation	Excavators	0	8.00	158	0.38

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Export Excavation	Graders	1	6.00	180	0.41
Export Excavation	Off-Highway Trucks	1	8.00	200	0.38
Export Excavation	Rubber Tired Dozers	1	8.00	450	0.40
Export Excavation	Rubber Tired Loaders	1	8.00	253	0.36
Export Excavation	Scrapers	0	8.00	367	0.48
Export Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Wet Utilities	Excavators	2	8.00	323	0.38
Wet Utilities	Off-Highway Trucks	2	8.00	200	0.38
Wet Utilities	Rubber Tired Loaders	2	8.00	160	0.36
Wet Utilities	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Dry Utilities	Off-Highway Trucks	2	8.00	200	0.38
Dry Utilities	Rubber Tired Loaders	2	8.00	160	0.36
Dry Utilities	Tractors/Loaders/Backhoes	2	8.00	102	0.37
Street Improvements - Balancing/Aggregate Base	Cranes	0	7.00	231	0.29
Street Improvements - Balancing/Aggregate Base	Forklifts	0	8.00	89	0.20
Street Improvements - Balancing/Aggregate Base	Generator Sets	0	8.00	84	0.74
Street Improvements - Balancing/Aggregate Base	Graders	2	8.00	220	0.41
Street Improvements - Balancing/Aggregate Base	Off-Highway Trucks	2	8.00	200	0.38
Street Improvements - Balancing/Aggregate Base	Rollers	2	4.00	102	0.38
Street Improvements - Balancing/Aggregate Base	Scrapers	2	8.00	359	0.48
Street Improvements - Balancing/Aggregate Base	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Street Improvements - Balancing/Aggregate Base	Welders	0	8.00	46	0.45
Building Construction-1	Bore/Drill Rigs	0	8.00	221	0.50
Building Construction-1	Cranes	0	7.00	231	0.29
Building Construction-1	Forklifts	0	8.00	89	0.20

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Building Construction-1	Generator Sets	0	8.00	84	0.74
Building Construction-1	Off-Highway Trucks	0	8.00	200	0.38
Building Construction-1	Pumps	0	8.00	84	0.74
Building Construction-1	Skid Steer Loaders	1	8.00	65	0.37
Building Construction-1	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction-1	Welders	0	8.00	46	0.45
Street Improvements - Curb & Gutter	Pavers	2	8.00	130	0.42
Street Improvements - Curb & Gutter	Paving Equipment	0	8.00	132	0.36
Street Improvements - Curb & Gutter	Rollers	0	8.00	80	0.38
Street Improvements - Asphalt Paving	Graders	2	8.00	250	0.41
Street Improvements - Asphalt Paving	Graders	2	4.00	240	0.41
Street Improvements - Asphalt Paving	Pavers	2	8.00	173	0.42
Street Improvements - Asphalt Paving	Paving Equipment	0	8.00	132	0.36
Street Improvements - Asphalt Paving	Rollers	2	6.00	102	0.38
Street Improvements - Concrete Flatwork	Pavers	0	8.00	130	0.42
Street Improvements - Concrete Flatwork	Paving Equipment	0	8.00	132	0.36
Street Improvements - Concrete Flatwork	Rollers	0	8.00	80	0.38
Street Improvements - Concrete Flatwork	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Building Construction-2	Cranes	0	7.00	231	0.29
Building Construction-2	Forklifts	1	8.00	89	0.20
Building Construction-2	Generator Sets	0	8.00	84	0.74
Building Construction-2	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction-2	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	1	8.00	78	0.48
Architectural Coating	Cement and Mortar Mixers	1	8.00	9	0.56
Architectural Coating	Pumps	1	8.00	84	0.74

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Building Construcion-3	Cranes	0	7.00	231	0.29
Building Construcion-3	Forklifts	1	8.00	89	0.20
Building Construcion-3	Generator Sets	0	8.00	84	0.74
Building Construcion-3	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construcion-3	Welders	0	8.00	46	0.45

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
Demo Structures and Improvements	0	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Haul off Demo Debris	0	6.00	0.00	440.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Clear and Grub	0	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Remedial, Remedial & Mass Excavation	0	26.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Export Excavation	0	12.00	0.00	8,230.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Wet Utilities	0	86.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Dry Utilities	0	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Balancing/Aggregate	0	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-1	0	12.00	2.00	8.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Curb & Gutter	0	40.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Asphalt Paving	0	26.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Concrete Flatwork	0	42.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-2	0	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	12.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construcion-3	0	8.00	2.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demo Structures and Improvements - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0186	0.1976	0.1330	2.8000e-004		8.1100e-003	8.1100e-003		7.4600e-003	7.4600e-003	0.0000	25.0487	25.0487	7.9300e-003	0.0000	25.2469
Total	0.0186	0.1976	0.1330	2.8000e-004	0.0000	8.1100e-003	8.1100e-003	0.0000	7.4600e-003	7.4600e-003	0.0000	25.0487	25.0487	7.9300e-003	0.0000	25.2469

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.2 Demo Structures and Improvements - 2019**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	4.3000e-004	3.3000e-004	3.1600e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8084	0.8084	3.0000e-005	0.0000	0.8090
Total	4.3000e-004	3.3000e-004	3.1600e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8084	0.8084	3.0000e-005	0.0000	0.8090

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0107	0.0347	0.1225	2.8000e-004		3.6500e-003	3.6500e-003		3.3800e-003	3.3800e-003	0.0000	25.0487	25.0487	7.9300e-003	0.0000	25.2468
Total	0.0107	0.0347	0.1225	2.8000e-004	0.0000	3.6500e-003	3.6500e-003	0.0000	3.3800e-003	3.3800e-003	0.0000	25.0487	25.0487	7.9300e-003	0.0000	25.2468

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.2 Demo Structures and Improvements - 2019**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	4.3000e-004	3.3000e-004	3.1600e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8084	0.8084	3.0000e-005	0.0000	0.8090
Total	4.3000e-004	3.3000e-004	3.1600e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8084	0.8084	3.0000e-005	0.0000	0.8090

3.3 Haul off Demo Debris - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4000e-004	7.9200e-003	4.1600e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.0428	1.0428	3.3000e-004	0.0000	1.0510
Total	7.4000e-004	7.9200e-003	4.1600e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.0428	1.0428	3.3000e-004	0.0000	1.0510

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.3 Haul off Demo Debris - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0674	0.0147	1.7000e-004	3.7600e-003	2.5000e-004	4.0200e-003	1.0300e-003	2.4000e-004	1.2700e-003	0.0000	17.1511	17.1511	1.5500e-003	0.0000	17.1899
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	4.0000e-005	3.0000e-005	2.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0674	0.0674	0.0000	0.0000	0.0674
Total	1.9700e-003	0.0675	0.0150	1.7000e-004	3.8300e-003	2.5000e-004	4.0900e-003	1.0500e-003	2.4000e-004	1.2900e-003	0.0000	17.2184	17.2184	1.5500e-003	0.0000	17.2573

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4000e-004	0.0000	4.1600e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.0428	1.0428	3.3000e-004	0.0000	1.0510
Total	7.4000e-004	0.0000	4.1600e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.0428	1.0428	3.3000e-004	0.0000	1.0510

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.3 Haul off Demo Debris - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0674	0.0147	1.7000e-004	3.7600e-003	2.5000e-004	4.0200e-003	1.0300e-003	2.4000e-004	1.2700e-003	0.0000	17.1511	17.1511	1.5500e-003	0.0000	17.1899
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	4.0000e-005	3.0000e-005	2.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0674	0.0674	0.0000	0.0000	0.0674
Total	1.9700e-003	0.0675	0.0150	1.7000e-004	3.8300e-003	2.5000e-004	4.0900e-003	1.0500e-003	2.4000e-004	1.2900e-003	0.0000	17.2184	17.2184	1.5500e-003	0.0000	17.2573

3.4 Clear and Grub - 2019**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					1.3300e-003	0.0000	1.3300e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2400e-003	0.0477	0.0256	7.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	5.9387	5.9387	1.8800e-003	0.0000	5.9857
Total	4.2400e-003	0.0477	0.0256	7.0000e-005	1.3300e-003	1.8400e-003	3.1700e-003	1.4000e-004	1.6900e-003	1.8300e-003	0.0000	5.9387	5.9387	1.8800e-003	0.0000	5.9857

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.4 Clear and Grub - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	9.0000e-005	8.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2246	0.2246	1.0000e-005	0.0000	0.2247
Total	1.2000e-004	9.0000e-005	8.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2246	0.2246	1.0000e-005	0.0000	0.2247

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					6.0000e-004	0.0000	6.0000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2400e-003	0.0000	0.0256	7.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	5.9387	5.9387	1.8800e-003	0.0000	5.9857
Total	4.2400e-003	0.0000	0.0256	7.0000e-005	6.0000e-004	1.8400e-003	2.4400e-003	6.0000e-005	1.6900e-003	1.7500e-003	0.0000	5.9387	5.9387	1.8800e-003	0.0000	5.9857

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.4 Clear and Grub - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	9.0000e-005	8.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2246	0.2246	1.0000e-005	0.0000	0.2247
Total	1.2000e-004	9.0000e-005	8.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2246	0.2246	1.0000e-005	0.0000	0.2247

3.5 Remedial, Remedial & Mass Excavation - 2019**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					0.0928	0.0000	0.0928	0.0100	0.0000	0.0100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1738	2.0890	1.1763	2.7100e-003		0.0789	0.0789		0.0726	0.0726	0.0000	243.2685	243.2685	0.0770	0.0000	245.1926
Total	0.1738	2.0890	1.1763	2.7100e-003	0.0928	0.0789	0.1717	0.0100	0.0726	0.0826	0.0000	243.2685	243.2685	0.0770	0.0000	245.1926

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.5 Remedial, Remedial & Mass Excavation - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.3800e-003	0.0133	4.0000e-005	3.6500e-003	3.0000e-005	3.6800e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.4057	3.4057	1.1000e-004	0.0000	3.4084
Total	1.7900e-003	1.3800e-003	0.0133	4.0000e-005	3.6500e-003	3.0000e-005	3.6800e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.4057	3.4057	1.1000e-004	0.0000	3.4084

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					0.0418	0.0000	0.0418	4.5100e-003	0.0000	4.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0601	0.6288	1.3983	2.7100e-003		0.0133	0.0133		0.0126	0.0126	0.0000	243.2682	243.2682	0.0770	0.0000	245.1924
Total	0.0601	0.6288	1.3983	2.7100e-003	0.0418	0.0133	0.0551	4.5100e-003	0.0126	0.0171	0.0000	243.2682	243.2682	0.0770	0.0000	245.1924

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.5 Remedial, Remedial & Mass Excavation - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.3800e-003	0.0133	4.0000e-005	3.6500e-003	3.0000e-005	3.6800e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.4057	3.4057	1.1000e-004	0.0000	3.4084
Total	1.7900e-003	1.3800e-003	0.0133	4.0000e-005	3.6500e-003	3.0000e-005	3.6800e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.4057	3.4057	1.1000e-004	0.0000	3.4084

3.6 Export Excavation - 2019**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					0.0115	0.0000	0.0115	1.4100e-003	0.0000	1.4100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0430	0.4695	0.2956	4.9000e-004		0.0197	0.0197		0.0181	0.0181	0.0000	43.7089	43.7089	0.0138	0.0000	44.0547
Total	0.0430	0.4695	0.2956	4.9000e-004	0.0115	0.0197	0.0312	1.4100e-003	0.0181	0.0195	0.0000	43.7089	43.7089	0.0138	0.0000	44.0547

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.6 Export Excavation - 2019**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	0.0362	1.2611	0.2751	3.2400e-003	0.0704	4.7100e-003	0.0751	0.0193	4.5100e-003	0.0239	0.0000	320.8032	320.8032	0.0290	0.0000	321.5293
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.1000e-004	4.9200e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3600e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2575	1.2575	4.0000e-005	0.0000	1.2585
Total	0.0368	1.2616	0.2800	3.2500e-003	0.0718	4.7200e-003	0.0765	0.0197	4.5200e-003	0.0242	0.0000	322.0606	322.0606	0.0291	0.0000	322.7878

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					5.1600e-003	0.0000	5.1600e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0173	0.0750	0.2173	4.9000e-004		5.4600e-003	5.4600e-003		5.0600e-003	5.0600e-003	0.0000	43.7089	43.7089	0.0138	0.0000	44.0546
Total	0.0173	0.0750	0.2173	4.9000e-004	5.1600e-003	5.4600e-003	0.0106	6.4000e-004	5.0600e-003	5.7000e-003	0.0000	43.7089	43.7089	0.0138	0.0000	44.0546

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.6 Export Excavation - 2019**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	0.0362	1.2611	0.2751	3.2400e-003	0.0704	4.7100e-003	0.0751	0.0193	4.5100e-003	0.0239	0.0000	320.8032	320.8032	0.0290	0.0000	321.5293
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	5.1000e-004	4.9200e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3600e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2575	1.2575	4.0000e-005	0.0000	1.2585
Total	0.0368	1.2616	0.2800	3.2500e-003	0.0718	4.7200e-003	0.0765	0.0197	4.5200e-003	0.0242	0.0000	322.0606	322.0606	0.0291	0.0000	322.7878

3.7 Wet Utilities - 2019**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	0.0877	0.8801	0.6089	1.6000e-003		0.0394	0.0394		0.0362	0.0362	0.0000	143.6449	143.6449	0.0455	0.0000	144.7811
Total	0.0877	0.8801	0.6089	1.6000e-003		0.0394	0.0394		0.0362	0.0362	0.0000	143.6449	143.6449	0.0455	0.0000	144.7811

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.7 Wet Utilities - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0115	8.8500e-003	0.0856	2.4000e-004	0.0235	1.7000e-004	0.0236	6.2300e-003	1.6000e-004	6.3900e-003	0.0000	21.8860	21.8860	7.0000e-004	0.0000	21.9036
Total	0.0115	8.8500e-003	0.0856	2.4000e-004	0.0235	1.7000e-004	0.0236	6.2300e-003	1.6000e-004	6.3900e-003	0.0000	21.8860	21.8860	7.0000e-004	0.0000	21.9036

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	0.0701	0.2360	0.8291	1.6000e-003		0.0269	0.0269		0.0249	0.0249	0.0000	143.6447	143.6447	0.0455	0.0000	144.7809
Total	0.0701	0.2360	0.8291	1.6000e-003		0.0269	0.0269		0.0249	0.0249	0.0000	143.6447	143.6447	0.0455	0.0000	144.7809

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.7 Wet Utilities - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0115	8.8500e-003	0.0856	2.4000e-004	0.0235	1.7000e-004	0.0236	6.2300e-003	1.6000e-004	6.3900e-003	0.0000	21.8860	21.8860	7.0000e-004	0.0000	21.9036
Total	0.0115	8.8500e-003	0.0856	2.4000e-004	0.0235	1.7000e-004	0.0236	6.2300e-003	1.6000e-004	6.3900e-003	0.0000	21.8860	21.8860	7.0000e-004	0.0000	21.9036

3.8 Dry Utilities - 2019**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	0.0214	0.2076	0.1563	2.9000e-004		0.0108	0.0108		9.9400e-003	9.9400e-003	0.0000	26.4247	26.4247	8.3600e-003	0.0000	26.6337
Total	0.0214	0.2076	0.1563	2.9000e-004		0.0108	0.0108		9.9400e-003	9.9400e-003	0.0000	26.4247	26.4247	8.3600e-003	0.0000	26.6337

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.8 Dry Utilities - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2600e-003	9.7000e-004	9.3600e-003	3.0000e-005	2.5700e-003	2.0000e-005	2.5800e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.3952	2.3952	8.0000e-005	0.0000	2.3971
Total	1.2600e-003	9.7000e-004	9.3600e-003	3.0000e-005	2.5700e-003	2.0000e-005	2.5800e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.3952	2.3952	8.0000e-005	0.0000	2.3971

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	0.0179	0.0285	0.1571	2.9000e-004		7.6300e-003	7.6300e-003		7.0300e-003	7.0300e-003	0.0000	26.4247	26.4247	8.3600e-003	0.0000	26.6337
Total	0.0179	0.0285	0.1571	2.9000e-004		7.6300e-003	7.6300e-003		7.0300e-003	7.0300e-003	0.0000	26.4247	26.4247	8.3600e-003	0.0000	26.6337

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.8 Dry Utilities - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2600e-003	9.7000e-004	9.3600e-003	3.0000e-005	2.5700e-003	2.0000e-005	2.5800e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.3952	2.3952	8.0000e-005	0.0000	2.3971
Total	1.2600e-003	9.7000e-004	9.3600e-003	3.0000e-005	2.5700e-003	2.0000e-005	2.5800e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.3952	2.3952	8.0000e-005	0.0000	2.3971

3.9 Street Improvements - Balancing/Aggregate Base - 2019**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	0.0137	0.1618	0.0862	1.9000e-004		6.4500e-003	6.4500e-003		5.9300e-003	5.9300e-003	0.0000	17.4383	17.4383	5.5200e-003	0.0000	17.5763
Total	0.0137	0.1618	0.0862	1.9000e-004		6.4500e-003	6.4500e-003		5.9300e-003	5.9300e-003	0.0000	17.4383	17.4383	5.5200e-003	0.0000	17.5763

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.9 Street Improvements - Balancing/Aggregate Base - 2019**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	3.5000e-004	2.7000e-004	2.6300e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6737	0.6737	2.0000e-005	0.0000	0.6742
Total	3.5000e-004	2.7000e-004	2.6300e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6737	0.6737	2.0000e-005	0.0000	0.6742

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	5.1300e-003	0.0443	0.0986	1.9000e-004		1.2100e-003	1.2100e-003		1.1300e-003	1.1300e-003	0.0000	17.4383	17.4383	5.5200e-003	0.0000	17.5762
Total	5.1300e-003	0.0443	0.0986	1.9000e-004		1.2100e-003	1.2100e-003		1.1300e-003	1.1300e-003	0.0000	17.4383	17.4383	5.5200e-003	0.0000	17.5762

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.9 Street Improvements - Balancing/Aggregate Base - 2019**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	3.5000e-004	2.7000e-004	2.6300e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6737	0.6737	2.0000e-005	0.0000	0.6742
Total	3.5000e-004	2.7000e-004	2.6300e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6737	0.6737	2.0000e-005	0.0000	0.6742

3.10 Building Construction-1 - 2019**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	0.0162	0.1767	0.1883	2.6000e-004		0.0106	0.0106		9.7400e-003	9.7400e-003	0.0000	23.6956	23.6956	7.5000e-003	0.0000	23.8830
Total	0.0162	0.1767	0.1883	2.6000e-004		0.0106	0.0106		9.7400e-003	9.7400e-003	0.0000	23.6956	23.6956	7.5000e-003	0.0000	23.8830

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.10 Building Construction-1 - 2019**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	4.0000e-005	1.2300e-003	2.7000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3118	0.3118	3.0000e-005	0.0000	0.3125
Vendor	4.8000e-004	0.0128	3.4400e-003	3.0000e-005	6.8000e-004	9.0000e-005	7.7000e-004	2.0000e-004	8.0000e-005	2.8000e-004	0.0000	2.7099	2.7099	2.2000e-004	0.0000	2.7154
Worker	2.4100e-003	1.8500e-003	0.0179	5.0000e-005	4.9100e-003	4.0000e-005	4.9400e-003	1.3000e-003	3.0000e-005	1.3400e-003	0.0000	4.5808	4.5808	1.5000e-004	0.0000	4.5845
Total	2.9300e-003	0.0159	0.0216	8.0000e-005	5.6600e-003	1.3000e-004	5.7800e-003	1.5200e-003	1.1000e-004	1.6400e-003	0.0000	7.6026	7.6026	4.0000e-004	0.0000	7.6124

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.8600e-003	0.0691	0.1903	2.6000e-004		2.8900e-003	2.8900e-003		2.6800e-003	2.6800e-003	0.0000	23.6955	23.6955	7.5000e-003	0.0000	23.8830
Total	7.8600e-003	0.0691	0.1903	2.6000e-004		2.8900e-003	2.8900e-003		2.6800e-003	2.6800e-003	0.0000	23.6955	23.6955	7.5000e-003	0.0000	23.8830

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.10 Building Construction-1 - 2019**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	4.0000e-005	1.2300e-003	2.7000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3118	0.3118	3.0000e-005	0.0000	0.3125
Vendor	4.8000e-004	0.0128	3.4400e-003	3.0000e-005	6.8000e-004	9.0000e-005	7.7000e-004	2.0000e-004	8.0000e-005	2.8000e-004	0.0000	2.7099	2.7099	2.2000e-004	0.0000	2.7154
Worker	2.4100e-003	1.8500e-003	0.0179	5.0000e-005	4.9100e-003	4.0000e-005	4.9400e-003	1.3000e-003	3.0000e-005	1.3400e-003	0.0000	4.5808	4.5808	1.5000e-004	0.0000	4.5845
Total	2.9300e-003	0.0159	0.0216	8.0000e-005	5.6600e-003	1.3000e-004	5.7800e-003	1.5200e-003	1.1000e-004	1.6400e-003	0.0000	7.6026	7.6026	4.0000e-004	0.0000	7.6124

3.11 Street Improvements - Curb & Gutter - 2019**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	1.4400e-003	0.0156	0.0145	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	2.1115	2.1115	6.7000e-004	0.0000	2.1282
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.1300e-003	0.0156	0.0145	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	2.1115	2.1115	6.7000e-004	0.0000	2.1282

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.11 Street Improvements - Curb & Gutter - 2019**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	3.9000e-004	3.0000e-004	2.9300e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7485	0.7485	2.0000e-005	0.0000	0.7491
Total	3.9000e-004	3.0000e-004	2.9300e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7485	0.7485	2.0000e-005	0.0000	0.7491

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	2.9000e-004	0.0104	0.0178	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1115	2.1115	6.7000e-004	0.0000	2.1282
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.8000e-004	0.0104	0.0178	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1115	2.1115	6.7000e-004	0.0000	2.1282

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.11 Street Improvements - Curb & Gutter - 2019**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	3.9000e-004	3.0000e-004	2.9300e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7485	0.7485	2.0000e-005	0.0000	0.7491
Total	3.9000e-004	3.0000e-004	2.9300e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7485	0.7485	2.0000e-005	0.0000	0.7491

3.12 Street Improvements - Asphalt Paving - 2019**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	6.2500e-003	0.0773	0.0373	9.0000e-005		3.0500e-003	3.0500e-003		2.8100e-003	2.8100e-003	0.0000	7.8707	7.8707	2.4900e-003	0.0000	7.9329
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.9400e-003	0.0773	0.0373	9.0000e-005		3.0500e-003	3.0500e-003		2.8100e-003	2.8100e-003	0.0000	7.8707	7.8707	2.4900e-003	0.0000	7.9329

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.12 Street Improvements - Asphalt Paving - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.6000e-004	1.5200e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3892	0.3892	1.0000e-005	0.0000	0.3895
Total	2.1000e-004	1.6000e-004	1.5200e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3892	0.3892	1.0000e-005	0.0000	0.3895

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	1.3900e-003	0.0292	0.0544	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.8707	7.8707	2.4900e-003	0.0000	7.9329
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0800e-003	0.0292	0.0544	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.8707	7.8707	2.4900e-003	0.0000	7.9329

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.12 Street Improvements - Asphalt Paving - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.6000e-004	1.5200e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3892	0.3892	1.0000e-005	0.0000	0.3895
Total	2.1000e-004	1.6000e-004	1.5200e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3892	0.3892	1.0000e-005	0.0000	0.3895

3.13 Street Improvements - Concrete Flatwork - 2019**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	3.1400e-003	0.0316	0.0311	4.0000e-005		2.1100e-003	2.1100e-003		1.9400e-003	1.9400e-003	0.0000	3.7665	3.7665	1.1900e-003	0.0000	3.7963
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.8300e-003	0.0316	0.0311	4.0000e-005		2.1100e-003	2.1100e-003		1.9400e-003	1.9400e-003	0.0000	3.7665	3.7665	1.1900e-003	0.0000	3.7963

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.13 Street Improvements - Concrete Flatwork - 2019**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	9.9000e-004	7.6000e-004	7.3700e-003	2.0000e-005	2.0200e-003	1.0000e-005	2.0400e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	1.8862	1.8862	6.0000e-005	0.0000	1.8877
Total	9.9000e-004	7.6000e-004	7.3700e-003	2.0000e-005	2.0200e-003	1.0000e-005	2.0400e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	1.8862	1.8862	6.0000e-005	0.0000	1.8877

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	9.4000e-004	0.0183	0.0316	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.7665	3.7665	1.1900e-003	0.0000	3.7963
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.6300e-003	0.0183	0.0316	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.7665	3.7665	1.1900e-003	0.0000	3.7963

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.13 Street Improvements - Concrete Flatwork - 2019**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	9.9000e-004	7.6000e-004	7.3700e-003	2.0000e-005	2.0200e-003	1.0000e-005	2.0400e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	1.8862	1.8862	6.0000e-005	0.0000	1.8877
Total	9.9000e-004	7.6000e-004	7.3700e-003	2.0000e-005	2.0200e-003	1.0000e-005	2.0400e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	1.8862	1.8862	6.0000e-005	0.0000	1.8877

3.14 Building Construction-2 - 2019**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	8.8000e-004	7.8600e-003	6.5700e-003	1.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	0.7550	0.7550	2.4000e-004	0.0000	0.7610
Total	8.8000e-004	7.8600e-003	6.5700e-003	1.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	0.7550	0.7550	2.4000e-004	0.0000	0.7610

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.14 Building Construction-2 - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.3000e-004	2.2500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.5763	0.5763	2.0000e-005	0.0000	0.5768
Total	3.0000e-004	2.3000e-004	2.2500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.5763	0.5763	2.0000e-005	0.0000	0.5768

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	1.9000e-004	3.7000e-003	6.3900e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.7550	0.7550	2.4000e-004	0.0000	0.7610
Total	1.9000e-004	3.7000e-003	6.3900e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.7550	0.7550	2.4000e-004	0.0000	0.7610

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.14 Building Construction-2 - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.3000e-004	2.2500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.5763	0.5763	2.0000e-005	0.0000	0.5768
Total	3.0000e-004	2.3000e-004	2.2500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.5763	0.5763	2.0000e-005	0.0000	0.5768

3.14 Building Construction-2 - 2020**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	0.0111	0.0999	0.0909	1.2000e-004		7.4400e-003	7.4400e-003		6.8500e-003	6.8500e-003	0.0000	10.3404	10.3404	3.3400e-003	0.0000	10.4240
Total	0.0111	0.0999	0.0909	1.2000e-004		7.4400e-003	7.4400e-003		6.8500e-003	6.8500e-003	0.0000	10.3404	10.3404	3.3400e-003	0.0000	10.4240

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.14 Building Construction-2 - 2020**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	3.9700e-003	2.9400e-003	0.0289	9.0000e-005	8.6400e-003	6.0000e-005	8.7100e-003	2.3000e-003	6.0000e-005	2.3500e-003	0.0000	7.8142	7.8142	2.3000e-004	0.0000	7.8200
Total	3.9700e-003	2.9400e-003	0.0289	9.0000e-005	8.6400e-003	6.0000e-005	8.7100e-003	2.3000e-003	6.0000e-005	2.3500e-003	0.0000	7.8142	7.8142	2.3000e-004	0.0000	7.8200

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	2.6600e-003	0.0517	0.0894	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.3404	10.3404	3.3400e-003	0.0000	10.4240
Total	2.6600e-003	0.0517	0.0894	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.3404	10.3404	3.3400e-003	0.0000	10.4240

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.14 Building Construction-2 - 2020**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	3.9700e-003	2.9400e-003	0.0289	9.0000e-005	8.6400e-003	6.0000e-005	8.7100e-003	2.3000e-003	6.0000e-005	2.3500e-003	0.0000	7.8142	7.8142	2.3000e-004	0.0000	7.8200
Total	3.9700e-003	2.9400e-003	0.0289	9.0000e-005	8.6400e-003	6.0000e-005	8.7100e-003	2.3000e-003	6.0000e-005	2.3500e-003	0.0000	7.8142	7.8142	2.3000e-004	0.0000	7.8200

3.15 Architectural Coating - 2020**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	0.6213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0435	0.3317	0.3517	6.1000e-004		0.0200	0.0200		0.0200	0.0200	0.0000	51.3793	51.3793	3.5100e-003	0.0000	51.4670
Total	0.6648	0.3317	0.3517	6.1000e-004		0.0200	0.0200		0.0200	0.0200	0.0000	51.3793	51.3793	3.5100e-003	0.0000	51.4670

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.15 Architectural Coating - 2020**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	4.1000e-004	0.0123	3.2700e-003	3.0000e-005	7.2000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.6000e-004	0.0000	2.8497	2.8497	2.2000e-004	0.0000	2.8552
Worker	2.3900e-003	1.7700e-003	0.0173	5.0000e-005	5.2000e-003	4.0000e-005	5.2300e-003	1.3800e-003	3.0000e-005	1.4200e-003	0.0000	4.6972	4.6972	1.4000e-004	0.0000	4.7007
Total	2.8000e-003	0.0141	0.0206	8.0000e-005	5.9200e-003	1.0000e-004	6.0100e-003	1.5900e-003	9.0000e-005	1.6800e-003	0.0000	7.5469	7.5469	3.6000e-004	0.0000	7.5559

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	0.6213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0300	0.0763	0.3518	6.1000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	51.3793	51.3793	3.5100e-003	0.0000	51.4669
Total	0.6513	0.0763	0.3518	6.1000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	51.3793	51.3793	3.5100e-003	0.0000	51.4669

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.15 Architectural Coating - 2020**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	4.1000e-004	0.0123	3.2700e-003	3.0000e-005	7.2000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.6000e-004	0.0000	2.8497	2.8497	2.2000e-004	0.0000	2.8552
Worker	2.3900e-003	1.7700e-003	0.0173	5.0000e-005	5.2000e-003	4.0000e-005	5.2300e-003	1.3800e-003	3.0000e-005	1.4200e-003	0.0000	4.6972	4.6972	1.4000e-004	0.0000	4.7007
Total	2.8000e-003	0.0141	0.0206	8.0000e-005	5.9200e-003	1.0000e-004	6.0100e-003	1.5900e-003	9.0000e-005	1.6800e-003	0.0000	7.5469	7.5469	3.6000e-004	0.0000	7.5559

3.15 Architectural Coating - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5868					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0373	0.2863	0.3301	5.7000e-004		0.0162	0.0162		0.0162	0.0162	0.0000	48.5250	48.5250	3.0100e-003	0.0000	48.6001
Total	0.6241	0.2863	0.3301	5.7000e-004		0.0162	0.0162		0.0162	0.0162	0.0000	48.5250	48.5250	3.0100e-003	0.0000	48.6001

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.15 Architectural Coating - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0105	2.8000e-003	3.0000e-005	6.8000e-004	2.0000e-005	7.0000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6667	2.6667	2.0000e-004	0.0000	2.6716
Worker	2.1300e-003	1.5200e-003	0.0153	5.0000e-005	4.9100e-003	3.0000e-005	4.9400e-003	1.3000e-003	3.0000e-005	1.3400e-003	0.0000	4.2872	4.2872	1.2000e-004	0.0000	4.2903
Total	2.4500e-003	0.0120	0.0181	8.0000e-005	5.5900e-003	5.0000e-005	5.6400e-003	1.5000e-003	5.0000e-005	1.5600e-003	0.0000	6.9539	6.9539	3.2000e-004	0.0000	6.9619

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	0.5868					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0261	0.0721	0.3311	5.7000e-004		0.0101	0.0101		0.0101	0.0101	0.0000	48.5249	48.5249	3.0100e-003	0.0000	48.6001
Total	0.6129	0.0721	0.3311	5.7000e-004		0.0101	0.0101		0.0101	0.0101	0.0000	48.5249	48.5249	3.0100e-003	0.0000	48.6001

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.15 Architectural Coating - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0105	2.8000e-003	3.0000e-005	6.8000e-004	2.0000e-005	7.0000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6667	2.6667	2.0000e-004	0.0000	2.6716
Worker	2.1300e-003	1.5200e-003	0.0153	5.0000e-005	4.9100e-003	3.0000e-005	4.9400e-003	1.3000e-003	3.0000e-005	1.3400e-003	0.0000	4.2872	4.2872	1.2000e-004	0.0000	4.2903
Total	2.4500e-003	0.0120	0.0181	8.0000e-005	5.5900e-003	5.0000e-005	5.6400e-003	1.5000e-003	5.0000e-005	1.5600e-003	0.0000	6.9539	6.9539	3.2000e-004	0.0000	6.9619

3.16 Building Construcion-3 - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.0937	0.0928	1.2000e-004		6.6500e-003	6.6500e-003		6.1200e-003	6.1200e-003	0.0000	10.6762	10.6762	3.4500e-003	0.0000	10.7625
Total	0.0103	0.0937	0.0928	1.2000e-004		6.6500e-003	6.6500e-003		6.1200e-003	6.1200e-003	0.0000	10.6762	10.6762	3.4500e-003	0.0000	10.7625

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.16 Building Construciton-3 - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0543	0.0543	0.0000	0.0000	0.0544
Vendor	4.9000e-004	0.0163	4.3600e-003	4.0000e-005	1.0600e-003	3.0000e-005	1.0900e-003	3.0000e-004	3.0000e-005	3.4000e-004	0.0000	4.1569	4.1569	3.1000e-004	0.0000	4.1646
Worker	2.2100e-003	1.5800e-003	0.0159	5.0000e-005	5.1000e-003	4.0000e-005	5.1400e-003	1.3600e-003	3.0000e-005	1.3900e-003	0.0000	4.4553	4.4553	1.3000e-004	0.0000	4.4585
Total	2.7100e-003	0.0181	0.0203	9.0000e-005	6.1800e-003	7.0000e-005	6.2500e-003	1.6600e-003	6.0000e-005	1.7300e-003	0.0000	8.6665	8.6665	4.4000e-004	0.0000	8.6776

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	2.7500e-003	0.0534	0.0923	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.6762	10.6762	3.4500e-003	0.0000	10.7625
Total	2.7500e-003	0.0534	0.0923	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.6762	10.6762	3.4500e-003	0.0000	10.7625

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.16 Building Construciton-3 - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0543	0.0543	0.0000	0.0000	0.0544
Vendor	4.9000e-004	0.0163	4.3600e-003	4.0000e-005	1.0600e-003	3.0000e-005	1.0900e-003	3.0000e-004	3.0000e-005	3.4000e-004	0.0000	4.1569	4.1569	3.1000e-004	0.0000	4.1646
Worker	2.2100e-003	1.5800e-003	0.0159	5.0000e-005	5.1000e-003	4.0000e-005	5.1400e-003	1.3600e-003	3.0000e-005	1.3900e-003	0.0000	4.4553	4.4553	1.3000e-004	0.0000	4.4585
Total	2.7100e-003	0.0181	0.0203	9.0000e-005	6.1800e-003	7.0000e-005	6.2500e-003	1.6600e-003	6.0000e-005	1.7300e-003	0.0000	8.6665	8.6665	4.4000e-004	0.0000	8.6776

3.16 Building Construciton-3 - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6400e-003	0.0338	0.0369	5.0000e-005		2.2400e-003	2.2400e-003		2.0600e-003	2.0600e-003	0.0000	4.2973	4.2973	1.3900e-003	0.0000	4.3321
Total	3.6400e-003	0.0338	0.0369	5.0000e-005		2.2400e-003	2.2400e-003		2.0600e-003	2.0600e-003	0.0000	4.2973	4.2973	1.3900e-003	0.0000	4.3321

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.16 Building Construciton-3 - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	7.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0216	0.0216	0.0000	0.0000	0.0216
Vendor	1.8000e-004	6.2100e-003	1.6600e-003	2.0000e-005	4.2000e-004	1.0000e-005	4.4000e-004	1.2000e-004	1.0000e-005	1.3000e-004	0.0000	1.6574	1.6574	1.2000e-004	0.0000	1.6604
Worker	8.4000e-004	5.8000e-004	5.9400e-003	2.0000e-005	2.0500e-003	1.0000e-005	2.0700e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.7276	1.7276	5.0000e-005	0.0000	1.7288
Total	1.0200e-003	6.8600e-003	7.6200e-003	4.0000e-005	2.4800e-003	2.0000e-005	2.5200e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	3.4065	3.4065	1.7000e-004	0.0000	3.4108

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	1.1100e-003	0.0215	0.0372	5.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.2973	4.2973	1.3900e-003	0.0000	4.3321
Total	1.1100e-003	0.0215	0.0372	5.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.2973	4.2973	1.3900e-003	0.0000	4.3321

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.16 Building Construciton-3 - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	7.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0216	0.0216	0.0000	0.0000	0.0216
Vendor	1.8000e-004	6.2100e-003	1.6600e-003	2.0000e-005	4.2000e-004	1.0000e-005	4.4000e-004	1.2000e-004	1.0000e-005	1.3000e-004	0.0000	1.6574	1.6574	1.2000e-004	0.0000	1.6604
Worker	8.4000e-004	5.8000e-004	5.9400e-003	2.0000e-005	2.0500e-003	1.0000e-005	2.0700e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.7276	1.7276	5.0000e-005	0.0000	1.7288
Total	1.0200e-003	6.8600e-003	7.6200e-003	4.0000e-005	2.4800e-003	2.0000e-005	2.5200e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	3.4065	3.4065	1.7000e-004	0.0000	3.4108

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

Increase Diversity

Increase Transit Accessibility

Integrate Below Market Rate Housing

Marja Acres Community Plan - San Diego County APCD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4860	1.8866	5.3699	0.0186	1.6740	0.0146	1.6886	0.4483	0.0136	0.4618	0.0000	1,714.0947	1,714.0947	0.0893	0.0000	1,716.3262
Unmitigated	0.5055	1.9869	5.8029	0.0205	1.8600	0.0160	1.8760	0.4981	0.0149	0.5129	0.0000	1,889.9309	1,889.9309	0.0969	0.0000	1,892.3541

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	114.17	114.17	114.17	325,976	293,378
Condo/Townhouse	1,353.86	1,353.86	1,353.86	3,865,690	3,479,121
Hardware/Paint Store	161.17	161.17	161.17	234,469	211,022
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	429.80	429.80	429.80	509,812	458,831
Total	2,059.00	2,059.00	2,059.00	4,935,946	4,442,352

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Hardware/Paint Store	9.50	7.30	7.30	13.60	67.40	19.00	45	29	26
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

Marja Acres Community Plan - San Diego County APCD Air District, Annual

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Parking Lot	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Quality Restaurant	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Apartments Low Rise	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Hardware/Paint Store	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Marja Acres Community Plan - San Diego County APCD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	171.6873	171.6873	6.9100e-003	1.4300e-003	172.2862
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	555.4188	555.4188	0.0224	4.6300e-003	557.3560
NaturalGas Mitigated	0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	258.9079	258.9079	4.9600e-003	4.7500e-003	260.4465
NaturalGas Unmitigated	0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	258.9079	258.9079	4.9600e-003	4.7500e-003	260.4465

Marja Acres Community Plan - San Diego County APCD Air District, Annual

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	516373	2.7800e-003	0.0238	0.0101	1.5000e-004		1.9200e-003	1.9200e-003		1.9200e-003	1.9200e-003	0.0000	27.5556	27.5556	5.3000e-004	5.1000e-004	27.7194
Condo/Townhouse	3.62448e+006	0.0195	0.1670	0.0711	1.0700e-003		0.0135	0.0135		0.0135	0.0135	0.0000	193.4160	193.4160	3.7100e-003	3.5500e-003	194.5653
Hardware/Paint Store	13380	7.0000e-005	6.6000e-004	5.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7140	0.7140	1.0000e-005	1.0000e-005	0.7183
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
Quality Restaurant	697520	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2223	37.2223	7.1000e-004	6.8000e-004	37.4435
Total		0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	258.9079	258.9079	4.9600e-003	4.7500e-003	260.4465

Marja Acres Community Plan - San Diego County APCD Air District, Annual

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	516373	2.7800e-003	0.0238	0.0101	1.5000e-004		1.9200e-003	1.9200e-003		1.9200e-003	1.9200e-003	0.0000	27.5556	27.5556	5.3000e-004	5.1000e-004	27.7194
Condo/Townhouse	3.62448e+006	0.0195	0.1670	0.0711	1.0700e-003		0.0135	0.0135		0.0135	0.0135	0.0000	193.4160	193.4160	3.7100e-003	3.5500e-003	194.5653
Hardware/Paint Store	13380	7.0000e-005	6.6000e-004	5.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7140	0.7140	1.0000e-005	1.0000e-005	0.7183
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
Quality Restaurant	697520	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2223	37.2223	7.1000e-004	6.8000e-004	37.4435
Total		0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	258.9079	258.9079	4.9600e-003	4.7500e-003	260.4465

Marja Acres Community Plan - San Diego County APCD Air District, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	195223	63.8006	2.5700e-003	5.3000e-004	64.0231
Condo/Townhouse	1.26588e+006	413.7004	0.0167	3.4500e-003	415.1434
Hardware/Paint Store	75360	24.6283	9.9000e-004	2.1000e-004	24.7142
Parking Lot	8260	2.6994	1.1000e-004	2.0000e-005	2.7089
Quality Restaurant	154800	50.5900	2.0400e-003	4.2000e-004	50.7665
Total		555.4188	0.0224	4.6300e-003	557.3560

Marja Acres Community Plan - San Diego County APCD Air District, Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	-13231.7	-4.3243	-0.0002	0.0000	-4.3393
Condo/Townhouse	896174	292.8775	0.0118	2.4400e-003	293.8990
Hardware/Paint Store	-133127	-43.5072	-0.0018	-0.0004	-43.6590
Parking Lot	-178432	-58.3133	-0.0024	-0.0005	-58.5167
Quality Restaurant	-46037.4	-15.0454	-0.0006	-0.0001	-15.0979
Total		171.6873	6.9100e-003	1.4200e-003	172.2862

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Marja Acres Community Plan - San Diego County APCD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3914	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026
Unmitigated	20.4481	0.3907	25.2949	0.0419		3.2484	3.2484		3.2484	3.2484	307.8214	132.7114	440.5328	0.2876	0.0242	454.9368

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	0.4786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	18.6984	0.3652	23.0811	0.0418		3.2362	3.2362		3.2362	3.2362	307.8214	129.0958	436.9172	0.2841	0.0242	451.2342
Landscaping	0.0667	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026
Total	20.4481	0.3907	25.2949	0.0419		3.2484	3.2484		3.2484	3.2484	307.8214	132.7114	440.5328	0.2876	0.0242	454.9368

Marja Acres Community Plan - San Diego County APCD Air District, Annual

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	0.1203					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2044					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	0.0667	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026
Total	1.3914	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026

7.0 Water Detail**7.1 Mitigation Measures Water**

Use Grey Water

Marja Acres Community Plan - San Diego County APCD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	96.3658	0.6903	0.0170	118.6784
Unmitigated	142.0794	0.6922	0.0173	164.5514

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2.99709 / 1.88947	20.5649	0.0985	2.4700e-003	23.7620
Condo/Townhouse	16.4188 / 10.351	112.6600	0.5393	0.0135	130.1745
Hardware/Paint Store	0.444435 / 0.272396	3.0213	0.0146	3.7000e-004	3.4953
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.21413 / 0.077498	5.8332	0.0398	9.8000e-004	7.1196
Total		142.0794	0.6922	0.0174	164.5514

Marja Acres Community Plan - San Diego County APCD Air District, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2.99709 / 0	13.7046	0.0982	2.4100e-003	16.8777
Condo/Townhouse	16.4188 / 0	75.0772	0.5378	0.0132	92.4606
Hardware/Paint Store	0.444435 / 0	2.0322	0.0146	3.6000e-004	2.5028
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.21413 / 0	5.5518	0.0398	9.8000e-004	6.8373
Total		96.3658	0.6903	0.0170	118.6784

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	10.5180	0.6216	0.0000	26.0578
Unmitigated	42.0719	2.4864	0.0000	104.2314

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	21.16	4.2953	0.2538	0.0000	10.6414
Condo/Townhouse	115.92	23.5307	1.3906	0.0000	58.2963
Hardware/Paint Store	66.53	13.5050	0.7981	0.0000	33.4580
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.65	0.7409	0.0438	0.0000	1.8356
Total		42.0719	2.4864	0.0000	104.2314

Marja Acres Community Plan - San Diego County APCD Air District, Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	5.29	1.0738	0.0635	0.0000	2.6604
Condo/Townhouse	28.98	5.8827	0.3477	0.0000	14.5741
Hardware/Paint Store	16.6325	3.3763	0.1995	0.0000	8.3645
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.9125	0.1852	0.0110	0.0000	0.4589
Total		10.5180	0.6216	0.0000	26.0579

9.0 Operational Offroad

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

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

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

Boilers

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

Marja Acres Community Plan - San Diego County APCD Air District, Annual

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Marja Acres Community Plan - San Diego County APCD Air District, Summer

Marja Acres Community Plan
San Diego County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	59.00	Space	0.53	23,600.00	0
Quality Restaurant	4.00	1000sqft	0.09	4,000.00	0
Condo/Townhouse	252.00	Dwelling Unit	15.75	252,000.00	721
Apartments Low Rise	46.00	Dwelling Unit	2.88	46,000.00	132
Hardware/Paint Store	6.00	1000sqft	0.14	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2023
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 -

Land Use - Retail consists of a bike shop and unspecified retail modeled as a hardware/paintstore.

Construction Phase - Based on applicant provided construction schedule.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Marja Acres Community Plan - San Diego County APCD Air District, Summer

Off-road Equipment - Based on applicant provided data.
Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Trips and VMT - Based on applicant provided data.

On-road Fugitive Dust - CalEEMod defaults.

Demolition -

Grading - Based on applicant provided data.

Architectural Coating - In accordance with SDAPCD Rule 67.0.1.

Vehicle Trips - Based on LLG Traffic Report.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Marja Acres Community Plan - San Diego County APCD Air District, Summer

Road Dust - CalEEMod defaults.

Woodstoves - Does not apply.

Consumer Products - CalEEMod defaults.

Area Coating - In accordance with SDAPCD Rule 67.0.1.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEMod defaults.

Water And Wastewater - CalEEMod defaults.

Solid Waste - CalEEMod defaults.

Construction Off-road Equipment Mitigation - Watering twice daily. Tier 4 Interim equipment assumed as project design feature.

Mobile Land Use Mitigation - The project is mixed-use, is 0.04 from closest transit stop, and 46/298 units are affordable.

Area Mitigation - No hearth. In accordance with SDAPCD Rule 67.0.1.

Energy Mitigation - 554 kW of solar PV installed onsite.

Water Mitigation - Greywater used for outdoor irrigation.

Waste Mitigation - In accordance with AB 939.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00

Marja Acres Community Plan - San Diego County APCD Air District, Summer

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	20.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

2.0 Emissions Summary

Marja Acres Community Plan - San Diego County APCD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)**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	lb/day										lb/day					
2019	15.7035	241.2966	108.5661	0.4261	11.5701	6.2521	17.8222	2.1640	5.7641	7.9281	0.0000	44,534.16 98	44,534.16 98	8.1987	0.0000	44,739.13 84
2020	12.3625	6.3975	6.9105	0.0128	0.1150	0.3712	0.4833	0.0305	0.3711	0.4012	0.0000	1,208.752 6	1,208.752 6	0.0789	0.0000	1,210.725 9
2021	12.2848	5.8446	6.8426	0.0128	0.1121	0.3185	0.4306	0.0301	0.3184	0.3485	0.0000	1,204.819 4	1,204.819 4	0.0719	0.0000	1,206.617 7
2022	0.1454	1.2659	1.4008	2.7100e- 003	0.0797	0.0707	0.1504	0.0215	0.0651	0.0865	0.0000	269.2669	269.2669	0.0537	0.0000	270.6090
Maximum	15.7035	241.2966	108.5661	0.4261	11.5701	6.2521	17.8222	2.1640	5.7641	7.9281	0.0000	44,534.16 98	44,534.16 98	8.1987	0.0000	44,739.13 84

Marja Acres Community Plan - San Diego County APCD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)**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	lb/day										lb/day					
2019	7.3680	129.6798	115.6566	0.4261	8.2031	1.5619	9.6908	1.7935	1.4410	3.1949	0.0000	44,534.1698	44,534.1698	8.1987	0.0000	44,739.1384
2020	12.1122	1.6683	6.9118	0.0128	0.1150	0.2286	0.3407	0.0305	0.2285	0.2585	0.0000	1,208.7526	1,208.7526	0.0789	0.0000	1,210.7259
2021	12.0655	1.6437	6.8624	0.0128	0.1121	0.1983	0.3104	0.0301	0.1982	0.2283	0.0000	1,204.8194	1,204.8194	0.0719	0.0000	1,206.6177
2022	0.0664	0.8828	1.4086	2.7100e-003	0.0797	3.3300e-003	0.0830	0.0215	3.2800e-003	0.0247	0.0000	269.2669	269.2669	0.0537	0.0000	270.6090
Maximum	12.1122	129.6798	115.6566	0.4261	8.2031	1.5619	9.6908	1.7935	1.4410	3.1949	0.0000	44,534.1698	44,534.1698	8.1987	0.0000	44,739.1384

	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	21.94	47.46	-5.75	0.00	28.35	71.59	44.80	16.49	71.30	57.71	0.00	0.00	0.00	0.00	0.00	0.00

Marja Acres Community Plan - San Diego County APCD Air District, Summer

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	lb/day										lb/day					
Area	466.0211	9.1898	587.5516	1.0212		79.0676	79.0676		79.0676	79.0676	8,275.9758	3,515.1072	11,791.0830	7.6800	0.6510	12,177.0705
Energy	0.1434	1.2365	0.6053	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127
Mobile	2.9464	10.6104	32.6841	0.1174	10.4654	0.0877	10.5531	2.7968	0.0816	2.8785		11,950.3832	11,950.3832	0.5899		11,965.1297
Total	469.1108	21.0366	620.8410	1.1464	10.4654	79.2543	89.7197	2.7968	79.2483	82.0451	8,275.9758	17,029.3102	25,305.2859	8.2998	0.6796	25,715.3129

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	lb/day										lb/day					
Area	8.0000	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361	0.0000	44.2837	44.2837	0.0426	0.0000	45.3489
Energy	0.1434	1.2365	0.6053	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127
Mobile	2.8369	10.0916	30.0993	0.1065	9.4189	0.0800	9.4989	2.5171	0.0745	2.5917		10,838.1730	10,838.1730	0.5422		10,851.7285
Total	10.9803	11.6116	55.3025	0.1156	9.4189	0.3152	9.7341	2.5171	0.3097	2.8268	0.0000	12,446.2764	12,446.2764	0.6148	0.0287	12,470.1901

Marja Acres Community Plan - San Diego County APCD Air District, Summer

	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	97.66	44.80	91.09	89.92	10.00	99.60	89.15	10.00	99.61	96.55	100.00	26.91	50.82	92.59	95.78	51.51

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo Structures and Improvements	Demolition	1/2/2019	1/17/2019	5	12	
2	Haul off Demo Debris	Demolition	1/17/2019	1/21/2019	5	3	
3	Clear and Grub	Site Preparation	1/22/2019	1/28/2019	5	5	
4	Remedial, Remedial & Mass Excavation	Grading	1/29/2019	3/18/2019	5	35	
5	Export Excavation	Grading	3/2/2019	4/10/2019	5	28	
6	Wet Utilities	Trenching	3/19/2019	6/20/2019	5	68	
7	Dry Utilities	Trenching	6/20/2019	7/17/2019	5	20	
8	Street Improvements - Balancing/Aggregate Base	Building Construction	7/18/2019	7/25/2019	5	6	
9	Building Construction-1	Building Construction	7/18/2019	12/6/2019	5	102	
10	Street Improvements - Curb & Gutter	Paving	7/26/2019	8/1/2019	5	5	
11	Street Improvements - Asphalt Paving	Paving	8/2/2019	8/7/2019	5	4	
12	Street Improvements - Concrete Flatwork	Paving	8/8/2019	8/23/2019	5	12	
13	Building Construction-2	Building Construction	12/17/2019	8/3/2020	5	165	
14	Architectural Coating	Architectural Coating	8/4/2020	5/24/2021	5	210	
15	Building Construction-3	Building Construction	5/25/2021	3/31/2022	5	223	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Marja Acres Community Plan - San Diego County APCD Air District, Summer

Acres of Paving: 0.53**Residential Indoor: 603,450; Residential Outdoor: 201,150; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 2,376 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo Structures and Improvements	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Structures and Improvements	Excavators	1	8.00	323	0.38
Demo Structures and Improvements	Off-Highway Trucks	1	6.00	313	0.38
Demo Structures and Improvements	Off-Highway Trucks	1	8.00	200	0.38
Demo Structures and Improvements	Rubber Tired Dozers	1	8.00	328	0.40
Demo Structures and Improvements	Rubber Tired Loaders	1	8.00	253	0.36
Demo Structures and Improvements	Skid Steer Loaders	1	8.00	80	0.37
Haul off Demo Debris	Concrete/Industrial Saws	0	8.00	81	0.73
Haul off Demo Debris	Excavators	0	8.00	158	0.38
Haul off Demo Debris	Rubber Tired Dozers	0	8.00	247	0.40
Haul off Demo Debris	Rubber Tired Loaders	1	8.00	253	0.36
Clear and Grub	Crawler Tractors	1	8.00	328	0.43
Clear and Grub	Off-Highway Trucks	1	8.00	200	0.38
Clear and Grub	Rubber Tired Dozers	0	8.00	247	0.40
Clear and Grub	Rubber Tired Loaders	1	8.00	253	0.36
Clear and Grub	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Remedial, Remedial & Mass Excavation	Crawler Tractors	1	8.00	328	0.43
Remedial, Remedial & Mass Excavation	Excavators	0	8.00	158	0.38
Remedial, Remedial & Mass Excavation	Graders	1	6.00	180	0.41
Remedial, Remedial & Mass Excavation	Off-Highway Trucks	1	8.00	200	0.38

Marja Acres Community Plan - San Diego County APCD Air District, Summer

Remedial, Remedial & Mass Excavation	Rubber Tired Dozers	1	8.00	450	0.40
Remedial, Remedial & Mass Excavation	Scrapers	4	8.00	700	0.48
Remedial, Remedial & Mass Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Export Excavation	Excavators	0	8.00	158	0.38
Export Excavation	Graders	1	6.00	180	0.41
Export Excavation	Off-Highway Trucks	1	8.00	200	0.38
Export Excavation	Rubber Tired Dozers	1	8.00	450	0.40
Export Excavation	Rubber Tired Loaders	1	8.00	253	0.36
Export Excavation	Scrapers	0	8.00	367	0.48
Export Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Wet Utilities	Excavators	2	8.00	323	0.38
Wet Utilities	Off-Highway Trucks	2	8.00	200	0.38
Wet Utilities	Rubber Tired Loaders	2	8.00	160	0.36
Wet Utilities	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Dry Utilities	Off-Highway Trucks	2	8.00	200	0.38
Dry Utilities	Rubber Tired Loaders	2	8.00	160	0.36
Dry Utilities	Tractors/Loaders/Backhoes	2	8.00	102	0.37
Street Improvements - Balancing/Aggregate Base	Cranes	0	7.00	231	0.29
Street Improvements - Balancing/Aggregate Base	Forklifts	0	8.00	89	0.20
Street Improvements - Balancing/Aggregate Base	Generator Sets	0	8.00	84	0.74
Street Improvements - Balancing/Aggregate Base	Graders	2	8.00	220	0.41
Street Improvements - Balancing/Aggregate Base	Off-Highway Trucks	2	8.00	200	0.38
Street Improvements - Balancing/Aggregate Base	Rollers	2	4.00	102	0.38
Street Improvements - Balancing/Aggregate Base	Scrapers	2	8.00	359	0.48
Street Improvements - Balancing/Aggregate Base	Tractors/Loaders/Backhoes	2	4.00	97	0.37

Marja Acres Community Plan - San Diego County APCD Air District, Summer

Street Improvements - Balancing/Aggregate Base	Welders	0	8.00	46	0.45
Building Construction-1	Bore/Drill Rigs	0	8.00	221	0.50
Building Construction-1	Cranes	0	7.00	231	0.29
Building Construction-1	Forklifts	0	8.00	89	0.20
Building Construction-1	Generator Sets	0	8.00	84	0.74
Building Construction-1	Off-Highway Trucks	0	8.00	200	0.38
Building Construction-1	Pumps	0	8.00	84	0.74
Building Construction-1	Skid Steer Loaders	1	8.00	65	0.37
Building Construction-1	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction-1	Welders	0	8.00	46	0.45
Street Improvements - Curb & Gutter	Pavers	2	8.00	130	0.42
Street Improvements - Curb & Gutter	Paving Equipment	0	8.00	132	0.36
Street Improvements - Curb & Gutter	Rollers	0	8.00	80	0.38
Street Improvements - Asphalt Paving	Graders	2	8.00	250	0.41
Street Improvements - Asphalt Paving	Graders	2	4.00	240	0.41
Street Improvements - Asphalt Paving	Pavers	2	8.00	173	0.42
Street Improvements - Asphalt Paving	Paving Equipment	0	8.00	132	0.36
Street Improvements - Asphalt Paving	Rollers	2	6.00	102	0.38
Street Improvements - Concrete Flatwork	Pavers	0	8.00	130	0.42
Street Improvements - Concrete Flatwork	Paving Equipment	0	8.00	132	0.36
Street Improvements - Concrete Flatwork	Rollers	0	8.00	80	0.38
Street Improvements - Concrete Flatwork	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Building Construction-2	Cranes	0	7.00	231	0.29
Building Construction-2	Forklifts	1	8.00	89	0.20
Building Construction-2	Generator Sets	0	8.00	84	0.74
Building Construction-2	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Marja Acres Community Plan - San Diego County APCD Air District, Summer

Building Construction-2	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	1	8.00	78	0.48
Architectural Coating	Cement and Mortar Mixers	1	8.00	9	0.56
Architectural Coating	Pumps	1	8.00	84	0.74
Building Construcion-3	Cranes	0	7.00	231	0.29
Building Construcion-3	Forklifts	1	8.00	89	0.20
Building Construcion-3	Generator Sets	0	8.00	84	0.74
Building Construcion-3	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construcion-3	Welders	0	8.00	46	0.45

Trips and VMT

Marja Acres Community Plan - San Diego County APCD Air District, Summer

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
Demo Structures and Improvements	0	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Haul off Demo Debris	0	6.00	0.00	440.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Clear and Grub	0	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Remedial, Remedial & Mass Excavation	0	26.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Export Excavation	0	12.00	0.00	8,230.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Wet Utilities	0	86.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Dry Utilities	0	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Balancing/Aggregate	0	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-1	0	12.00	2.00	8.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Curb & Gutter	0	40.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Asphalt Paving	0	26.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Concrete Flatwork	0	42.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-2	0	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	12.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-3	0	8.00	2.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.2 Demo Structures and Improvements - 2019**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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	3.0960	32.9353	22.1595	0.0465		1.3523	1.3523		1.2441	1.2441		4,601.9156	4,601.9156	1.4560		4,638.3155
Total	3.0960	32.9353	22.1595	0.0465	0.0000	1.3523	1.3523	0.0000	1.2441	1.2441		4,601.9156	4,601.9156	1.4560		4,638.3155

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	lb/day										lb/day					
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
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
Worker	0.0707	0.0493	0.5569	1.5700e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		156.6359	156.6359	5.0000e-003		156.7610
Total	0.0707	0.0493	0.5569	1.5700e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		156.6359	156.6359	5.0000e-003		156.7610

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.2 Demo Structures and Improvements - 2019**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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.7796	5.7776	20.4184	0.0465		0.6086	0.6086		0.5628	0.5628	0.0000	4,601.9156	4,601.9156	1.4560		4,638.3155
Total	1.7796	5.7776	20.4184	0.0465	0.0000	0.6086	0.6086	0.0000	0.5628	0.5628	0.0000	4,601.9156	4,601.9156	1.4560		4,638.3155

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	lb/day										lb/day					
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
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
Worker	0.0707	0.0493	0.5569	1.5700e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		156.6359	156.6359	5.0000e-003		156.7610
Total	0.0707	0.0493	0.5569	1.5700e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		156.6359	156.6359	5.0000e-003		156.7610

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.3 Haul off Demo Debris - 2019**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	lb/day										lb/day					
Off-Road	0.4911	5.2810	2.7707	7.7400e-003		0.1971	0.1971		0.1814	0.1814		766.3081	766.3081	0.2425		772.3694
Total	0.4911	5.2810	2.7707	7.7400e-003		0.1971	0.1971		0.1814	0.1814		766.3081	766.3081	0.2425		772.3694

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	lb/day										lb/day					
Hauling	1.2731	44.0547	9.5098	0.1164	2.5629	0.1663	2.7291	0.7024	0.1591	0.8614		12,693.5998	12,693.5998	1.1233		12,721.6829
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
Worker	0.0236	0.0164	0.1857	5.2000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.2000e-004	0.0134		52.2120	52.2120	1.6700e-003		52.2537
Total	1.2967	44.0711	9.6954	0.1169	2.6121	0.1666	2.7787	0.7154	0.1594	0.8748		12,745.8118	12,745.8118	1.1250		12,773.9366

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.3 Haul off Demo Debris - 2019**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	lb/day										lb/day					
Off-Road	0.4911	0.0000	2.7707	7.7400e-003		0.1971	0.1971		0.1814	0.1814	0.0000	766.3081	766.3081	0.2425		772.3694
Total	0.4911	0.0000	2.7707	7.7400e-003		0.1971	0.1971		0.1814	0.1814	0.0000	766.3081	766.3081	0.2425		772.3694

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	lb/day										lb/day					
Hauling	1.2731	44.0547	9.5098	0.1164	2.5629	0.1663	2.7291	0.7024	0.1591	0.8614		12,693.5998	12,693.5998	1.1233		12,721.6829
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
Worker	0.0236	0.0164	0.1857	5.2000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.2000e-004	0.0134		52.2120	52.2120	1.6700e-003		52.2537
Total	1.2967	44.0711	9.6954	0.1169	2.6121	0.1666	2.7787	0.7154	0.1594	0.8748		12,745.8118	12,745.8118	1.1250		12,773.9366

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.4 Clear and Grub - 2019**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	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.6955	19.0681	10.2495	0.0265		0.7368	0.7368		0.6779	0.6779		2,618.5309	2,618.5309	0.8285		2,639.2428
Total	1.6955	19.0681	10.2495	0.0265	0.5303	0.7368	1.2670	0.0573	0.6779	0.7351		2,618.5309	2,618.5309	0.8285		2,639.2428

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	lb/day										lb/day					
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
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
Worker	0.0471	0.0329	0.3713	1.0500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		104.4240	104.4240	3.3300e-003		104.5073
Total	0.0471	0.0329	0.3713	1.0500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		104.4240	104.4240	3.3300e-003		104.5073

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.4 Clear and Grub - 2019**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	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.6955	0.0000	10.2495	0.0265		0.7368	0.7368		0.6779	0.6779	0.0000	2,618.5309	2,618.5309	0.8285		2,639.2428
Total	1.6955	0.0000	10.2495	0.0265	0.2386	0.7368	0.9754	0.0258	0.6779	0.7036	0.0000	2,618.5309	2,618.5309	0.8285		2,639.2428

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	lb/day										lb/day					
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
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
Worker	0.0471	0.0329	0.3713	1.0500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		104.4240	104.4240	3.3300e-003		104.5073
Total	0.0471	0.0329	0.3713	1.0500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		104.4240	104.4240	3.3300e-003		104.5073

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.5 Remedial, Remedial & Mass Excavation - 2019**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	lb/day										lb/day					
Fugitive Dust					5.3025	0.0000	5.3025	0.5726	0.0000	0.5726			0.0000			0.0000
Off-Road	9.9327	119.3695	67.2188	0.1548		4.5098	4.5098		4.1490	4.1490		15,323.2895	15,323.2895	4.8481		15,444.4927
Total	9.9327	119.3695	67.2188	0.1548	5.3025	4.5098	9.8123	0.5726	4.1490	4.7216		15,323.2895	15,323.2895	4.8481		15,444.4927

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	lb/day										lb/day					
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
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
Worker	0.1021	0.0713	0.8045	2.2700e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		226.2519	226.2519	7.2200e-003		226.4325
Total	0.1021	0.0713	0.8045	2.2700e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		226.2519	226.2519	7.2200e-003		226.4325

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.5 Remedial, Remedial & Mass Excavation - 2019**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	lb/day										lb/day					
Fugitive Dust					2.3861	0.0000	2.3861	0.2577	0.0000	0.2577			0.0000			0.0000
Off-Road	3.4328	35.9329	79.9017	0.1548		0.7625	0.7625		0.7193	0.7193	0.0000	15,323.28 95	15,323.28 95	4.8481		15,444.49 26
Total	3.4328	35.9329	79.9017	0.1548	2.3861	0.7625	3.1486	0.2577	0.7193	0.9770	0.0000	15,323.28 95	15,323.28 95	4.8481		15,444.49 26

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	lb/day										lb/day					
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
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
Worker	0.1021	0.0713	0.8045	2.2700e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		226.2519	226.2519	7.2200e-003		226.4325
Total	0.1021	0.0713	0.8045	2.2700e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		226.2519	226.2519	7.2200e-003		226.4325

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.6 Export Excavation - 2019**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	lb/day										lb/day					
Fugitive Dust					0.8193	0.0000	0.8193	0.1010	0.0000	0.1010			0.0000			0.0000
Off-Road	3.0702	33.5349	21.1133	0.0347		1.4069	1.4069		1.2943	1.2943		3,441.4886	3,441.4886	1.0889		3,468.7099
Total	3.0702	33.5349	21.1133	0.0347	0.8193	1.4069	2.2262	0.1010	1.2943	1.3954		3,441.4886	3,441.4886	1.0889		3,468.7099

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	lb/day										lb/day					
Hauling	2.5513	88.2882	19.0582	0.2332	5.1361	0.3332	5.4693	1.4076	0.3188	1.7264		25,438.7158	25,438.7158	2.2512		25,494.9961
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
Worker	0.0471	0.0329	0.3713	1.0500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		104.4240	104.4240	3.3300e-003		104.5073
Total	2.5985	88.3210	19.4295	0.2343	5.2347	0.3339	5.5686	1.4337	0.3194	1.7531		25,543.1398	25,543.1398	2.2545		25,599.5034

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.6 Export Excavation - 2019**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	lb/day										lb/day					
Fugitive Dust					0.3687	0.0000	0.3687	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	1.2347	5.3546	15.5210	0.0347		0.3898	0.3898		0.3613	0.3613	0.0000	3,441.4886	3,441.4886	1.0889		3,468.7098
Total	1.2347	5.3546	15.5210	0.0347	0.3687	0.3898	0.7585	0.0455	0.3613	0.4067	0.0000	3,441.4886	3,441.4886	1.0889		3,468.7098

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	lb/day										lb/day					
Hauling	2.5513	88.2882	19.0582	0.2332	5.1361	0.3332	5.4693	1.4076	0.3188	1.7264		25,438.7158	25,438.7158	2.2512		25,494.9961
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
Worker	0.0471	0.0329	0.3713	1.0500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		104.4240	104.4240	3.3300e-003		104.5073
Total	2.5985	88.3210	19.4295	0.2343	5.2347	0.3339	5.5686	1.4337	0.3194	1.7531		25,543.1398	25,543.1398	2.2545		25,599.5034

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.7 Wet Utilities - 2019**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	lb/day										lb/day					
Off-Road	2.5807	25.8861	17.9089	0.0471		1.1586	1.1586		1.0659	1.0659		4,657.0990	4,657.0990	1.4735		4,693.9354
Total	2.5807	25.8861	17.9089	0.0471		1.1586	1.1586		1.0659	1.0659		4,657.0990	4,657.0990	1.4735		4,693.9354

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	lb/day										lb/day					
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
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
Worker	0.3377	0.2357	2.6609	7.5100e-003	0.7065	5.0400e-003	0.7115	0.1874	4.6400e-003	0.1920		748.3717	748.3717	0.0239		748.9691
Total	0.3377	0.2357	2.6609	7.5100e-003	0.7065	5.0400e-003	0.7115	0.1874	4.6400e-003	0.1920		748.3717	748.3717	0.0239		748.9691

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.7 Wet Utilities - 2019**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	lb/day										lb/day					
Off-Road	2.0622	6.9397	24.3841	0.0471		0.7920	0.7920		0.7318	0.7318	0.0000	4,657.0990	4,657.0990	1.4735		4,693.9354
Total	2.0622	6.9397	24.3841	0.0471		0.7920	0.7920		0.7318	0.7318	0.0000	4,657.0990	4,657.0990	1.4735		4,693.9354

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	lb/day										lb/day					
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
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
Worker	0.3377	0.2357	2.6609	7.5100e-003	0.7065	5.0400e-003	0.7115	0.1874	4.6400e-003	0.1920		748.3717	748.3717	0.0239		748.9691
Total	0.3377	0.2357	2.6609	7.5100e-003	0.7065	5.0400e-003	0.7115	0.1874	4.6400e-003	0.1920		748.3717	748.3717	0.0239		748.9691

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.8 Dry Utilities - 2019**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	lb/day										lb/day					
Off-Road	2.1358	20.7585	15.6280	0.0294		1.0805	1.0805		0.9941	0.9941		2,912.822 1	2,912.822 1	0.9216		2,935.861 7
Total	2.1358	20.7585	15.6280	0.0294		1.0805	1.0805		0.9941	0.9941		2,912.822 1	2,912.822 1	0.9216		2,935.861 7

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	lb/day										lb/day					
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
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
Worker	0.1257	0.0877	0.9901	2.8000e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		278.4639	278.4639	8.8900e-003		278.6862
Total	0.1257	0.0877	0.9901	2.8000e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		278.4639	278.4639	8.8900e-003		278.6862

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.8 Dry Utilities - 2019**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	lb/day										lb/day					
Off-Road	1.7926	2.8489	15.7108	0.0294		0.7630	0.7630		0.7028	0.7028	0.0000	2,912.822 1	2,912.822 1	0.9216		2,935.861 7
Total	1.7926	2.8489	15.7108	0.0294		0.7630	0.7630		0.7028	0.7028	0.0000	2,912.822 1	2,912.822 1	0.9216		2,935.861 7

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	lb/day										lb/day					
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
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
Worker	0.1257	0.0877	0.9901	2.8000e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		278.4639	278.4639	8.8900e-003		278.6862
Total	0.1257	0.0877	0.9901	2.8000e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		278.4639	278.4639	8.8900e-003		278.6862

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.9 Street Improvements - Balancing/Aggregate Base - 2019**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	lb/day										lb/day					
Off-Road	4.5740	53.9423	28.7468	0.0647		2.1496	2.1496		1.9776	1.9776		6,407.489 2	6,407.489 2	2.0273		6,458.170 8
Total	4.5740	53.9423	28.7468	0.0647		2.1496	2.1496		1.9776	1.9776		6,407.489 2	6,407.489 2	2.0273		6,458.170 8

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	lb/day										lb/day					
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
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
Worker	0.1178	0.0822	0.9282	2.6200e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670		261.0599	261.0599	8.3400e-003		261.2683
Total	0.1178	0.0822	0.9282	2.6200e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670		261.0599	261.0599	8.3400e-003		261.2683

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.9 Street Improvements - Balancing/Aggregate Base - 2019**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	lb/day										lb/day					
Off-Road	1.7087	14.7631	32.8639	0.0647		0.4036	0.4036		0.3780	0.3780	0.0000	6,407.489 2	6,407.489 2	2.0273		6,458.170 8
Total	1.7087	14.7631	32.8639	0.0647		0.4036	0.4036		0.3780	0.3780	0.0000	6,407.489 2	6,407.489 2	2.0273		6,458.170 8

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	lb/day										lb/day					
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
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
Worker	0.1178	0.0822	0.9282	2.6200e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670		261.0599	261.0599	8.3400e-003		261.2683
Total	0.1178	0.0822	0.9282	2.6200e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670		261.0599	261.0599	8.3400e-003		261.2683

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.10 Building Construction-1 - 2019**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	lb/day										lb/day					
Off-Road	0.3174	3.4639	3.6928	5.1700e-003		0.2077	0.2077		0.1910	0.1910		512.1545	512.1545	0.1620		516.2055
Total	0.3174	3.4639	3.6928	5.1700e-003		0.2077	0.2077		0.1910	0.1910		512.1545	512.1545	0.1620		516.2055

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	lb/day										lb/day					
Hauling	6.8000e-004	0.0236	5.0900e-003	6.0000e-005	1.3700e-003	9.0000e-005	1.4600e-003	3.8000e-004	9.0000e-005	4.6000e-004		6.7880	6.7880	6.0000e-004		6.8030
Vendor	9.2100e-003	0.2480	0.0640	5.5000e-004	0.0135	1.7300e-003	0.0153	3.9000e-003	1.6500e-003	5.5500e-003		59.2033	59.2033	4.5700e-003		59.3176
Worker	0.0471	0.0329	0.3713	1.0500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		104.4240	104.4240	3.3300e-003		104.5073
Total	0.0570	0.3044	0.4404	1.6600e-003	0.1135	2.5200e-003	0.1160	0.0304	2.3900e-003	0.0328		170.4153	170.4153	8.5000e-003		170.6280

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.10 Building Construction-1 - 2019**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	lb/day										lb/day					
Off-Road	0.1542	1.3546	3.7322	5.1700e-003		0.0567	0.0567		0.0526	0.0526	0.0000	512.1545	512.1545	0.1620		516.2055
Total	0.1542	1.3546	3.7322	5.1700e-003		0.0567	0.0567		0.0526	0.0526	0.0000	512.1545	512.1545	0.1620		516.2055

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	lb/day										lb/day					
Hauling	6.8000e-004	0.0236	5.0900e-003	6.0000e-005	1.3700e-003	9.0000e-005	1.4600e-003	3.8000e-004	9.0000e-005	4.6000e-004		6.7880	6.7880	6.0000e-004		6.8030
Vendor	9.2100e-003	0.2480	0.0640	5.5000e-004	0.0135	1.7300e-003	0.0153	3.9000e-003	1.6500e-003	5.5500e-003		59.2033	59.2033	4.5700e-003		59.3176
Worker	0.0471	0.0329	0.3713	1.0500e-003	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		104.4240	104.4240	3.3300e-003		104.5073
Total	0.0570	0.3044	0.4404	1.6600e-003	0.1135	2.5200e-003	0.1160	0.0304	2.3900e-003	0.0328		170.4153	170.4153	8.5000e-003		170.6280

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.11 Street Improvements - Curb & Gutter - 2019**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	lb/day										lb/day					
Off-Road	0.5755	6.2492	5.8034	9.4000e-003		0.3060	0.3060		0.2816	0.2816		930.9964	930.9964	0.2946		938.3603
Paving	0.2777					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8532	6.2492	5.8034	9.4000e-003		0.3060	0.3060		0.2816	0.2816		930.9964	930.9964	0.2946		938.3603

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	lb/day										lb/day					
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
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
Worker	0.1571	0.1096	1.2377	3.4900e-003	0.3286	2.3400e-003	0.3309	0.0872	2.1600e-003	0.0893		348.0799	348.0799	0.0111		348.3577
Total	0.1571	0.1096	1.2377	3.4900e-003	0.3286	2.3400e-003	0.3309	0.0872	2.1600e-003	0.0893		348.0799	348.0799	0.0111		348.3577

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.11 Street Improvements - Curb & Gutter - 2019**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	lb/day										lb/day					
Off-Road	0.1156	4.1408	7.1261	9.4000e-003		0.0154	0.0154		0.0154	0.0154	0.0000	930.9964	930.9964	0.2946		938.3603
Paving	0.2777					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3933	4.1408	7.1261	9.4000e-003		0.0154	0.0154		0.0154	0.0154	0.0000	930.9964	930.9964	0.2946		938.3603

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	lb/day										lb/day					
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
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
Worker	0.1571	0.1096	1.2377	3.4900e-003	0.3286	2.3400e-003	0.3309	0.0872	2.1600e-003	0.0893		348.0799	348.0799	0.0111		348.3577
Total	0.1571	0.1096	1.2377	3.4900e-003	0.3286	2.3400e-003	0.3309	0.0872	2.1600e-003	0.0893		348.0799	348.0799	0.0111		348.3577

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.12 Street Improvements - Asphalt Paving - 2019**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	lb/day										lb/day					
Off-Road	3.1251	38.6389	18.6441	0.0438		1.5247	1.5247		1.4027	1.4027		4,337.9613	4,337.9613	1.3725		4,372.2735
Paving	0.3472					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.4723	38.6389	18.6441	0.0438		1.5247	1.5247		1.4027	1.4027		4,337.9613	4,337.9613	1.3725		4,372.2735

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	lb/day										lb/day					
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
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
Worker	0.1021	0.0713	0.8045	2.2700e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		226.2519	226.2519	7.2200e-003		226.4325
Total	0.1021	0.0713	0.8045	2.2700e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		226.2519	226.2519	7.2200e-003		226.4325

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.12 Street Improvements - Asphalt Paving - 2019**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	lb/day										lb/day					
Off-Road	0.6947	14.6077	27.1899	0.0438		0.0715	0.0715		0.0715	0.0715	0.0000	4,337.961 3	4,337.961 3	1.3725		4,372.273 5
Paving	0.3472					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0418	14.6077	27.1899	0.0438		0.0715	0.0715		0.0715	0.0715	0.0000	4,337.961 3	4,337.961 3	1.3725		4,372.273 5

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	lb/day										lb/day					
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
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
Worker	0.1021	0.0713	0.8045	2.2700e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		226.2519	226.2519	7.2200e-003		226.4325
Total	0.1021	0.0713	0.8045	2.2700e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		226.2519	226.2519	7.2200e-003		226.4325

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.13 Street Improvements - Concrete Flatwork - 2019**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	lb/day										lb/day					
Off-Road	0.5238	5.2591	5.1810	6.9900e-003		0.3511	0.3511		0.3230	0.3230		691.9692	691.9692	0.2189		697.4425
Paving	0.1157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6395	5.2591	5.1810	6.9900e-003		0.3511	0.3511		0.3230	0.3230		691.9692	691.9692	0.2189		697.4425

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	lb/day										lb/day					
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
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
Worker	0.1649	0.1151	1.2995	3.6700e-003	0.3450	2.4600e-003	0.3475	0.0915	2.2700e-003	0.0938		365.4839	365.4839	0.0117		365.7756
Total	0.1649	0.1151	1.2995	3.6700e-003	0.3450	2.4600e-003	0.3475	0.0915	2.2700e-003	0.0938		365.4839	365.4839	0.0117		365.7756

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.13 Street Improvements - Concrete Flatwork - 2019**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	lb/day										lb/day					
Off-Road	0.1567	3.0479	5.2697	6.9900e-003		0.0114	0.0114		0.0114	0.0114	0.0000	691.9692	691.9692	0.2189		697.4425
Paving	0.1157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.2724	3.0479	5.2697	6.9900e-003		0.0114	0.0114		0.0114	0.0114	0.0000	691.9692	691.9692	0.2189		697.4425

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	lb/day										lb/day					
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
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
Worker	0.1649	0.1151	1.2995	3.6700e-003	0.3450	2.4600e-003	0.3475	0.0915	2.2700e-003	0.0938		365.4839	365.4839	0.0117		365.7756
Total	0.1649	0.1151	1.2995	3.6700e-003	0.3450	2.4600e-003	0.3475	0.0915	2.2700e-003	0.0938		365.4839	365.4839	0.0117		365.7756

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.14 Building Construction-2 - 2019**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	lb/day										lb/day					
Off-Road	0.1600	1.4283	1.1942	1.5300e-003		0.1107	0.1107		0.1018	0.1018		151.3204	151.3204	0.0479		152.5173
Total	0.1600	1.4283	1.1942	1.5300e-003		0.1107	0.1107		0.1018	0.1018		151.3204	151.3204	0.0479		152.5173

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	lb/day										lb/day					
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
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
Worker	0.0550	0.0384	0.4332	1.2200e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		121.8280	121.8280	3.8900e-003		121.9252
Total	0.0550	0.0384	0.4332	1.2200e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		121.8280	121.8280	3.8900e-003		121.9252

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.14 Building Construction-2 - 2019**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	lb/day										lb/day					
Off-Road	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	151.3204	151.3204	0.0479		152.5173
Total	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	151.3204	151.3204	0.0479		152.5173

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	lb/day										lb/day					
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
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
Worker	0.0550	0.0384	0.4332	1.2200e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		121.8280	121.8280	3.8900e-003		121.9252
Total	0.0550	0.0384	0.4332	1.2200e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		121.8280	121.8280	3.8900e-003		121.9252

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.14 Building Construction-2 - 2020**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	lb/day										lb/day					
Off-Road	0.1440	1.2975	1.1803	1.5300e-003		0.0967	0.0967		0.0889	0.0889		148.0308	148.0308	0.0479		149.2277
Total	0.1440	1.2975	1.1803	1.5300e-003		0.0967	0.0967		0.0889	0.0889		148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
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
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
Worker	0.0514	0.0346	0.3968	1.1800e-003	0.1150	8.1000e-004	0.1158	0.0305	7.4000e-004	0.0313		117.9846	117.9846	3.5200e-003		118.0727
Total	0.0514	0.0346	0.3968	1.1800e-003	0.1150	8.1000e-004	0.1158	0.0305	7.4000e-004	0.0313		117.9846	117.9846	3.5200e-003		118.0727

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.14 Building Construction-2 - 2020**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	lb/day										lb/day					
Off-Road	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277
Total	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
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
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
Worker	0.0514	0.0346	0.3968	1.1800e-003	0.1150	8.1000e-004	0.1158	0.0305	7.4000e-004	0.0313		117.9846	117.9846	3.5200e-003		118.0727
Total	0.0514	0.0346	0.3968	1.1800e-003	0.1150	8.1000e-004	0.1158	0.0305	7.4000e-004	0.0313		117.9846	117.9846	3.5200e-003		118.0727

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.15 Architectural Coating - 2020**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	lb/day										lb/day					
Archit. Coating	11.5062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.8048	6.1423	6.5129	0.0113		0.3694	0.3694		0.3694	0.3694		1,048.8150	1,048.8150	0.0716		1,050.6043
Total	12.3110	6.1423	6.5129	0.0113		0.3694	0.3694		0.3694	0.3694		1,048.8150	1,048.8150	0.0716		1,050.6043

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	lb/day										lb/day					
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
Vendor	7.4700e-003	0.2255	0.0575	5.5000e-004	0.0135	1.1000e-003	0.0146	3.9000e-003	1.0600e-003	4.9500e-003		58.8080	58.8080	4.3400e-003		58.9165
Worker	0.0440	0.0297	0.3402	1.0100e-003	0.0986	6.9000e-004	0.0993	0.0262	6.4000e-004	0.0268		101.1297	101.1297	3.0200e-003		101.2051
Total	0.0515	0.2552	0.3976	1.5600e-003	0.1121	1.7900e-003	0.1139	0.0301	1.7000e-003	0.0317		159.9377	159.9377	7.3600e-003		160.1216

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.15 Architectural Coating - 2020**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	lb/day										lb/day					
Archit. Coating	11.5062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5546	1.4131	6.5142	0.0113		0.2268	0.2268		0.2268	0.2268	0.0000	1,048.8150	1,048.8150	0.0716		1,050.6043
Total	12.0607	1.4131	6.5142	0.0113		0.2268	0.2268		0.2268	0.2268	0.0000	1,048.8150	1,048.8150	0.0716		1,050.6043

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	lb/day										lb/day					
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
Vendor	7.4700e-003	0.2255	0.0575	5.5000e-004	0.0135	1.1000e-003	0.0146	3.9000e-003	1.0600e-003	4.9500e-003		58.8080	58.8080	4.3400e-003		58.9165
Worker	0.0440	0.0297	0.3402	1.0100e-003	0.0986	6.9000e-004	0.0993	0.0262	6.4000e-004	0.0268		101.1297	101.1297	3.0200e-003		101.2051
Total	0.0515	0.2552	0.3976	1.5600e-003	0.1121	1.7900e-003	0.1139	0.0301	1.7000e-003	0.0317		159.9377	159.9377	7.3600e-003		160.1216

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.15 Architectural Coating - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.5062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7310	5.6140	6.4724	0.0113		0.3174	0.3174		0.3174	0.3174		1,048.816 1	1,048.816 1	0.0650		1,050.440 6
Total	12.2372	5.6140	6.4724	0.0113		0.3174	0.3174		0.3174	0.3174		1,048.816 1	1,048.816 1	0.0650		1,050.440 6

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	lb/day										lb/day					
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
Vendor	6.0500e-003	0.2037	0.0519	5.4000e-004	0.0135	4.3000e-004	0.0140	3.9000e-003	4.1000e-004	4.3100e-003		58.2704	58.2704	4.1600e-003		58.3745
Worker	0.0415	0.0270	0.3183	9.8000e-004	0.0986	6.8000e-004	0.0993	0.0262	6.3000e-004	0.0268		97.7329	97.7329	2.7900e-003		97.8026
Total	0.0476	0.2306	0.3702	1.5200e-003	0.1121	1.1100e-003	0.1132	0.0301	1.0400e-003	0.0311		156.0033	156.0033	6.9500e-003		156.1771

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.15 Architectural Coating - 2021**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	lb/day										lb/day					
Archit. Coating	11.5062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5118	1.4131	6.4922	0.0113		0.1972	0.1972		0.1972	0.1972	0.0000	1,048.816 1	1,048.816 1	0.0650		1,050.440 6
Total	12.0180	1.4131	6.4922	0.0113		0.1972	0.1972		0.1972	0.1972	0.0000	1,048.816 1	1,048.816 1	0.0650		1,050.440 6

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	lb/day										lb/day					
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
Vendor	6.0500e-003	0.2037	0.0519	5.4000e-004	0.0135	4.3000e-004	0.0140	3.9000e-003	4.1000e-004	4.3100e-003		58.2704	58.2704	4.1600e-003		58.3745
Worker	0.0415	0.0270	0.3183	9.8000e-004	0.0986	6.8000e-004	0.0993	0.0262	6.3000e-004	0.0268		97.7329	97.7329	2.7900e-003		97.8026
Total	0.0476	0.2306	0.3702	1.5200e-003	0.1121	1.1100e-003	0.1132	0.0301	1.0400e-003	0.0311		156.0033	156.0033	6.9500e-003		156.1771

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.16 Building Construciton-3 - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1293	1.1791	1.1679	1.5300e-003		0.0837	0.0837		0.0770	0.0770		148.0308	148.0308	0.0479		149.2277
Total	0.1293	1.1791	1.1679	1.5300e-003		0.0837	0.0837		0.0770	0.0770		148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
Hauling	7.0000e-005	2.3000e-003	5.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	6.0000e-005		0.7585	0.7585	7.0000e-005		0.7601
Vendor	6.0500e-003	0.2037	0.0519	5.4000e-004	0.0135	4.3000e-004	0.0140	3.9000e-003	4.1000e-004	4.3100e-003		58.2704	58.2704	4.1600e-003		58.3745
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0338	0.2239	0.2647	1.2000e-003	0.0795	8.9000e-004	0.0804	0.0214	8.4000e-004	0.0222		124.1841	124.1841	6.0900e-003		124.3364

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.16 Building Construciton-3 - 2021**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	lb/day										lb/day					
Off-Road	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277
Total	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
Hauling	7.0000e-005	2.3000e-003	5.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	6.0000e-005		0.7585	0.7585	7.0000e-005		0.7601
Vendor	6.0500e-003	0.2037	0.0519	5.4000e-004	0.0135	4.3000e-004	0.0140	3.9000e-003	4.1000e-004	4.3100e-003		58.2704	58.2704	4.1600e-003		58.3745
Worker	0.0277	0.0180	0.2122	6.5000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		65.1553	65.1553	1.8600e-003		65.2018
Total	0.0338	0.2239	0.2647	1.2000e-003	0.0795	8.9000e-004	0.0804	0.0214	8.4000e-004	0.0222		124.1841	124.1841	6.0900e-003		124.3364

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.16 Building Construcion-3 - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1136	1.0549	1.1538	1.5300e-003		0.0699	0.0699		0.0643	0.0643		148.0308	148.0308	0.0479		149.2277
Total	0.1136	1.0549	1.1538	1.5300e-003		0.0699	0.0699		0.0643	0.0643		148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
Hauling	6.0000e-005	2.1000e-003	5.6000e-004	1.0000e-005	4.5000e-004	1.0000e-005	4.6000e-004	1.2000e-004	1.0000e-005	1.2000e-004		0.7486	0.7486	7.0000e-005		0.7502
Vendor	5.6200e-003	0.1925	0.0492	5.4000e-004	0.0135	3.7000e-004	0.0139	3.9000e-003	3.5000e-004	4.2500e-003		57.7228	57.7228	4.0400e-003		57.8237
Worker	0.0262	0.0164	0.1973	6.3000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		62.7648	62.7648	1.7000e-003		62.8074
Total	0.0318	0.2110	0.2470	1.1800e-003	0.0797	8.2000e-004	0.0805	0.0215	7.7000e-004	0.0222		121.2361	121.2361	5.8100e-003		121.3813

Marja Acres Community Plan - San Diego County APCD Air District, Summer

3.16 Building Construciton-3 - 2022**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	lb/day										lb/day					
Off-Road	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277
Total	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
Hauling	6.0000e-005	2.1000e-003	5.6000e-004	1.0000e-005	4.5000e-004	1.0000e-005	4.6000e-004	1.2000e-004	1.0000e-005	1.2000e-004		0.7486	0.7486	7.0000e-005		0.7502
Vendor	5.6200e-003	0.1925	0.0492	5.4000e-004	0.0135	3.7000e-004	0.0139	3.9000e-003	3.5000e-004	4.2500e-003		57.7228	57.7228	4.0400e-003		57.8237
Worker	0.0262	0.0164	0.1973	6.3000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		62.7648	62.7648	1.7000e-003		62.8074
Total	0.0318	0.2110	0.2470	1.1800e-003	0.0797	8.2000e-004	0.0805	0.0215	7.7000e-004	0.0222		121.2361	121.2361	5.8100e-003		121.3813

4.0 Operational Detail - Mobile

Marja Acres Community Plan - San Diego County APCD Air District, Summer

4.1 Mitigation Measures Mobile

Increase Diversity

Increase Transit Accessibility

Integrate Below Market Rate Housing

	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	lb/day										lb/day					
Mitigated	2.8369	10.0916	30.0993	0.1065	9.4189	0.0800	9.4989	2.5171	0.0745	2.5917		10,838.17 30	10,838.17 30	0.5422		10,851.72 85
Unmitigated	2.9464	10.6104	32.6841	0.1174	10.4654	0.0877	10.5531	2.7968	0.0816	2.8785		11,950.383 2	11,950.383 2	0.5899		11,965.129 7

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	114.17	114.17	114.17	325,976	293,378
Condo/Townhouse	1,353.86	1,353.86	1,353.86	3,865,690	3,479,121
Hardware/Paint Store	161.17	161.17	161.17	234,469	211,022
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	429.80	429.80	429.80	509,812	458,831
Total	2,059.00	2,059.00	2,059.00	4,935,946	4,442,352

4.3 Trip Type Information

Marja Acres Community Plan - San Diego County APCD Air District, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	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	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Hardware/Paint Store	9.50	7.30	7.30	13.60	67.40	19.00	45	29	26
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Parking Lot	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Quality Restaurant	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Apartments Low Rise	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Hardware/Paint Store	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Marja Acres Community Plan - San Diego County APCD Air District, Summer

	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	lb/day										lb/day					
NaturalGas Mitigated	0.1434	1.2365	0.6053	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127
NaturalGas Unmitigated	0.1434	1.2365	0.6053	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127

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	lb/day										lb/day					
Apartments Low Rise	1414.72	0.0153	0.1304	0.0555	8.3000e-004		0.0105	0.0105		0.0105	0.0105		166.4376	166.4376	3.1900e-003	3.0500e-003	167.4266
Condo/Townhouse	9930.08	0.1071	0.9151	0.3894	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.2444	1,168.2444	0.0224	0.0214	1,175.1867
Hardware/Paint Store	36.6575	4.0000e-004	3.5900e-003	3.0200e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004		4.3127	4.3127	8.0000e-005	8.0000e-005	4.3383
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
Quality Restaurant	1911.01	0.0206	0.1874	0.1574	1.1200e-003		0.0142	0.0142		0.0142	0.0142		224.8251	224.8251	4.3100e-003	4.1200e-003	226.1612
Total		0.1434	1.2364	0.6053	7.8100e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127

Marja Acres Community Plan - San Diego County APCD Air District, Summer

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.41472	0.0153	0.1304	0.0555	8.3000e-004		0.0105	0.0105		0.0105	0.0105		166.4376	166.4376	3.1900e-003	3.0500e-003	167.4266
Condo/Townhouse	9.93008	0.1071	0.9151	0.3894	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.2444	1,168.2444	0.0224	0.0214	1,175.1867
Hardware/Paint Store	0.0366575	4.0000e-004	3.5900e-003	3.0200e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004		4.3127	4.3127	8.0000e-005	8.0000e-005	4.3383
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
Quality Restaurant	1.91101	0.0206	0.1874	0.1574	1.1200e-003		0.0142	0.0142		0.0142	0.0142		224.8251	224.8251	4.3100e-003	4.1200e-003	226.1612
Total		0.1434	1.2364	0.6053	7.8100e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Marja Acres Community Plan - San Diego County APCD Air District, Summer

	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	lb/day										lb/day					
Mitigated	8.0000	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361	0.0000	44.2837	44.2837	0.0426	0.0000	45.3489
Unmitigated	466.0211	9.1898	587.5516	1.0212		79.0676	79.0676		79.0676	79.0676	8,275.9758	3,515.1072	11,791.0830	7.6800	0.6510	12,177.0705

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	lb/day										lb/day					
Architectural Coating	2.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5996					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	456.0577	8.9063	562.9537	1.0199		78.9315	78.9315		78.9315	78.9315	8,275.9758	3,470.8235	11,746.7993	7.6374	0.6510	12,131.7215
Landscaping	0.7415	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361		44.2837	44.2837	0.0426		45.3489
Total	466.0211	9.1898	587.5516	1.0212		79.0676	79.0676		79.0676	79.0676	8,275.9758	3,515.1072	11,791.0830	7.6800	0.6510	12,177.0705

Marja Acres Community Plan - San Diego County APCD Air District, Summer

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	lb/day										lb/day					
Architectural Coating	0.6590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5996					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	0.7415	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361		44.2837	44.2837	0.0426		45.3489
Total	8.0000	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361	0.0000	44.2837	44.2837	0.0426	0.0000	45.3489

7.0 Water Detail**7.1 Mitigation Measures Water**

Use Grey Water

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

9.0 Operational Offroad

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

Marja Acres Community Plan - San Diego County APCD Air District, Summer

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Marja Acres Community Plan - San Diego County APCD Air District, Winter

Marja Acres Community Plan
San Diego County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	59.00	Space	0.53	23,600.00	0
Quality Restaurant	4.00	1000sqft	0.09	4,000.00	0
Condo/Townhouse	252.00	Dwelling Unit	15.75	252,000.00	721
Apartments Low Rise	46.00	Dwelling Unit	2.88	46,000.00	132
Hardware/Paint Store	6.00	1000sqft	0.14	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2023
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Retail consists of a bike shop and unspecified retail modeled as a hardware/paintstore.

Construction Phase - Based on applicant provided construction schedule.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Marja Acres Community Plan - San Diego County APCD Air District, Winter

Off-road Equipment - Based on applicant provided data.
Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Trips and VMT - Based on applicant provided data.

On-road Fugitive Dust - CalEEMod defaults.

Demolition -

Grading - Based on applicant provided data.

Architectural Coating - In accordance with SDAPCD Rule 67.0.1.

Vehicle Trips - Based on LLG Traffic Report.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Marja Acres Community Plan - San Diego County APCD Air District, Winter

Road Dust - CalEEMod defaults.

Woodstoves - Does not apply.

Consumer Products - CalEEMod defaults.

Area Coating - In accordance with SDAPCD Rule 67.0.1.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEMod defaults.

Water And Wastewater - CalEEMod defaults.

Solid Waste - CalEEMod defaults.

Construction Off-road Equipment Mitigation - Watering twice daily. Tier 4 Interim equipment assumed as project design feature.

Mobile Land Use Mitigation - The project is mixed-use, is 0.04 from closest transit stop, and 46/298 units are affordable.

Area Mitigation - No hearth. In accordance with SDAPCD Rule 67.0.1.

Energy Mitigation - 554 kW of solar PV installed onsite.

Water Mitigation - Greywater used for outdoor irrigation.

Waste Mitigation - In accordance with AB 939.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00

Marja Acres Community Plan - San Diego County APCD Air District, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	20.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

2.0 Emissions Summary

Marja Acres Community Plan - San Diego County APCD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)**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	lb/day										lb/day					
2019	15.7949	242.2142	109.8673	0.4219	11.5701	6.2599	17.8300	2.1640	5.7716	7.9356	0.0000	44,085.8473	44,085.8473	8.2797	0.0000	44,292.8399
2020	12.3687	6.4010	6.8974	0.0127	0.1150	0.3712	0.4834	0.0305	0.3711	0.4012	0.0000	1,201.0432	1,201.0432	0.0790	0.0000	1,203.0193
2021	12.2907	5.8474	6.8294	0.0127	0.1121	0.3185	0.4306	0.0301	0.3184	0.3485	0.0000	1,197.3256	1,197.3256	0.0720	0.0000	1,199.1266
2022	0.1493	1.2672	1.3941	2.6500e-003	0.0797	0.0707	0.1504	0.0215	0.0651	0.0865	0.0000	263.9089	263.9089	0.0538	0.0000	265.2548
Maximum	15.7949	242.2142	109.8673	0.4219	11.5701	6.2599	17.8300	2.1640	5.7716	7.9356	0.0000	44,085.8473	44,085.8473	8.2797	0.0000	44,292.8399

Marja Acres Community Plan - San Diego County APCD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)**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	lb/day										lb/day					
2019	7.4595	130.5974	116.9578	0.4219	8.2031	1.5619	9.6986	1.7935	1.4410	3.2024	0.0000	44,085.8473	44,085.8473	8.2797	0.0000	44,292.8399
2020	12.1184	1.6717	6.8987	0.0127	0.1150	0.2286	0.3407	0.0305	0.2285	0.2586	0.0000	1,201.0432	1,201.0432	0.0790	0.0000	1,203.0193
2021	12.0714	1.6465	6.8492	0.0127	0.1121	0.1983	0.3104	0.0301	0.1983	0.2283	0.0000	1,197.3256	1,197.3256	0.0720	0.0000	1,199.1266
2022	0.0703	0.8842	1.4020	2.6500e-003	0.0797	3.3500e-003	0.0831	0.0215	3.2900e-003	0.0247	0.0000	263.9089	263.9089	0.0538	0.0000	265.2548
Maximum	12.1184	130.5974	116.9578	0.4219	8.2031	1.5619	9.6986	1.7935	1.4410	3.2024	0.0000	44,085.8473	44,085.8473	8.2797	0.0000	44,292.8399

	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	21.88	47.29	-5.70	0.00	28.35	71.62	44.78	16.49	71.33	57.66	0.00	0.00	0.00	0.00	0.00	0.00

Marja Acres Community Plan - San Diego County APCD Air District, Winter

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	lb/day										lb/day					
Area	466.0211	9.1898	587.5516	1.0212		79.0676	79.0676		79.0676	79.0676	8,275.9758	3,515.1072	11,791.0830	7.6800	0.6510	12,177.0705
Energy	0.1434	1.2365	0.6053	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127
Mobile	2.8490	10.8902	32.2668	0.1113	10.4654	0.0882	10.5536	2.7968	0.0821	2.8789		11,335.0277	11,335.0277	0.5936		11,349.8686
Total	469.0134	21.3165	620.4237	1.1404	10.4654	79.2548	89.7202	2.7968	79.2488	82.0456	8,275.9758	16,413.9547	24,689.9304	8.3036	0.6796	25,100.0518

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	lb/day										lb/day					
Area	8.0000	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361	0.0000	44.2837	44.2837	0.0426	0.0000	45.3489
Energy	0.1434	1.2365	0.6053	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127
Mobile	2.7417	10.3368	29.9111	0.1009	9.4189	0.0806	9.4994	2.5171	0.0750	2.5921		10,277.0984	10,277.0984	0.5473		10,290.7817
Total	10.8850	11.8567	55.1143	0.1100	9.4189	0.3157	9.7346	2.5171	0.3102	2.8273	0.0000	11,885.2018	11,885.2018	0.6199	0.0287	11,909.2433

Marja Acres Community Plan - San Diego County APCD Air District, Winter

	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	97.68	44.38	91.12	90.35	10.00	99.60	89.15	10.00	99.61	96.55	100.00	27.59	51.86	92.53	95.78	52.55

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo Structures and Improvements	Demolition	1/2/2019	1/17/2019	5	12	
2	Haul off Demo Debris	Demolition	1/17/2019	1/21/2019	5	3	
3	Clear and Grub	Site Preparation	1/22/2019	1/28/2019	5	5	
4	Remedial, Remedial & Mass Excavation	Grading	1/29/2019	3/18/2019	5	35	
5	Export Excavation	Grading	3/2/2019	4/10/2019	5	28	
6	Wet Utilities	Trenching	3/19/2019	6/20/2019	5	68	
7	Dry Utilities	Trenching	6/20/2019	7/17/2019	5	20	
8	Street Improvements - Balancing/Aggregate Base	Building Construction	7/18/2019	7/25/2019	5	6	
9	Building Construction-1	Building Construction	7/18/2019	12/6/2019	5	102	
10	Street Improvements - Curb & Gutter	Paving	7/26/2019	8/1/2019	5	5	
11	Street Improvements - Asphalt Paving	Paving	8/2/2019	8/7/2019	5	4	
12	Street Improvements - Concrete Flatwork	Paving	8/8/2019	8/23/2019	5	12	
13	Building Construction-2	Building Construction	12/17/2019	8/3/2020	5	165	
14	Architectural Coating	Architectural Coating	8/4/2020	5/24/2021	5	210	
15	Building Construction-3	Building Construction	5/25/2021	3/31/2022	5	223	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Marja Acres Community Plan - San Diego County APCD Air District, Winter

Acres of Paving: 0.53**Residential Indoor: 603,450; Residential Outdoor: 201,150; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 2,376 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo Structures and Improvements	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Structures and Improvements	Excavators	1	8.00	323	0.38
Demo Structures and Improvements	Off-Highway Trucks	1	6.00	313	0.38
Demo Structures and Improvements	Off-Highway Trucks	1	8.00	200	0.38
Demo Structures and Improvements	Rubber Tired Dozers	1	8.00	328	0.40
Demo Structures and Improvements	Rubber Tired Loaders	1	8.00	253	0.36
Demo Structures and Improvements	Skid Steer Loaders	1	8.00	80	0.37
Haul off Demo Debris	Concrete/Industrial Saws	0	8.00	81	0.73
Haul off Demo Debris	Excavators	0	8.00	158	0.38
Haul off Demo Debris	Rubber Tired Dozers	0	8.00	247	0.40
Haul off Demo Debris	Rubber Tired Loaders	1	8.00	253	0.36
Clear and Grub	Crawler Tractors	1	8.00	328	0.43
Clear and Grub	Off-Highway Trucks	1	8.00	200	0.38
Clear and Grub	Rubber Tired Dozers	0	8.00	247	0.40
Clear and Grub	Rubber Tired Loaders	1	8.00	253	0.36
Clear and Grub	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Remedial, Remedial & Mass Excavation	Crawler Tractors	1	8.00	328	0.43
Remedial, Remedial & Mass Excavation	Excavators	0	8.00	158	0.38
Remedial, Remedial & Mass Excavation	Graders	1	6.00	180	0.41
Remedial, Remedial & Mass Excavation	Off-Highway Trucks	1	8.00	200	0.38

Marja Acres Community Plan - San Diego County APCD Air District, Winter

Remedial, Remedial & Mass Excavation	Rubber Tired Dozers	1	8.00	450	0.40
Remedial, Remedial & Mass Excavation	Scrapers	4	8.00	700	0.48
Remedial, Remedial & Mass Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Export Excavation	Excavators	0	8.00	158	0.38
Export Excavation	Graders	1	6.00	180	0.41
Export Excavation	Off-Highway Trucks	1	8.00	200	0.38
Export Excavation	Rubber Tired Dozers	1	8.00	450	0.40
Export Excavation	Rubber Tired Loaders	1	8.00	253	0.36
Export Excavation	Scrapers	0	8.00	367	0.48
Export Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Wet Utilities	Excavators	2	8.00	323	0.38
Wet Utilities	Off-Highway Trucks	2	8.00	200	0.38
Wet Utilities	Rubber Tired Loaders	2	8.00	160	0.36
Wet Utilities	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Dry Utilities	Off-Highway Trucks	2	8.00	200	0.38
Dry Utilities	Rubber Tired Loaders	2	8.00	160	0.36
Dry Utilities	Tractors/Loaders/Backhoes	2	8.00	102	0.37
Street Improvements - Balancing/Aggregate Base	Cranes	0	7.00	231	0.29
Street Improvements - Balancing/Aggregate Base	Forklifts	0	8.00	89	0.20
Street Improvements - Balancing/Aggregate Base	Generator Sets	0	8.00	84	0.74
Street Improvements - Balancing/Aggregate Base	Graders	2	8.00	220	0.41
Street Improvements - Balancing/Aggregate Base	Off-Highway Trucks	2	8.00	200	0.38
Street Improvements - Balancing/Aggregate Base	Rollers	2	4.00	102	0.38
Street Improvements - Balancing/Aggregate Base	Scrapers	2	8.00	359	0.48
Street Improvements - Balancing/Aggregate Base	Tractors/Loaders/Backhoes	2	4.00	97	0.37

Marja Acres Community Plan - San Diego County APCD Air District, Winter

Street Improvements - Balancing/Aggregate Base	Welders	0	8.00	46	0.45
Building Construction-1	Bore/Drill Rigs	0	8.00	221	0.50
Building Construction-1	Cranes	0	7.00	231	0.29
Building Construction-1	Forklifts	0	8.00	89	0.20
Building Construction-1	Generator Sets	0	8.00	84	0.74
Building Construction-1	Off-Highway Trucks	0	8.00	200	0.38
Building Construction-1	Pumps	0	8.00	84	0.74
Building Construction-1	Skid Steer Loaders	1	8.00	65	0.37
Building Construction-1	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction-1	Welders	0	8.00	46	0.45
Street Improvements - Curb & Gutter	Pavers	2	8.00	130	0.42
Street Improvements - Curb & Gutter	Paving Equipment	0	8.00	132	0.36
Street Improvements - Curb & Gutter	Rollers	0	8.00	80	0.38
Street Improvements - Asphalt Paving	Graders	2	8.00	250	0.41
Street Improvements - Asphalt Paving	Graders	2	4.00	240	0.41
Street Improvements - Asphalt Paving	Pavers	2	8.00	173	0.42
Street Improvements - Asphalt Paving	Paving Equipment	0	8.00	132	0.36
Street Improvements - Asphalt Paving	Rollers	2	6.00	102	0.38
Street Improvements - Concrete Flatwork	Pavers	0	8.00	130	0.42
Street Improvements - Concrete Flatwork	Paving Equipment	0	8.00	132	0.36
Street Improvements - Concrete Flatwork	Rollers	0	8.00	80	0.38
Street Improvements - Concrete Flatwork	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Building Construction-2	Cranes	0	7.00	231	0.29
Building Construction-2	Forklifts	1	8.00	89	0.20
Building Construction-2	Generator Sets	0	8.00	84	0.74
Building Construction-2	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Marja Acres Community Plan - San Diego County APCD Air District, Winter

Building Construction-2	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	1	8.00	78	0.48
Architectural Coating	Cement and Mortar Mixers	1	8.00	9	0.56
Architectural Coating	Pumps	1	8.00	84	0.74
Building Construcion-3	Cranes	0	7.00	231	0.29
Building Construcion-3	Forklifts	1	8.00	89	0.20
Building Construcion-3	Generator Sets	0	8.00	84	0.74
Building Construcion-3	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construcion-3	Welders	0	8.00	46	0.45

Trips and VMT

Marja Acres Community Plan - San Diego County APCD Air District, Winter

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
Demo Structures and Improvements	0	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Haul off Demo Debris	0	6.00	0.00	440.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Clear and Grub	0	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Remedial, Remedial & Mass Excavation	0	26.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Export Excavation	0	12.00	0.00	8,230.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Wet Utilities	0	86.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Dry Utilities	0	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Balancing/Aggregate	0	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-1	0	12.00	2.00	8.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Curb & Gutter	0	40.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Asphalt Paving	0	26.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Concrete Flatwork	0	42.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-2	0	14.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	12.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-3	0	8.00	2.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.2 Demo Structures and Improvements - 2019**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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	3.0960	32.9353	22.1595	0.0465		1.3523	1.3523		1.2441	1.2441		4,601.9156	4,601.9156	1.4560		4,638.3155
Total	3.0960	32.9353	22.1595	0.0465	0.0000	1.3523	1.3523	0.0000	1.2441	1.2441		4,601.9156	4,601.9156	1.4560		4,638.3155

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	lb/day										lb/day					
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
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
Worker	0.0799	0.0554	0.5263	1.4800e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		147.0445	147.0445	4.7400e-003		147.1631
Total	0.0799	0.0554	0.5263	1.4800e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		147.0445	147.0445	4.7400e-003		147.1631

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.2 Demo Structures and Improvements - 2019**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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.7796	5.7776	20.4184	0.0465		0.6086	0.6086		0.5628	0.5628	0.0000	4,601.9156	4,601.9156	1.4560		4,638.3155
Total	1.7796	5.7776	20.4184	0.0465	0.0000	0.6086	0.6086	0.0000	0.5628	0.5628	0.0000	4,601.9156	4,601.9156	1.4560		4,638.3155

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	lb/day										lb/day					
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
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
Worker	0.0799	0.0554	0.5263	1.4800e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		147.0445	147.0445	4.7400e-003		147.1631
Total	0.0799	0.0554	0.5263	1.4800e-003	0.1479	1.0500e-003	0.1489	0.0392	9.7000e-004	0.0402		147.0445	147.0445	4.7400e-003		147.1631

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.3 Haul off Demo Debris - 2019**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	lb/day										lb/day					
Off-Road	0.4911	5.2810	2.7707	7.7400e-003		0.1971	0.1971		0.1814	0.1814		766.3081	766.3081	0.2425		772.3694
Total	0.4911	5.2810	2.7707	7.7400e-003		0.1971	0.1971		0.1814	0.1814		766.3081	766.3081	0.2425		772.3694

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	lb/day										lb/day					
Hauling	1.3090	44.5062	10.1913	0.1144	2.5629	0.1701	2.7330	0.7024	0.1628	0.8651		12,479.9963	12,479.9963	1.1640		12,509.0962
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
Worker	0.0266	0.0185	0.1754	4.9000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.2000e-004	0.0134		49.0148	49.0148	1.5800e-003		49.0544
Total	1.3356	44.5246	10.3668	0.1149	2.6121	0.1705	2.7826	0.7154	0.1631	0.8785		12,529.0112	12,529.0112	1.1656		12,558.1505

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.3 Haul off Demo Debris - 2019**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	lb/day										lb/day					
Off-Road	0.4911	0.0000	2.7707	7.7400e-003		0.1971	0.1971		0.1814	0.1814	0.0000	766.3081	766.3081	0.2425		772.3694
Total	0.4911	0.0000	2.7707	7.7400e-003		0.1971	0.1971		0.1814	0.1814	0.0000	766.3081	766.3081	0.2425		772.3694

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	lb/day										lb/day					
Hauling	1.3090	44.5062	10.1913	0.1144	2.5629	0.1701	2.7330	0.7024	0.1628	0.8651		12,479.9963	12,479.9963	1.1640		12,509.0962
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
Worker	0.0266	0.0185	0.1754	4.9000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.2000e-004	0.0134		49.0148	49.0148	1.5800e-003		49.0544
Total	1.3356	44.5246	10.3668	0.1149	2.6121	0.1705	2.7826	0.7154	0.1631	0.8785		12,529.0112	12,529.0112	1.1656		12,558.1505

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.4 Clear and Grub - 2019**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	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.6955	19.0681	10.2495	0.0265		0.7368	0.7368		0.6779	0.6779		2,618.5309	2,618.5309	0.8285		2,639.2428
Total	1.6955	19.0681	10.2495	0.0265	0.5303	0.7368	1.2670	0.0573	0.6779	0.7351		2,618.5309	2,618.5309	0.8285		2,639.2428

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	lb/day										lb/day					
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
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
Worker	0.0533	0.0369	0.3509	9.8000e-004	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		98.0297	98.0297	3.1600e-003		98.1087
Total	0.0533	0.0369	0.3509	9.8000e-004	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		98.0297	98.0297	3.1600e-003		98.1087

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.4 Clear and Grub - 2019**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	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.6955	0.0000	10.2495	0.0265		0.7368	0.7368		0.6779	0.6779	0.0000	2,618.5309	2,618.5309	0.8285		2,639.2428
Total	1.6955	0.0000	10.2495	0.0265	0.2386	0.7368	0.9754	0.0258	0.6779	0.7036	0.0000	2,618.5309	2,618.5309	0.8285		2,639.2428

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	lb/day										lb/day					
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
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
Worker	0.0533	0.0369	0.3509	9.8000e-004	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		98.0297	98.0297	3.1600e-003		98.1087
Total	0.0533	0.0369	0.3509	9.8000e-004	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		98.0297	98.0297	3.1600e-003		98.1087

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.5 Remedial, Remedial & Mass Excavation - 2019**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	lb/day										lb/day					
Fugitive Dust					5.3025	0.0000	5.3025	0.5726	0.0000	0.5726			0.0000			0.0000
Off-Road	9.9327	119.3695	67.2188	0.1548		4.5098	4.5098		4.1490	4.1490		15,323.28 95	15,323.28 95	4.8481		15,444.49 27
Total	9.9327	119.3695	67.2188	0.1548	5.3025	4.5098	9.8123	0.5726	4.1490	4.7216		15,323.28 95	15,323.28 95	4.8481		15,444.49 27

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	lb/day										lb/day					
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
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
Worker	0.1155	0.0800	0.7602	2.1300e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		212.3976	212.3976	6.8500e-003		212.5689
Total	0.1155	0.0800	0.7602	2.1300e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		212.3976	212.3976	6.8500e-003		212.5689

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.5 Remedial, Remedial & Mass Excavation - 2019**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	lb/day										lb/day					
Fugitive Dust					2.3861	0.0000	2.3861	0.2577	0.0000	0.2577			0.0000			0.0000
Off-Road	3.4328	35.9329	79.9017	0.1548		0.7625	0.7625		0.7193	0.7193	0.0000	15,323.28 95	15,323.28 95	4.8481		15,444.49 26
Total	3.4328	35.9329	79.9017	0.1548	2.3861	0.7625	3.1486	0.2577	0.7193	0.9770	0.0000	15,323.28 95	15,323.28 95	4.8481		15,444.49 26

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	lb/day										lb/day					
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
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
Worker	0.1155	0.0800	0.7602	2.1300e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		212.3976	212.3976	6.8500e-003		212.5689
Total	0.1155	0.0800	0.7602	2.1300e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		212.3976	212.3976	6.8500e-003		212.5689

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.6 Export Excavation - 2019**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	lb/day										lb/day					
Fugitive Dust					0.8193	0.0000	0.8193	0.1010	0.0000	0.1010			0.0000			0.0000
Off-Road	3.0702	33.5349	21.1133	0.0347		1.4069	1.4069		1.2943	1.2943		3,441.4886	3,441.4886	1.0889		3,468.7099
Total	3.0702	33.5349	21.1133	0.0347	0.8193	1.4069	2.2262	0.1010	1.2943	1.3954		3,441.4886	3,441.4886	1.0889		3,468.7099

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	lb/day										lb/day					
Hauling	2.6233	89.1929	20.4240	0.2293	5.1361	0.3410	5.4771	1.4076	0.3262	1.7338		25,010.6420	25,010.6420	2.3327		25,068.9598
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
Worker	0.0533	0.0369	0.3509	9.8000e-004	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		98.0297	98.0297	3.1600e-003		98.1087
Total	2.6766	89.2299	20.7749	0.2303	5.2347	0.3417	5.5764	1.4337	0.3269	1.7606		25,108.6717	25,108.6717	2.3359		25,167.0685

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.6 Export Excavation - 2019**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	lb/day										lb/day					
Fugitive Dust					0.3687	0.0000	0.3687	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	1.2347	5.3546	15.5210	0.0347		0.3898	0.3898		0.3613	0.3613	0.0000	3,441.4886	3,441.4886	1.0889		3,468.7098
Total	1.2347	5.3546	15.5210	0.0347	0.3687	0.3898	0.7585	0.0455	0.3613	0.4067	0.0000	3,441.4886	3,441.4886	1.0889		3,468.7098

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	lb/day										lb/day					
Hauling	2.6233	89.1929	20.4240	0.2293	5.1361	0.3410	5.4771	1.4076	0.3262	1.7338		25,010.6420	25,010.6420	2.3327		25,068.9598
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
Worker	0.0533	0.0369	0.3509	9.8000e-004	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		98.0297	98.0297	3.1600e-003		98.1087
Total	2.6766	89.2299	20.7749	0.2303	5.2347	0.3417	5.5764	1.4337	0.3269	1.7606		25,108.6717	25,108.6717	2.3359		25,167.0685

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.7 Wet Utilities - 2019**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	lb/day										lb/day					
Off-Road	2.5807	25.8861	17.9089	0.0471		1.1586	1.1586		1.0659	1.0659		4,657.0990	4,657.0990	1.4735		4,693.9354
Total	2.5807	25.8861	17.9089	0.0471		1.1586	1.1586		1.0659	1.0659		4,657.0990	4,657.0990	1.4735		4,693.9354

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	lb/day										lb/day					
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
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
Worker	0.3819	0.2647	2.5146	7.0500e-003	0.7065	5.0400e-003	0.7115	0.1874	4.6400e-003	0.1920		702.5458	702.5458	0.0227		703.1126
Total	0.3819	0.2647	2.5146	7.0500e-003	0.7065	5.0400e-003	0.7115	0.1874	4.6400e-003	0.1920		702.5458	702.5458	0.0227		703.1126

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.7 Wet Utilities - 2019**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	lb/day										lb/day					
Off-Road	2.0622	6.9397	24.3841	0.0471		0.7920	0.7920		0.7318	0.7318	0.0000	4,657.0990	4,657.0990	1.4735		4,693.9354
Total	2.0622	6.9397	24.3841	0.0471		0.7920	0.7920		0.7318	0.7318	0.0000	4,657.0990	4,657.0990	1.4735		4,693.9354

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	lb/day										lb/day					
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
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
Worker	0.3819	0.2647	2.5146	7.0500e-003	0.7065	5.0400e-003	0.7115	0.1874	4.6400e-003	0.1920		702.5458	702.5458	0.0227		703.1126
Total	0.3819	0.2647	2.5146	7.0500e-003	0.7065	5.0400e-003	0.7115	0.1874	4.6400e-003	0.1920		702.5458	702.5458	0.0227		703.1126

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.8 Dry Utilities - 2019**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	lb/day										lb/day					
Off-Road	2.1358	20.7585	15.6280	0.0294		1.0805	1.0805		0.9941	0.9941		2,912.822 1	2,912.822 1	0.9216		2,935.861 7
Total	2.1358	20.7585	15.6280	0.0294		1.0805	1.0805		0.9941	0.9941		2,912.822 1	2,912.822 1	0.9216		2,935.861 7

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	lb/day										lb/day					
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
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
Worker	0.1421	0.0985	0.9357	2.6200e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		261.4124	261.4124	8.4300e-003		261.6233
Total	0.1421	0.0985	0.9357	2.6200e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		261.4124	261.4124	8.4300e-003		261.6233

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.8 Dry Utilities - 2019**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	lb/day										lb/day					
Off-Road	1.7926	2.8489	15.7108	0.0294		0.7630	0.7630		0.7028	0.7028	0.0000	2,912.822 1	2,912.822 1	0.9216		2,935.861 7
Total	1.7926	2.8489	15.7108	0.0294		0.7630	0.7630		0.7028	0.7028	0.0000	2,912.822 1	2,912.822 1	0.9216		2,935.861 7

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	lb/day										lb/day					
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
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
Worker	0.1421	0.0985	0.9357	2.6200e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		261.4124	261.4124	8.4300e-003		261.6233
Total	0.1421	0.0985	0.9357	2.6200e-003	0.2629	1.8700e-003	0.2648	0.0697	1.7300e-003	0.0715		261.4124	261.4124	8.4300e-003		261.6233

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.9 Street Improvements - Balancing/Aggregate Base - 2019**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	lb/day										lb/day					
Off-Road	4.5740	53.9423	28.7468	0.0647		2.1496	2.1496		1.9776	1.9776		6,407.489 2	6,407.489 2	2.0273		6,458.170 8
Total	4.5740	53.9423	28.7468	0.0647		2.1496	2.1496		1.9776	1.9776		6,407.489 2	6,407.489 2	2.0273		6,458.170 8

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	lb/day										lb/day					
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
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
Worker	0.1332	0.0923	0.8772	2.4600e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670		245.0741	245.0741	7.9100e-003		245.2718
Total	0.1332	0.0923	0.8772	2.4600e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670		245.0741	245.0741	7.9100e-003		245.2718

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.9 Street Improvements - Balancing/Aggregate Base - 2019**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	lb/day										lb/day					
Off-Road	1.7087	14.7631	32.8639	0.0647		0.4036	0.4036		0.3780	0.3780	0.0000	6,407.489 2	6,407.489 2	2.0273		6,458.170 8
Total	1.7087	14.7631	32.8639	0.0647		0.4036	0.4036		0.3780	0.3780	0.0000	6,407.489 2	6,407.489 2	2.0273		6,458.170 8

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	lb/day										lb/day					
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
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
Worker	0.1332	0.0923	0.8772	2.4600e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670		245.0741	245.0741	7.9100e-003		245.2718
Total	0.1332	0.0923	0.8772	2.4600e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670		245.0741	245.0741	7.9100e-003		245.2718

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.10 Building Construction-1 - 2019**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	lb/day										lb/day					
Off-Road	0.3174	3.4639	3.6928	5.1700e-003		0.2077	0.2077		0.1910	0.1910		512.1545	512.1545	0.1620		516.2055
Total	0.3174	3.4639	3.6928	5.1700e-003		0.2077	0.2077		0.1910	0.1910		512.1545	512.1545	0.1620		516.2055

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	lb/day										lb/day					
Hauling	7.0000e-004	0.0238	5.4500e-003	6.0000e-005	1.3700e-003	9.0000e-005	1.4600e-003	3.8000e-004	9.0000e-005	4.6000e-004		6.6738	6.6738	6.2000e-004		6.6894
Vendor	9.6000e-003	0.2482	0.0710	5.4000e-004	0.0135	1.7600e-003	0.0153	3.9000e-003	1.6800e-003	5.5800e-003		57.7001	57.7001	4.8600e-003		57.8216
Worker	0.0533	0.0369	0.3509	9.8000e-004	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		98.0297	98.0297	3.1600e-003		98.1087
Total	0.0636	0.3089	0.4273	1.5800e-003	0.1135	2.5500e-003	0.1160	0.0304	2.4200e-003	0.0328		162.4035	162.4035	8.6400e-003		162.6197

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.10 Building Construction-1 - 2019**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	lb/day										lb/day					
Off-Road	0.1542	1.3546	3.7322	5.1700e-003		0.0567	0.0567		0.0526	0.0526	0.0000	512.1545	512.1545	0.1620		516.2055
Total	0.1542	1.3546	3.7322	5.1700e-003		0.0567	0.0567		0.0526	0.0526	0.0000	512.1545	512.1545	0.1620		516.2055

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	lb/day										lb/day					
Hauling	7.0000e-004	0.0238	5.4500e-003	6.0000e-005	1.3700e-003	9.0000e-005	1.4600e-003	3.8000e-004	9.0000e-005	4.6000e-004		6.6738	6.6738	6.2000e-004		6.6894
Vendor	9.6000e-003	0.2482	0.0710	5.4000e-004	0.0135	1.7600e-003	0.0153	3.9000e-003	1.6800e-003	5.5800e-003		57.7001	57.7001	4.8600e-003		57.8216
Worker	0.0533	0.0369	0.3509	9.8000e-004	0.0986	7.0000e-004	0.0993	0.0262	6.5000e-004	0.0268		98.0297	98.0297	3.1600e-003		98.1087
Total	0.0636	0.3089	0.4273	1.5800e-003	0.1135	2.5500e-003	0.1160	0.0304	2.4200e-003	0.0328		162.4035	162.4035	8.6400e-003		162.6197

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.11 Street Improvements - Curb & Gutter - 2019**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	lb/day										lb/day					
Off-Road	0.5755	6.2492	5.8034	9.4000e-003		0.3060	0.3060		0.2816	0.2816		930.9964	930.9964	0.2946		938.3603
Paving	0.2777					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8532	6.2492	5.8034	9.4000e-003		0.3060	0.3060		0.2816	0.2816		930.9964	930.9964	0.2946		938.3603

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	lb/day										lb/day					
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
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
Worker	0.1776	0.1231	1.1696	3.2800e-003	0.3286	2.3400e-003	0.3309	0.0872	2.1600e-003	0.0893		326.7655	326.7655	0.0105		327.0291
Total	0.1776	0.1231	1.1696	3.2800e-003	0.3286	2.3400e-003	0.3309	0.0872	2.1600e-003	0.0893		326.7655	326.7655	0.0105		327.0291

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.11 Street Improvements - Curb & Gutter - 2019**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	lb/day										lb/day					
Off-Road	0.1156	4.1408	7.1261	9.4000e-003		0.0154	0.0154		0.0154	0.0154	0.0000	930.9964	930.9964	0.2946		938.3603
Paving	0.2777					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3933	4.1408	7.1261	9.4000e-003		0.0154	0.0154		0.0154	0.0154	0.0000	930.9964	930.9964	0.2946		938.3603

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	lb/day										lb/day					
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
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
Worker	0.1776	0.1231	1.1696	3.2800e-003	0.3286	2.3400e-003	0.3309	0.0872	2.1600e-003	0.0893		326.7655	326.7655	0.0105		327.0291
Total	0.1776	0.1231	1.1696	3.2800e-003	0.3286	2.3400e-003	0.3309	0.0872	2.1600e-003	0.0893		326.7655	326.7655	0.0105		327.0291

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.12 Street Improvements - Asphalt Paving - 2019**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	lb/day										lb/day					
Off-Road	3.1251	38.6389	18.6441	0.0438		1.5247	1.5247		1.4027	1.4027		4,337.961 3	4,337.961 3	1.3725		4,372.273 5
Paving	0.3472					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.4723	38.6389	18.6441	0.0438		1.5247	1.5247		1.4027	1.4027		4,337.961 3	4,337.961 3	1.3725		4,372.273 5

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	lb/day										lb/day					
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
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
Worker	0.1155	0.0800	0.7602	2.1300e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		212.3976	212.3976	6.8500e-003		212.5689
Total	0.1155	0.0800	0.7602	2.1300e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		212.3976	212.3976	6.8500e-003		212.5689

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.12 Street Improvements - Asphalt Paving - 2019**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	lb/day										lb/day					
Off-Road	0.6947	14.6077	27.1899	0.0438		0.0715	0.0715		0.0715	0.0715	0.0000	4,337.961 3	4,337.961 3	1.3725		4,372.273 5
Paving	0.3472					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0418	14.6077	27.1899	0.0438		0.0715	0.0715		0.0715	0.0715	0.0000	4,337.961 3	4,337.961 3	1.3725		4,372.273 5

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	lb/day										lb/day					
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
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
Worker	0.1155	0.0800	0.7602	2.1300e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		212.3976	212.3976	6.8500e-003		212.5689
Total	0.1155	0.0800	0.7602	2.1300e-003	0.2136	1.5200e-003	0.2151	0.0567	1.4000e-003	0.0581		212.3976	212.3976	6.8500e-003		212.5689

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.13 Street Improvements - Concrete Flatwork - 2019**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	lb/day										lb/day					
Off-Road	0.5238	5.2591	5.1810	6.9900e-003		0.3511	0.3511		0.3230	0.3230		691.9692	691.9692	0.2189		697.4425
Paving	0.1157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6395	5.2591	5.1810	6.9900e-003		0.3511	0.3511		0.3230	0.3230		691.9692	691.9692	0.2189		697.4425

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	lb/day										lb/day					
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
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
Worker	0.1865	0.1293	1.2281	3.4400e-003	0.3450	2.4600e-003	0.3475	0.0915	2.2700e-003	0.0938		343.1038	343.1038	0.0111		343.3806
Total	0.1865	0.1293	1.2281	3.4400e-003	0.3450	2.4600e-003	0.3475	0.0915	2.2700e-003	0.0938		343.1038	343.1038	0.0111		343.3806

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.13 Street Improvements - Concrete Flatwork - 2019**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	lb/day										lb/day					
Off-Road	0.1567	3.0479	5.2697	6.9900e-003		0.0114	0.0114		0.0114	0.0114	0.0000	691.9692	691.9692	0.2189		697.4425
Paving	0.1157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.2724	3.0479	5.2697	6.9900e-003		0.0114	0.0114		0.0114	0.0114	0.0000	691.9692	691.9692	0.2189		697.4425

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	lb/day										lb/day					
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
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
Worker	0.1865	0.1293	1.2281	3.4400e-003	0.3450	2.4600e-003	0.3475	0.0915	2.2700e-003	0.0938		343.1038	343.1038	0.0111		343.3806
Total	0.1865	0.1293	1.2281	3.4400e-003	0.3450	2.4600e-003	0.3475	0.0915	2.2700e-003	0.0938		343.1038	343.1038	0.0111		343.3806

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.14 Building Construction-2 - 2019**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	lb/day										lb/day					
Off-Road	0.1600	1.4283	1.1942	1.5300e-003		0.1107	0.1107		0.1018	0.1018		151.3204	151.3204	0.0479		152.5173
Total	0.1600	1.4283	1.1942	1.5300e-003		0.1107	0.1107		0.1018	0.1018		151.3204	151.3204	0.0479		152.5173

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	lb/day										lb/day					
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
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
Worker	0.0622	0.0431	0.4094	1.1500e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		114.3679	114.3679	3.6900e-003		114.4602
Total	0.0622	0.0431	0.4094	1.1500e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		114.3679	114.3679	3.6900e-003		114.4602

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.14 Building Construction-2 - 2019**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	lb/day										lb/day					
Off-Road	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	151.3204	151.3204	0.0479		152.5173
Total	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	151.3204	151.3204	0.0479		152.5173

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	lb/day										lb/day					
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
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
Worker	0.0622	0.0431	0.4094	1.1500e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		114.3679	114.3679	3.6900e-003		114.4602
Total	0.0622	0.0431	0.4094	1.1500e-003	0.1150	8.2000e-004	0.1158	0.0305	7.6000e-004	0.0313		114.3679	114.3679	3.6900e-003		114.4602

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.14 Building Construction-2 - 2020**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	lb/day										lb/day					
Off-Road	0.1440	1.2975	1.1803	1.5300e-003		0.0967	0.0967		0.0889	0.0889		148.0308	148.0308	0.0479		149.2277
Total	0.1440	1.2975	1.1803	1.5300e-003		0.0967	0.0967		0.0889	0.0889		148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
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
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
Worker	0.0582	0.0389	0.3742	1.1100e-003	0.1150	8.1000e-004	0.1158	0.0305	7.4000e-004	0.0313		110.7585	110.7585	3.3300e-003		110.8418
Total	0.0582	0.0389	0.3742	1.1100e-003	0.1150	8.1000e-004	0.1158	0.0305	7.4000e-004	0.0313		110.7585	110.7585	3.3300e-003		110.8418

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.14 Building Construction-2 - 2020**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	lb/day										lb/day					
Off-Road	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277
Total	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
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
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
Worker	0.0582	0.0389	0.3742	1.1100e-003	0.1150	8.1000e-004	0.1158	0.0305	7.4000e-004	0.0313		110.7585	110.7585	3.3300e-003		110.8418
Total	0.0582	0.0389	0.3742	1.1100e-003	0.1150	8.1000e-004	0.1158	0.0305	7.4000e-004	0.0313		110.7585	110.7585	3.3300e-003		110.8418

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.15 Architectural Coating - 2020**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	lb/day										lb/day					
Archit. Coating	11.5062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.8048	6.1423	6.5129	0.0113		0.3694	0.3694		0.3694	0.3694		1,048.8150	1,048.8150	0.0716		1,050.6043
Total	12.3110	6.1423	6.5129	0.0113		0.3694	0.3694		0.3694	0.3694		1,048.8150	1,048.8150	0.0716		1,050.6043

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	lb/day										lb/day					
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
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003		57.2924	57.2924	4.6100e-003		57.4077
Worker	0.0499	0.0333	0.3207	9.5000e-004	0.0986	6.9000e-004	0.0993	0.0262	6.4000e-004	0.0268		94.9358	94.9358	2.8600e-003		95.0073
Total	0.0577	0.2586	0.3845	1.4800e-003	0.1121	1.8100e-003	0.1139	0.0301	1.7200e-003	0.0318		152.2283	152.2283	7.4700e-003		152.4150

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.15 Architectural Coating - 2020**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	lb/day										lb/day					
Archit. Coating	11.5062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5546	1.4131	6.5142	0.0113		0.2268	0.2268		0.2268	0.2268	0.0000	1,048.8150	1,048.8150	0.0716		1,050.6043
Total	12.0607	1.4131	6.5142	0.0113		0.2268	0.2268		0.2268	0.2268	0.0000	1,048.8150	1,048.8150	0.0716		1,050.6043

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	lb/day										lb/day					
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
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003		57.2924	57.2924	4.6100e-003		57.4077
Worker	0.0499	0.0333	0.3207	9.5000e-004	0.0986	6.9000e-004	0.0993	0.0262	6.4000e-004	0.0268		94.9358	94.9358	2.8600e-003		95.0073
Total	0.0577	0.2586	0.3845	1.4800e-003	0.1121	1.8100e-003	0.1139	0.0301	1.7200e-003	0.0318		152.2283	152.2283	7.4700e-003		152.4150

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.15 Architectural Coating - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.5062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7310	5.6140	6.4724	0.0113		0.3174	0.3174		0.3174	0.3174		1,048.816 1	1,048.816 1	0.0650		1,050.440 6
Total	12.2372	5.6140	6.4724	0.0113		0.3174	0.3174		0.3174	0.3174		1,048.816 1	1,048.816 1	0.0650		1,050.440 6

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	lb/day										lb/day					
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
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003		56.7639	56.7639	4.4200e-003		56.8744
Worker	0.0471	0.0303	0.2992	9.2000e-004	0.0986	6.8000e-004	0.0993	0.0262	6.3000e-004	0.0268		91.7457	91.7457	2.6400e-003		91.8116
Total	0.0534	0.2334	0.3570	1.4500e-003	0.1121	1.1300e-003	0.1132	0.0301	1.0600e-003	0.0311		148.5096	148.5096	7.0600e-003		148.6860

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.15 Architectural Coating - 2021**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	lb/day										lb/day					
Archit. Coating	11.5062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5118	1.4131	6.4922	0.0113		0.1972	0.1972		0.1972	0.1972	0.0000	1,048.816 1	1,048.816 1	0.0650		1,050.440 6
Total	12.0180	1.4131	6.4922	0.0113		0.1972	0.1972		0.1972	0.1972	0.0000	1,048.816 1	1,048.816 1	0.0650		1,050.440 6

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	lb/day										lb/day					
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
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003		56.7639	56.7639	4.4200e-003		56.8744
Worker	0.0471	0.0303	0.2992	9.2000e-004	0.0986	6.8000e-004	0.0993	0.0262	6.3000e-004	0.0268		91.7457	91.7457	2.6400e-003		91.8116
Total	0.0534	0.2334	0.3570	1.4500e-003	0.1121	1.1300e-003	0.1132	0.0301	1.0600e-003	0.0311		148.5096	148.5096	7.0600e-003		148.6860

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.16 Building Construciton-3 - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1293	1.1791	1.1679	1.5300e-003		0.0837	0.0837		0.0770	0.0770		148.0308	148.0308	0.0479		149.2277
Total	0.1293	1.1791	1.1679	1.5300e-003		0.0837	0.0837		0.0770	0.0770		148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
Hauling	7.0000e-005	2.3200e-003	6.0000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	6.0000e-005		0.7454	0.7454	7.0000e-005		0.7471
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003		56.7639	56.7639	4.4200e-003		56.8744
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0378	0.2256	0.2579	1.1500e-003	0.0795	9.1000e-004	0.0804	0.0214	8.6000e-004	0.0222		118.6730	118.6730	6.2500e-003		118.8292

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.16 Building Construciton-3 - 2021**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	lb/day										lb/day					
Off-Road	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277
Total	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
Hauling	7.0000e-005	2.3200e-003	6.0000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	6.0000e-005		0.7454	0.7454	7.0000e-005		0.7471
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003		56.7639	56.7639	4.4200e-003		56.8744
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179		61.1638	61.1638	1.7600e-003		61.2077
Total	0.0378	0.2256	0.2579	1.1500e-003	0.0795	9.1000e-004	0.0804	0.0214	8.6000e-004	0.0222		118.6730	118.6730	6.2500e-003		118.8292

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.16 Building Construcion-3 - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1136	1.0549	1.1538	1.5300e-003		0.0699	0.0699		0.0643	0.0643		148.0308	148.0308	0.0479		149.2277
Total	0.1136	1.0549	1.1538	1.5300e-003		0.0699	0.0699		0.0643	0.0643		148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
Hauling	6.0000e-005	2.1200e-003	5.9000e-004	1.0000e-005	4.5000e-004	1.0000e-005	4.6000e-004	1.2000e-004	1.0000e-005	1.2000e-004		0.7355	0.7355	7.0000e-005		0.7372
Vendor	5.9300e-003	0.1918	0.0547	5.2000e-004	0.0135	3.8000e-004	0.0139	3.9000e-003	3.7000e-004	4.2600e-003		56.2205	56.2205	4.2800e-003		56.3276
Worker	0.0297	0.0184	0.1851	5.9000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		58.9221	58.9221	1.6100e-003		58.9623
Total	0.0357	0.2123	0.2404	1.1200e-003	0.0797	8.3000e-004	0.0805	0.0215	7.9000e-004	0.0222		115.8781	115.8781	5.9600e-003		116.0270

Marja Acres Community Plan - San Diego County APCD Air District, Winter

3.16 Building Construciton-3 - 2022**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	lb/day										lb/day					
Off-Road	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277
Total	0.0345	0.6718	1.1616	1.5300e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	148.0308	148.0308	0.0479		149.2277

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	lb/day										lb/day					
Hauling	6.0000e-005	2.1200e-003	5.9000e-004	1.0000e-005	4.5000e-004	1.0000e-005	4.6000e-004	1.2000e-004	1.0000e-005	1.2000e-004		0.7355	0.7355	7.0000e-005		0.7372
Vendor	5.9300e-003	0.1918	0.0547	5.2000e-004	0.0135	3.8000e-004	0.0139	3.9000e-003	3.7000e-004	4.2600e-003		56.2205	56.2205	4.2800e-003		56.3276
Worker	0.0297	0.0184	0.1851	5.9000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		58.9221	58.9221	1.6100e-003		58.9623
Total	0.0357	0.2123	0.2404	1.1200e-003	0.0797	8.3000e-004	0.0805	0.0215	7.9000e-004	0.0222		115.8781	115.8781	5.9600e-003		116.0270

4.0 Operational Detail - Mobile

Marja Acres Community Plan - San Diego County APCD Air District, Winter

4.1 Mitigation Measures Mobile

Increase Diversity

Increase Transit Accessibility

Integrate Below Market Rate Housing

	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	lb/day										lb/day					
Mitigated	2.7417	10.3368	29.9111	0.1009	9.4189	0.0806	9.4994	2.5171	0.0750	2.5921		10,277.09 84	10,277.09 84	0.5473		10,290.78 17
Unmitigated	2.8490	10.8902	32.2668	0.1113	10.4654	0.0882	10.5536	2.7968	0.0821	2.8789		11,335.027 7	11,335.027 7	0.5936		11,349.868 6

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	114.17	114.17	114.17	325,976	293,378
Condo/Townhouse	1,353.86	1,353.86	1,353.86	3,865,690	3,479,121
Hardware/Paint Store	161.17	161.17	161.17	234,469	211,022
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	429.80	429.80	429.80	509,812	458,831
Total	2,059.00	2,059.00	2,059.00	4,935,946	4,442,352

4.3 Trip Type Information

Marja Acres Community Plan - San Diego County APCD Air District, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	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	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Hardware/Paint Store	9.50	7.30	7.30	13.60	67.40	19.00	45	29	26
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Parking Lot	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Quality Restaurant	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Apartments Low Rise	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Hardware/Paint Store	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Marja Acres Community Plan - San Diego County APCD Air District, Winter

	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	lb/day										lb/day					
NaturalGas Mitigated	0.1434	1.2365	0.6053	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127
NaturalGas Unmitigated	0.1434	1.2365	0.6053	7.8200e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127

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	lb/day										lb/day					
Apartments Low Rise	1414.72	0.0153	0.1304	0.0555	8.3000e-004		0.0105	0.0105		0.0105	0.0105		166.4376	166.4376	3.1900e-003	3.0500e-003	167.4266
Condo/Townhouse	9930.08	0.1071	0.9151	0.3894	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.2444	1,168.2444	0.0224	0.0214	1,175.1867
Hardware/Paint Store	36.6575	4.0000e-004	3.5900e-003	3.0200e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004		4.3127	4.3127	8.0000e-005	8.0000e-005	4.3383
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
Quality Restaurant	1911.01	0.0206	0.1874	0.1574	1.1200e-003		0.0142	0.0142		0.0142	0.0142		224.8251	224.8251	4.3100e-003	4.1200e-003	226.1612
Total		0.1434	1.2364	0.6053	7.8100e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127

Marja Acres Community Plan - San Diego County APCD Air District, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.41472	0.0153	0.1304	0.0555	8.3000e-004		0.0105	0.0105		0.0105	0.0105		166.4376	166.4376	3.1900e-003	3.0500e-003	167.4266
Condo/Townhouse	9.93008	0.1071	0.9151	0.3894	5.8400e-003		0.0740	0.0740		0.0740	0.0740		1,168.2444	1,168.2444	0.0224	0.0214	1,175.1867
Hardware/Paint Store	0.0366575	4.0000e-004	3.5900e-003	3.0200e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004		4.3127	4.3127	8.0000e-005	8.0000e-005	4.3383
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
Quality Restaurant	1.91101	0.0206	0.1874	0.1574	1.1200e-003		0.0142	0.0142		0.0142	0.0142		224.8251	224.8251	4.3100e-003	4.1200e-003	226.1612
Total		0.1434	1.2364	0.6053	7.8100e-003		0.0990	0.0990		0.0990	0.0990		1,563.8197	1,563.8197	0.0300	0.0287	1,573.1127

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Marja Acres Community Plan - San Diego County APCD Air District, Winter

	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	lb/day										lb/day					
Mitigated	8.0000	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361	0.0000	44.2837	44.2837	0.0426	0.0000	45.3489
Unmitigated	466.0211	9.1898	587.5516	1.0212		79.0676	79.0676		79.0676	79.0676	8,275.9758	3,515.1072	11,791.0830	7.6800	0.6510	12,177.0705

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	lb/day										lb/day					
Architectural Coating	2.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5996					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	456.0577	8.9063	562.9537	1.0199		78.9315	78.9315		78.9315	78.9315	8,275.9758	3,470.8235	11,746.7993	7.6374	0.6510	12,131.7215
Landscaping	0.7415	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361		44.2837	44.2837	0.0426		45.3489
Total	466.0211	9.1898	587.5516	1.0212		79.0676	79.0676		79.0676	79.0676	8,275.9758	3,515.1072	11,791.0830	7.6800	0.6510	12,177.0705

Marja Acres Community Plan - San Diego County APCD Air District, Winter

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	lb/day										lb/day					
Architectural Coating	0.6590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5996					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	0.7415	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361		44.2837	44.2837	0.0426		45.3489
Total	8.0000	0.2835	24.5979	1.3000e-003		0.1361	0.1361		0.1361	0.1361	0.0000	44.2837	44.2837	0.0426	0.0000	45.3489

7.0 Water Detail**7.1 Mitigation Measures Water**

Use Grey Water

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

9.0 Operational Offroad

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

Marja Acres Community Plan - San Diego County APCD Air District, Winter

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

APPENDIX B
Health Risk Assessment

HEALTH RISK ASSESSMENT
for the
Marja Acres Community Plan
Carlsbad, California

Prepared for:

New Urban West, Inc.
16935 West Bernardo Drive, Suite 260
San Diego, California 92127
Contact: Jonathan Frankel

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Adam Poll

MAY 2018

Health Risk Assessment for the Marja Acres Community Plan

TABLE OF CONTENTS

<u>Section</u>	<u>Page No.</u>
SUMMARY	III
1 INTRODUCTION.....	1
1.1 Purpose.....	1
1.2 Project Description.....	1
1.3 Criteria Air Pollutants	4
1.4 Toxic Air Contaminants.....	5
1.5 Cancer Risk.....	6
1.6 Noncancer Health Impacts.....	7
1.7 Local Conditions	7
2 GUIDANCE AND THRESHOLDS	8
2.1 OEHHA Guidance	8
2.2 SDAPCD Guidance	9
2.3 CAPCOA Guidance	9
3 EMISSION CALCULATIONS	10
3.1 Methodology and Assumptions	10
3.2 Estimated Emissions	11
4 MODELING METHODOLOGY	13
4.1 Dispersion Model.....	13
4.2 HRA Methodology.....	14
5 RECEPTORS USED FOR EVALUATING MODELED IMPACTS.....	20
6 AIR DISPERSION MODELING AQIA AND HRA RESULTS.....	21
6.1 HRA Results	21
6.0 CONCLUSIONS	22
7.0 REFERENCES.....	23

Health Risk Assessment for the Marja Acres Community Plan

Section

Page No.

LIST OF FIGURES

1	Project Location	2
2	Wind Rose of Meteorological Data	18

LIST OF TABLES

1	SDAPCD CEQA TAC Emissions Thresholds.....	9
2	Construction Phasing Assumptions	10
3	Estimated Annual Onsite Construction Emissions – Exhaust Only	11
4	Volume Source Parameters for Health Risk Assessment	14
5	Construction Activity Health Risk Assessment Results	21

ATTACHMENTS

A	Emissions Outputs
B	AERMOD Input and HARP 2 Output Files

Health Risk Assessment for the Marja Acres Community Plan

SUMMARY

The Marja Acres development plan proposes a total number of 298 dwelling units consisting of 236 townhomes within the R-15 General Plan designated area, and 46 age-restricted affordable house units, 16 townhomes, a 4,000-square-foot restaurant pad, and a 6,000-square-foot retail pad area within the General Commercial General Plan designated area. The proposed project has been designed to emphasize superior architecture, views, privacy, walkability, internal connectivity, and recreational amenities.

In order to provide housing for low and very low-income seniors, the Project proposes to utilize the opportunities provided by the Residential Density Bonus section of the City of Carlsbad Zoning ordinance (CMC 21.86). For those projects that reserve 20% of total units for low income residents, CMC 21.86 allows an increase in the number of units beyond the maximum General Plan density calculations. The Project provides 20% of units for low and very low-income seniors. Section 21.86 is fully intended to implement the Housing Element of the General Plan and support existing City of Carlsbad policies designed to increase the stock of affordable housing.

The purpose of the health risk assessment (HRA) is to determine the potential cancer risk to the closest sensitive receptors of the proposed Project due to diesel particulate matter (DPM) emissions resulting from diesel construction equipment and onsite diesel trucks.

Dispersion modeling was conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD). The San Diego Air Pollution Control District's (SDAPCD's) *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments* and the Office of Environmental Health Hazard Assessment's (OEHHA) *Air Toxics Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments* (2015 Risk Assessment Guidelines Manual; OEHHA 2015) were used to prepare this HRA. The analysis considers a 3-year exposure scenario consistent with guidance from the SDAPCD.

The HRA finds that maximally exposed receptor of the proposed Project would be exposed to a cancer risk of approximately 1.89 in 1 million under a 3-year exposure scenario, which is less than SDAPCD's evaluation criterion. Also, the chronic hazard index of less than 1 indicates a less than significant impact.

Health Risk Assessment for the Marja Acres Community Plan

INTENTIONALLY LEFT BLANK

Health Risk Assessment for the Marja Acres Community Plan

1 INTRODUCTION

1.1 Purpose

In support of the air quality technical report preparation, Dudek has prepared a health risk assessment (HRA) modeling analysis to estimate health risk impacts from construction of the Project.

The analysis presented in this report uses air dispersion modeling methodology to evaluate potential ambient air quality impacts and public health risks associated with construction of the proposed Project. Results of the modeling analysis are compared with the most recent California Environmental Quality Act (CEQA) significance thresholds established by the SDAPCD.

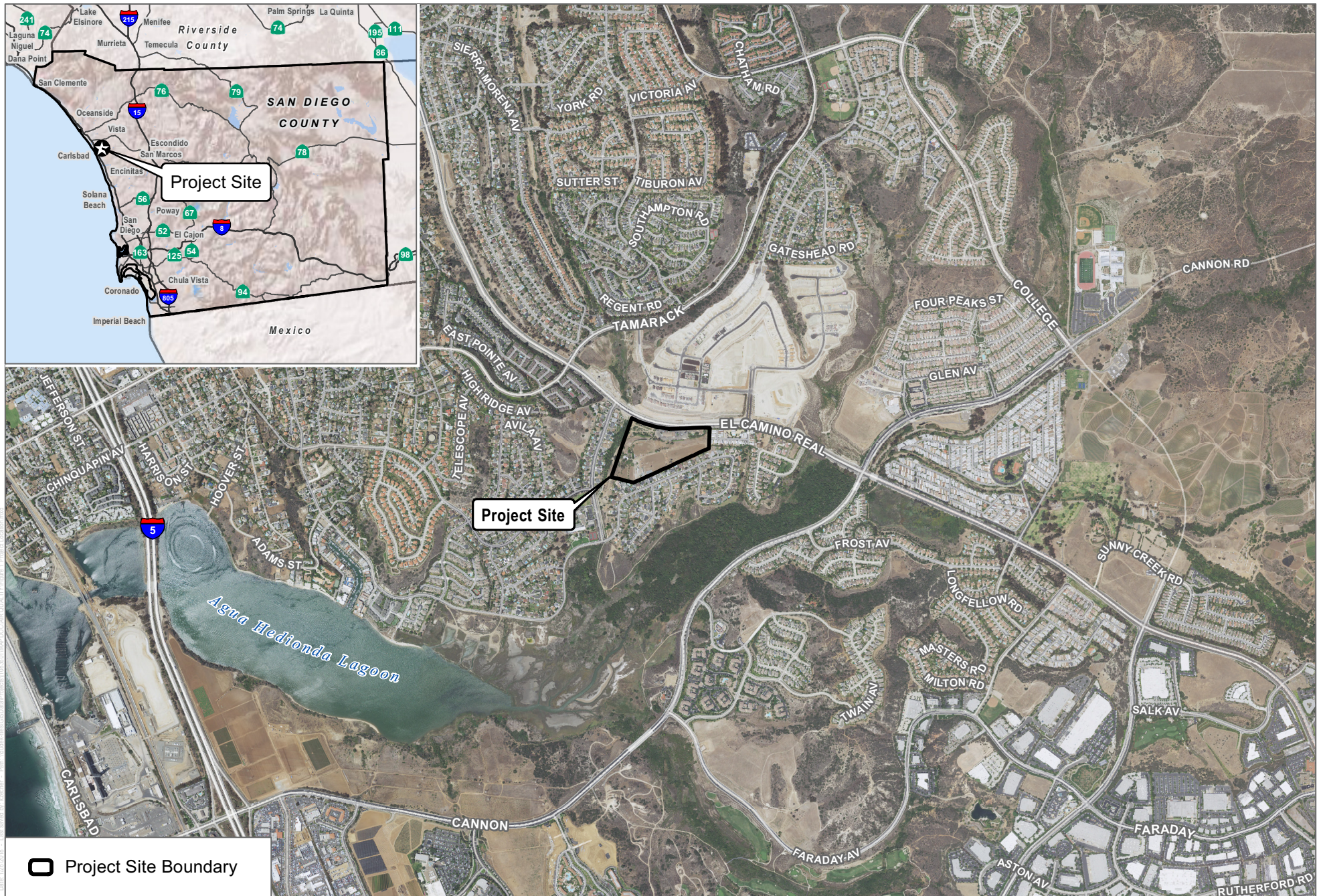
Per CEQA Guidelines Appendix G, the HRA directly addresses question (d): Would the project expose sensitive receptors to substantial pollutant concentrations?

Although the Project's construction activity is short-term and therefore unlikely to pose a risk of health impacts to the nearest sensitive receptors (the residents to the south and west of the project site), in an abundance of caution, a voluntary health risk assessment (HRA) was performed.

1.2 Project Description

The Marja Acres development plan proposes a total number of 298 dwelling units consisting of 236 townhomes within the R-15 General Plan designated area, and 46 age-restricted affordable house units, 16 townhomes, a 4,000-square-foot restaurant pad, and a 6,000-square-foot retail pad area within the General Commercial General Plan designated area. The proposed project has been designed to emphasize superior architecture, views, privacy, walkability, internal connectivity, and recreational amenities.

In order to provide housing for low and very low-income seniors, the Project proposes to utilize the opportunities provided by the Residential Density Bonus section of the City of Carlsbad Zoning ordinance (CMC 21.86). For those projects that reserve 20% of total units for low income residents, CMC 21.86 allows an increase in the number of units beyond the maximum General Plan density calculations. The Project provides 20% of units for low and very low-income seniors. Section 21.86 is fully intended to implement the Housing Element of the General Plan and support existing City of Carlsbad policies designed to increase the stock of affordable housing. The Project location is provided in Figure 1.



SOURCE: NAIP 2016

FIGURE 1
Project Location

Health Risk Assessment for the Marja Acres Community Plan

INTENTIONALLY LEFT BLANK

1.3 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O₃, NO₂, CO, SO₂, PM₁₀, PM_{2.5}, and Pb. These pollutants, as well as TACs, are discussed in the following text.¹ In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. Coarse particulate matter (PM₁₀) is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter (PM_{2.5}) is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, PM_{2.5} can form in the atmosphere from gases such as SO_x, NO_x, and ROGs.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as Pb, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. PM₁₀ tends to collect in the upper portion of the respiratory system, whereas PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

¹ The descriptions of each of the criteria air pollutants and associated health effects are based on the EPA's Criteria Air Pollutants (EPA 2016) and the California Air Resources Board (CARB) Glossary of Air Pollutant Terms (CARB 2016).

Health Risk Assessment for the Marja Acres Community Plan

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing particulate matter. Children may experience a decline in lung function due to breathing PM₁₀ and PM_{2.5}. Other groups considered sensitive are smokers, people who cannot breathe well through their noses, and exercising athletes (because many breathe through their mouths).

1.4 Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute (short term) and/or chronic (long term) noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, DPM, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ system and may be experienced either on acute or chronic exposure to a given TAC.

California's air toxics control program began in 1983 with the passage of the Toxic Air Contaminant Identification and Control Act, Assembly Bill (AB) 1807, better known as the Tanner Bill. The Tanner Bill established a regulatory process for the scientific and public review of individual toxic compounds. When a compound becomes listed as a TAC under the Tanner process, the CARB normally establishes minimum statewide emission-control measures to be adopted by air quality management districts and air pollution control districts. By 1992, 18 of the 189 federal hazardous air pollutants had been listed by the CARB as state TACs. In April 1993, the CARB added 171 substances to the state program to make the state TAC list equivalent to the federal list of hazardous air pollutants. In 1998, CARB designated diesel engine exhaust particulate matter (DPM) as a TAC (CARB 1998). The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long term chronic health hazard impacts. No short term, acute relative exposure values are established and regulated and are therefore not addressed in this assessment.

The second major component of California's air toxics program, supplementing the Tanner process, was provided by the passage of Assembly Bill (AB) 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. AB 2588 currently regulates over 600 compounds, including all of the Tanner-designated TACs.

Health Risk Assessment for the Marja Acres Community Plan

Additionally, Proposition 65, passed by California voters in 1986, required that a list of carcinogenic and reproductive toxicants found in the environment be compiled, the discharge of these toxicants into drinking water be prohibited, and warnings of public exposure by air, land, or water be posted if a significant adverse public health risk is posed. The emission of any of listed substances by a facility would require a public warning unless health risks could be demonstrated to be less than significant. For carcinogens, Proposition 65 defines the “no significant risk level” as the level of exposure that would result in an increased cancer risk of greater than 10 in 1 million over a 70-year lifetime. The “no significant risk level” is 1/1000 of the No Observable Effect Level for reproductive toxicants.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, On-Road Heavy Duty (New) Vehicle Program, In-Use Off-Road Diesel Vehicle Regulation, and New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. Several Airborne Toxic Control Measures reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

1.5 Cancer Risk

Cancer risk is defined as the increase in lifetime probability (chance) of an individual developing cancer due to exposure to a carcinogenic compound, typically expressed as the increased probability in 1 million. The cancer risk from inhalation of a TAC is estimated by calculating the inhalation (and if applicable, ingestion) dose in units of milligrams/kilogram body weight per day based on an ambient concentration in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), breathing rate, and exposure period, and multiplying the dose by the inhalation cancer potency factor, expressed as (milligrams/kilogram body weight per day)⁻¹. Cancer risks for residential receptors and similar sensitive receptors are typically estimated based on a lifetime (70 years) of continuous exposure.

Cancer risks are typically calculated for all carcinogenic TACs and summed to calculate the overall increase in cancer risk to an individual. The calculation procedure assumes that cancer risk is proportional to concentrations at any level of exposure and that risks due to different carcinogens are additive. This approach is generally considered a conservative assumption at low doses and is consistent with the current Office of Environmental Health Hazard Assessment (OEHHA) regulatory approach. Exposure to carcinogenic TACs does not imply that the exposed

Health Risk Assessment for the Marja Acres Community Plan

individual would contract cancer; rather, the cancer risk is a probability of developing cancer if other factors (e.g., heredity, exposure to environmental or workplace exposures that comprise the immune system, overall health) would result in an increased susceptibility to developing cancer.

1.6 Noncancer Health Impacts

The noncancer health impact of an inhaled TAC is measured by the hazard quotient, which is the ratio of the ambient concentration of a TAC in units of $\mu\text{g}/\text{m}^3$ divided by the reference exposure level (REL), also in units of $\mu\text{g}/\text{m}^3$. The REL is the concentration at or below which no adverse health effects are anticipated. The REL is typically based on health effects to a particular target organ system, such as the respiratory system, liver, or central nervous system. Hazard quotients of individual TACs are then summed for each target organ system to obtain a hazard index.

1.7 Local Conditions

The Project area is located within the San Diego Air Basin (SDAB) and is subject to the SDAPCD guidelines and regulations. The SDAB is one of 15 air basins that geographically divide the State of California. The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges (in degrees Fahrenheit (°F)) from the mid-40s to the high 90s. Most of the region's precipitation falls from November to April with infrequent (approximately 10%) precipitation during the summer. The average seasonal precipitation along the coast is approximately 10 inches; the amount increases with elevation as moist air is lifted over the mountains to the east.

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east. Along with local meteorology, the topography influences the dispersal and movement of pollutants in the SDAB. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers as described in the next section.

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

2 GUIDANCE AND THRESHOLDS

2.1 OEHHA Guidance

This report includes health risk assessments associated with construction emissions and emissions from diesel vehicles. All these risk assessments followed the methodologies prescribed in the California Environmental Protection Agency/OEHHA's *Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015), which was adopted in 2015 replacing the previous 2003 guidance manual.

The Children's Environmental Health Protection Act of 1999 (Senate Bill 25), which requires explicit consideration of infants and children in assessing risks from air toxics, required revisions of the methods for both noncancer and cancer risk assessment and of the exposure assumptions in the 2003 OEHHA health risk assessment guidance manual. In response to SB 25, OEHHA released three technical support documents (TSDs) addressing RELs (OEHHA 2008), cancer potency (OEHHA 2009), and exposure assessment and stochastic analysis (OEHHA 2012) and adopted the revised health risk assessment guidance manual (OEHHA 2015). The TSD for RELs and continuing work to reevaluate TACs to ensure adequate protection for infants and children has led to revisions of RELs for approximately 10 chemicals and chemical families. The basic methodology for evaluating acute and chronic health effects using the RELs otherwise remained the same as in the previous guidance manual. Moreover, RELs are designed to protect the most sensitive individuals in the population, including infants and children, by selecting appropriate toxicological data and including margins of safety. Accordingly, the evaluation methods are assumed to protect children as well as other sensitive subpopulations (groups of more highly susceptible individuals) from adverse health effects in the event of exposure (OEHHA 2008).

The cancer risk methodology described in exposure assessment and stochastic analysis TSD and the OEHHA guidance manual accounts for the higher sensitivity of infants and children by applying age-specific breathing rates and age-sensitivity factors. According to the TSD, "Accounting for effects of early-in life exposure requires accounting for both the increased potency of early in life exposure to carcinogens and the greater exposure on a per [kilogram] body weight that occurs early in life due to behavioral and physiological differences between infants and children, and adults" (OEHHA 2012). As compared to the previous guidance, which relied on a single breathing rate for all ages, the revised guidance also includes age-specific breathing rates that reflect the differences between those for infants, children, and adults. The health risk assessments in this report use the Hotspots Analysis and Reporting Program, Version 2 (HARP 2), which incorporates RELs and cancer potency factors, which are periodically updated, and health effects calculations based on the 2015 OEHHA guidance manual. Accordingly, these risk assessments evaluate and reflect conservative, health-protective methodologies to assess health impacts to adults as well as infants, children, and other sensitive subpopulations.

Health Risk Assessment for the Marja Acres Community Plan

2.2 SDAPCD Guidance

The SDAPCD's *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments* (SDAPCD 2015) provides guidance to perform HRAs within the San Diego Air Basin. Although the SDAPCD Guidance is specifically targeted towards health risk from air toxic emissions from stationary source operations, the thresholds were adapted here for informational purposes. The SDAPCD's current thresholds of significance for TAC emissions from the operations of permitted and non-permitted sources are combined and presented in Table 1.

Table 1
SDAPCD CEQA TAC Emissions Thresholds

Carcinogens	Non-Carcinogens
	Chronic
Maximally exposed individual risk equals or exceeds 10 in 1 million	Hazard Index equals or exceeds 1 for the maximally exposed individual

Source: SDAPCD 2015.

Notes: CEQA = California Environmental Quality Act; SDAPCD = San Diego Air Pollution Control District

2.3 CAPCOA Guidance

CAPCOA prepared the *Health Risk Assessments for Proposed Land Use Projects* guidance to assist lead agencies in complying with CEQA requirements (CAPCOA 2009). This document is also referenced in the impact analysis. This guidance was developed to help agencies comply with CEQA. This CAPCOA guidance document focuses on the acute, chronic, and cancer impacts of sources subject to review under CEQA. It also outlines the recommended procedures to identify when a project should undergo further risk evaluation, how to conduct the HRA, how to engage the public, what to do with the results from the HRA, and what mitigation measures may be appropriate for various land use projects. However, this guidance does not address risk assessments for construction projects. Therefore, this guidance was not relied upon for the HRA.

Health Risk Assessment for the Marja Acres Community Plan

3 EMISSION CALCULATIONS

3.1 Methodology and Assumptions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and ROG off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Emissions from the construction phase of the Project were estimated using the CalEEMod version 2016.3.2.

Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the Applicant. For the purposes of modeling, it was assumed that construction of the Project would commence in January 2019 and would last approximately 39 months, ending in March 2022. The analysis contained herein is based on the following assumptions (duration of phases is approximate) are shown in Table 2.

Table 2
Construction Phasing Assumptions

Proposed Project Construction Phase	Construction Start Month/Year	Construction End Month/Year
Demo Structures & Improvements	01/2019	01/2019
Haul off Demo Debris	01/2019	01/2019
Clear & Grub	01/2019	01/2019
Remedial, Remedial & Mass Excavation	01/2019	03/2019
Export Excavation	03/2019	04/2019
Wet Utilities	03/2019	06/2019
Dry Utilities	06/2019	07/2019
Street Improvements – Balancing/Aggregate Base	07/2019	07/2019
Building Construction – 1	07/2019	12/2019
Street Improvements – Curb & Gutter	07/2019	08/2019
Street Improvements – Asphalt Paving	08/2019	08/2019
Street Improvements – Concrete Flatwork	08/2019	08/2019
Building Construction – 2	12/2019	08/2020
Architectural Coating	08/2020	05/2021
Building Construction – 3	05/2021	03/2022

Source: New Urban West Inc. 2018

As shown above, several of the construction phases will run concurrently. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for 5 days per week (22 days per month) during Project construction. For the HRA and dispersion modeling, only onsite emissions were accounted for from haul and vendor diesel trucks.

Health Risk Assessment for the Marja Acres Community Plan

3.2 Estimated Emissions

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Criteria air pollutant emissions associated with temporary construction activity were quantified using a spreadsheet-based model. Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during each year of construction (2019 through 2022). Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the Applicant and are intended to represent a reasonable scenario based on the best information available.

Construction of the Project would generate air pollutant emissions from entrained dust, off-road equipment, and vehicle emissions. Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of ROG, NO_x, CO, PM₁₀, and PM_{2.5}. For the HRA, we are concerned with DPM emitted from exhaust from onsite construction equipment and diesel vehicles. To include onsite emissions from diesel haul and vendor trucks, they were conservatively assumed to operate for ¼ mile onsite. The project has assumed all off-road construction equipment would be on average Tier 4 Interim or better².

Table 3 presents the estimated annual construction emissions generated during construction of the Project. Details of the emission calculations are provided in Attachment A.

Table 2
Estimated Annual Onsite Construction Emissions – Exhaust Only

Year	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	Tons per year					
2019	0.14	3.13	3.75	0.01	0.02	0.02
2020	0.64	0.27	0.44	0.00	0.00	0.00
2021	0.60	0.27	0.43	0.00	0.00	0.00
2022	0.00	0.03	0.04	0.00	0.00	0.00
Total	1.38	3.67	4.66	0.01	0.02	0.02

² For example, if a Tier 4 Interim piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment could be upgraded from a Tier 4 Interim to a higher tier (i.e., Tier 4 Final) or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 Interim standards.

Health Risk Assessment for the Marja Acres Community Plan

Notes: CO = carbon monoxide; NO_x = oxides of nitrogen; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; SO_x = sulfur oxides; ROG = reactive organic compound
See Attachment A for complete results.

Maximum annual emissions of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} emissions would occur during construction in 2019 as a result of off-road equipment operation and on-road vendor trucks and haul trucks. The PM₁₀ emissions in Table 3 were used in preparation of the HRA.

4 MODELING METHODOLOGY

4.1 Dispersion Model

Dudek conducted a dispersion modeling analysis of PM₁₀ emitted from diesel vehicles and equipment on the project site during construction for the HRA. The dispersion modeling was performed using AERMOD, View Version 9.5.0, which is the model SDAPCD recommends for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2017).

Dudek evaluated the potential cancer and non-cancer health impacts from diesel exhaust on nearby residents using exposure periods appropriate to evaluate these emission increases. Dispersion of DPM was modeled using AERMOD, and then cancer risk and non-cancer health impacts subsequently using the HARP 2, which implements the 2015 OEHHA age-weighting methodology for assessing TAC risks. The health risk results were then compared to SDAPCD thresholds to assess Project significance. Although the SDAPCD Guidance is specifically targeted towards health risk from air toxic emissions from stationary source operations, the thresholds were adapted here for informational purposes.

The HRA was performed as a precautionary measure to evaluate any risk to nearby sensitive receptors. Principal parameters of AERMOD for the Project operations included the following:

- **Meteorological Data:** The latest 3-year meteorological data (2010–2012) for the Camp Pendleton station (Station ID 3177) were provided by the SDAPCD, and then input to AERMOD. For cancer or chronic non-cancer risk assessments, the average cancer risk of all years modeled was used. A wind rose is provided for this station on Figure 2.
- **Urban and Rural Options:** Typically, urban areas have more surface roughness and structures and low-albedo surfaces that absorb more sunlight, and thus, more heat, relative to rural areas. However, according to SDAPCD guidelines, the rural dispersion option was selected due to the Project's proximity to the ocean.
- **Terrain Characteristics:** The terrain in the vicinity of the modeled Project site is generally flat. The elevation of the modeled site is approximately 31 meters above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
- **Discrete Receptors:** A uniform Cartesian grid was placed over the Project site with 20-meter spacing and converted into discrete receptors to represent existing residents' adjacent to the site.

Health Risk Assessment for the Marja Acres Community Plan

- **Source Equipment Operating Scenarios:** Air dispersion modeling of DPM emissions was conducted assuming the equipment would operate up to 8 hours per day, 5 days per week. The DPM emissions were modeled as a raised area source.
- **Source Release Characterizations:** For modeling operational emissions dispersion using AERMOD, it was assumed that the total site area would operate over a 3-year period, consistent with the construction schedule (although the construction schedule covers 4 calendar years, the exposure duration is only 36 months). Table 4 shows the release characteristics used in the AERMOD model.

Table 4
Volume Source Parameters for Health Risk Assessment

Parameter	Units	Value
Emission rate	grams per second	1
Release height	meters	5.0
Plume height	meters	1.2

4.2 HRA Methodology

The Children's Environmental Health Protection Act of 1999 (Senate Bill 25), which requires explicit consideration of infants and children in assessing risks from air toxics, required revisions of the methods for both non-cancer and cancer risk assessment and of the exposure assumptions in the 2003 OEHHA health risk assessment guidance manual. In response to SB 25, OEHHA released three technical support documents (TSDs) addressing RELs (OEHHA 2008), cancer potency (OEHHA 2009), and exposure assessment and stochastic analysis (OEHHA 2012) and adopted a revised health risk assessment guidance manual (OEHHA 2015). The TSD for RELs and continuing work to reevaluate TACs to ensure adequate protection for infants and children has led to revisions of RELs for approximately 10 chemicals and chemical families.

The basic methodology for evaluating non-cancer health effects using the RELs otherwise remained the same as in the previous guidance manual. Moreover, RELs are designed to protect the most sensitive individuals in the population including infants and children by the selection of appropriate toxicological data and by including margins of safety. Accordingly, the evaluation methods are assumed to protect children as well as other sensitive subpopulations (groups of more highly susceptible individuals) from adverse health effects in the event of exposure (OEHHA 2008). The cancer risk methodology described in exposure assessment and stochastic analysis TSD and the OEHHA guidance manual accounts for the higher sensitivity of infants and children by applying age-specific breathing rates and age-sensitivity factors.

Health Risk Assessment for the Marja Acres Community Plan

According to the TSD, “Accounting for effects of early-in life exposure requires accounting for both the increased potency of early in life exposure to carcinogens and the greater exposure on a per [kilogram] body weight that occurs early in life due to behavioral and physiological differences between infants and children, and adults” (OEHHA 2012). As compared to the previous guidance, which relied on a single breathing rate for all ages, the revised guidance also includes age-specific breathing rates that reflect the differences between those for infants, children, and adults. The health risk assessment in this report uses HARP 2, which incorporates RELs, cancer potency factors, and health effects calculations based on the 2015 OEHHA guidance manual. Accordingly, this assessment evaluates and reflects conservative, health-protective methodologies to assess health impacts to adults as well as infants, children, and other sensitive subpopulations.

As chronicled above, in March 2015 the OEHHA approved the new *Air Toxics Hot Spots Program Risk Guidance Manual for Preparation of Health Risk Assessments*. The SDAPCD requires that all HRAs prepared for CEQA documents follow District policies in conjunction with the OEHHA guidance document. In order to implement the OEHHA guidance based on project information, the District has developed a 3-tiered approach where each successive tier is progressively more refined with each progressive level being less conservative.

In July 2015, the CARB, in cooperation with the CAPCOA, published a set of Risk Management Guidance for Stationary Source of Air Toxics. This document is intended to help Districts with their reevaluation process and to communicate ARB and Districts’ plans, priorities, and policies regarding implementation of the new OEHHA risk assessment methodology.

SDAPCD’s HRA Tier 1 approach is a screening assessment methodology that incorporates very conservative assumption methodologies when specific information about a project and its impact locations to actual or assumed receptor locations are unknown. The Tier 2 option implements the AERMOD dispersion model and the Hotspots Analysis and Reporting Program Version 2 (HARP2) Air Dispersion Modeling and Risk Assessment Tool (ADMRT, version 17320). The Tier 2 approach provides a more accurate analysis. Tier 2 requires specific information modeling input for sources and receptors that refine the Tier 1, screening assessment approach. Tier 3 (refined project specific exposure parameters) is used when specific exposure parameters information about the project and effected receptors is known.

Tier 3 cancer and non-cancer health risk calculations were performed using ground-level unity emission concentration (X/Q) input from AERMOD. This modeling established the emissions dispersion field to surrounding receptors from atmospheric influence of the Project emissions. The ground level concentrations (GLC) were then determined by multiplication of annual average emission rates and annually averaged X/Q values determined by AERMOD for the

Health Risk Assessment for the Marja Acres Community Plan

raised area source of emissions from construction activity. HARP2 then assessed resulting chemical exposures from construction emissions.

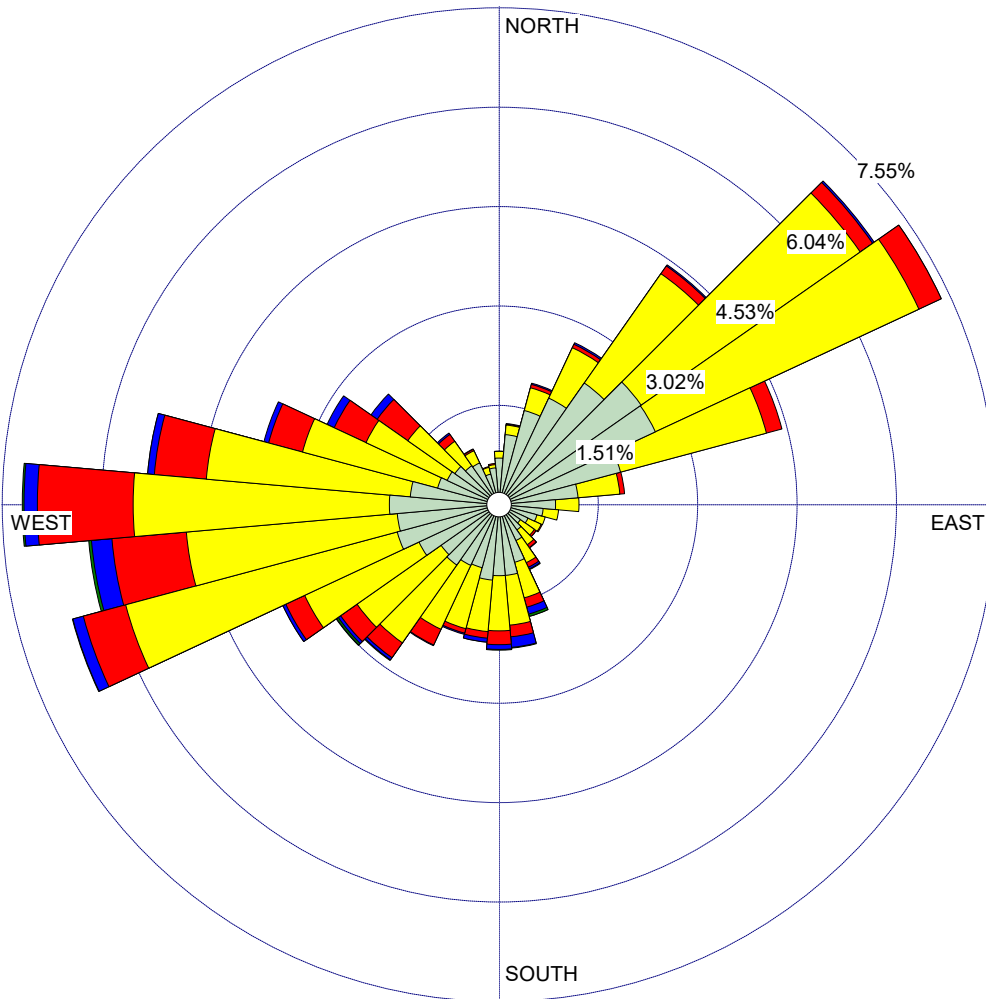
Based on its review of RELs and cancer potency factors to provide consideration of infants and children, OEHHA did not propose any revisions of the values for DPM, the primary TAC associated with construction equipment and diesel trucks. As noted, the cancer risk calculations in the revised OEHHA guidance manual include age-specific adjustments for infant and children. Therefore, the HRA results presented in Section 6.1 reflect the latest OEHHA guidance.

Health Risk Assessment for the Marja Acres Community Plan

INTENTIONALLY LEFT BLANK

WIND ROSE PLOT:
Station #3177

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:

DATA PERIOD:

Start Date: 1/1/2010 - 00:00
End Date: 12/31/2012 - 23:59

COMPANY NAME:

MODELER:

CALM WINDS:

1.85%

TOTAL COUNT:

26284 hrs.

AVG. WIND SPEED:

4.65 Knots

DATE:

2/21/2018

PROJECT NO.:

Health Risk Assessment for the Marja Acres Community Plan

INTENTIONALLY LEFT BLANK

5 RECEPTORS USED FOR EVALUATING MODELED IMPACTS

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The SDAPCD considers schools (kindergarten through grade 12), daycare centers, nursing homes, retirement homes, health clinics, and hospitals within 2 kilometers of the facility as sensitive receptor land uses (SDAPCD 2015). As previously discussed, this HRA evaluates the risk to existing residents from construction of the Project.

6 AIR DISPERSION MODELING AQIA AND HRA RESULTS

6.1 HRA Results

The cancer risk calculations were performed by multiplying the AERMOD-predicted DPM concentrations in $\mu\text{g}/\text{m}^3$ due to DPM emissions from trucks and construction equipment by the appropriate risk values. The exposure and risk equations that were used to calculate the cancer risk at residential receptors are taken from the OEHHA manual for health risk assessments prepared under the Air Toxics “Hot Spots” program (OEHHA 2003).

The potential exposure pathway for DPM includes inhalation only. The potential exposure through other pathways (e.g., ingestion) requires substance and site-specific data, and the specific parameters for DPM are not known for these pathways (CARB 1998). Cancer risks were evaluated using the inhalation cancer potency factor published by the OEHHA and CARB (CARB 2013). The cancer potency factor for DPM is 1.1 per milligram per kilogram of body weight per day ($\text{mg}/\text{kg}\text{-day}$). In accordance with CARB policy (CARB 2015d), the breathing rate equal to the 80th percentile, or 302 liters per kilogram of body weight per day, was used for the cancer risk calculations. Table 5 below summarizes the construction HRA results based on the HRA methodology described above and contained in Attachment B.

Table 5
Construction Activity Health Risk Assessment Results

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
MICR—Residential & Worker	Per Million	1.89	10.0	Less than Significant
HIC	Not Applicable	0.0009	1.0	Less than Significant

Sources: Attachment B

Notes: MICR – Maximum Individual Cancer Risk; HIC – Chronic Hazard Index

The results of the construction analysis demonstrate that the construction mobile sources exhibit maximum individual cancer risks (MICR) below the 10 in a million threshold and chronic hazard indices (HIC) less than 1. AERMOD and HARP2 outputs are contained in Attachment B.

Therefore, with respect to CEQA Appendix G, Air Quality question (d), TAC emissions from construction of the Project would not expose sensitive receptors to substantial pollutant concentrations.

6.0 CONCLUSIONS

Based on this analysis, the closest sensitive receptors to the Project would not be exposed to TACs at levels above significance thresholds established by the SDAPCD.

The results determined in this analysis reflect reasonable estimates of source emissions and exhaust characteristics, available meteorological data near the Project site, and the use of currently approved air quality models. Given the limits of available tools for such an analysis, the actual impacts may vary from the estimates in this assessment. However, the combined use of the AERMOD dispersion model and the health impact calculations required by the OEHHHA and the SDAPCD tend to overpredict impacts, such that they produce conservative (i.e., health-protective) results. Accordingly, the health impacts are not expected to be higher than those estimated in this assessment.

7.0 REFERENCES

- CARB (California Air Resources Board). 1998. Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Part A Exposure Assessment (as approved by the Scientific Review Panel). April 1998.
- CARB. 2013. "Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values." August 1. Accessed August 2017.
<http://www.arb.ca.gov/toxics/healthval/healthval.htm>.
- CARB. 2014. Area Designations Maps / State and National. Website
(<http://www.arb.ca.gov/desig/adm/adm.htm>) accessed August 2017.
- CARB. 2015a. Hotspots Analysis and Reporting Program Version 2 (HARP2) Risk Assessment Standalone Tool (RAST), version 15197. Website
(<http://www.arb.ca.gov/toxics/harp/rast.htm>) accessed August 2017.
- CARB. 2015b. Air Quality Data Analysis Management System (ADAM). Website
(<http://www.arb.ca.gov/adam/>) accessed August 2017.
- CARB. 2015c. Ambient Air Quality Standards. Website
(<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>) accessed August 2017.
- CARB. 2015d. Risk Management Guidance for Stationary Sources of Air Toxics. May 27. Accessed August 2017.
https://www.arb.ca.gov/toxics/rma/rma_guidancedraft052715.pdf.
- CARB. 2016. "Glossary of Air Pollution Terms." CARB website. Accessed August 2017.
<http://www.arb.ca.gov/html/gloss.htm>.
- CAPCOA (California Air Pollution Control Officers Association). 2009. Health Risk Assessment for Proposed Land Use Projects. June 2009. Accessed August 2017.
http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.
- EPA (United States Environmental Protection Agency). 1992. Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised, EPA-454/R-92-019. Accessed August 2017.
http://www.epa.gov/oppt/exposure/presentations/efast/usepa_1992b_sp_for_estim_aqi_of_ss.pdf.

Health Risk Assessment for the Marja Acres Community Plan

- EPA. 2015. AERMOD Version 16216r & Implementation Guide. Accessed August 2017.
http://www3.epa.gov/ttn/scram/dispersion_prefrec.htm.
- EPA. 2016. “Criteria Air Pollutants.” July 21, 2016. Accessed August 2017.
<https://www.epa.gov/criteria-air-pollutants>.
- OEHHA (California Office of Environmental Health Hazard Assessment). 2008. Air Toxics Hot Spots Risk Assessment Guidelines – Technical Support Document for the Derivation of Noncancer Reference Exposure Levels. Accessed August 2017.
http://www.oehha.ca.gov/air/hot_spots/2008/NoncancerTSD_final.pdf.
- OEHHA. 2009. Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustments to Allow for Early Life Stage Exposures. Accessed August 2017.
http://www.oehha.ca.gov/air/hot_spots/2009/TSDCancerPotency.pdf.
- OEHHA. 2012. Air Toxics Hot Spots Program Risk Assessment Guidelines – Technical Support Document Exposure Assessment and Stochastic Analysis. Accessed August 2017.
http://www.oehha.ca.gov/air/hot_spots/pdf/2012tsd/TSDportfolio2012.pdf.
- OEHHA. 2015. Air Toxics Hot Spots Program, Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments. Accessed August 2017.
http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.
- SDAPCD (San Diego Air Pollution Control District). 2015. *Supplemental Guidelines for Submission of Air Toxics “Hot Spots” Program Health Risk Assessments (HRAs)*. June 2015. Accessed October 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/APCD_HRA_Guidelines.pdf.

ATTACHMENT A
Emissions Outputs

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Marja Acres Community Plan
San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	59.00	Space	0.53	23,600.00	0
Quality Restaurant	4.00	1000sqft	0.09	4,000.00	0
Apartments Low Rise	46.00	Dwelling Unit	2.88	46,000.00	132
Condo/Townhouse	252.00	Dwelling Unit	15.75	252,000.00	721
Hardware/Paint Store	6.00	1000sqft	0.14	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2023
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Retail consists of a bike shop and unspecified retail modeled as a hardware/paintstore.

Construction Phase - Based on applicant provided construction schedule.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Off-road Equipment - Based on applicant provided data.
Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Off-road Equipment - Based on applicant provided data.

Trips and VMT - Based on applicant provided data.

On-road Fugitive Dust - CalEEMod defaults.

Demolition -

Grading - Based on applicant provided data.

Architectural Coating - In accordance with SDAPCD Rule 67.0.1.

Vehicle Trips - Based on LLG Traffic Report.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Road Dust - CalEEMod defaults.
Woodstoves - Does not apply.

Consumer Products - CalEEMod defaults.

Area Coating - In accordance with SDAPCD Rule 67.0.1.

Landscape Equipment - CalEEMod defaults.

Energy Use - CalEEMod defaults.

Water And Wastewater - CalEEMod defaults.

Solid Waste - CalEEMod defaults.

Construction Off-road Equipment Mitigation - Watering twice daily. Tier 4 Interim equipment assumed as project design feature.

Mobile Land Use Mitigation - The project is mixed-use, is 0.04 from closest transit stop, and 46/298 units are affordable.

Area Mitigation - No hearth. In accordance with SDAPCD Rule 67.0.1.

Energy Mitigation - 554 kW of solar PV installed onsite.

Water Mitigation - Greywater used for outdoor irrigation.

Waste Mitigation - In accordance with AB 939.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	1,416.00	2,376.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50

Marja Acres Community Plan - San Diego County APCD Air District, Annual

[illegible]

Marja Acres Community Plan - San Diego County APCD Air District, Annual

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblGrading	AcresOfGrading	170.63	175.00
tblGrading	AcresOfGrading	10.50	14.00
tblGrading	MaterialExported	0.00	57,605.00
tblOffRoadEquipment	HorsePower	158.00	323.00
tblOffRoadEquipment	HorsePower	187.00	180.00
tblOffRoadEquipment	HorsePower	187.00	180.00
tblOffRoadEquipment	HorsePower	130.00	173.00
tblOffRoadEquipment	HorsePower	80.00	102.00
tblOffRoadEquipment	HorsePower	247.00	328.00
tblOffRoadEquipment	HorsePower	247.00	450.00
tblOffRoadEquipment	HorsePower	247.00	450.00
tblOffRoadEquipment	HorsePower	367.00	700.00
tblOffRoadEquipment	HorsePower	212.00	328.00
tblOffRoadEquipment	HorsePower	212.00	328.00
tblOffRoadEquipment	HorsePower	158.00	323.00
tblOffRoadEquipment	HorsePower	187.00	250.00
tblOffRoadEquipment	HorsePower	187.00	240.00
tblOffRoadEquipment	HorsePower	187.00	220.00
tblOffRoadEquipment	HorsePower	402.00	313.00
tblOffRoadEquipment	HorsePower	402.00	200.00
tblOffRoadEquipment	HorsePower	402.00	200.00
tblOffRoadEquipment	HorsePower	402.00	200.00
tblOffRoadEquipment	HorsePower	402.00	200.00
tblOffRoadEquipment	HorsePower	402.00	200.00

Marja Acres Community Plan - San Diego County APCD Air District, Annual

tblOffRoadEquipment	HorsePower	402.00	200.00
tblOffRoadEquipment	HorsePower	402.00	200.00
tblOffRoadEquipment	HorsePower	402.00	200.00
tblOffRoadEquipment	HorsePower	80.00	102.00
tblOffRoadEquipment	HorsePower	203.00	253.00
tblOffRoadEquipment	HorsePower	203.00	253.00
tblOffRoadEquipment	HorsePower	203.00	253.00
tblOffRoadEquipment	HorsePower	203.00	253.00
tblOffRoadEquipment	HorsePower	203.00	160.00
tblOffRoadEquipment	HorsePower	203.00	160.00
tblOffRoadEquipment	HorsePower	367.00	359.00
tblOffRoadEquipment	HorsePower	65.00	80.00
tblOffRoadEquipment	HorsePower	97.00	102.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

Marja Acres Community Plan - San Diego County APCD Air District, Annual

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

Marja Acres Community Plan - San Diego County APCD Air District, Annual

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Clear and Grub
tblOffRoadEquipment	PhaseName		Remedial, Remedial & Mass Excavation
tblOffRoadEquipment	PhaseName		Demo Structures and Improvements
tblOffRoadEquipment	PhaseName		Demo Structures and Improvements
tblOffRoadEquipment	PhaseName		Clear and Grub
tblOffRoadEquipment	PhaseName		Remedial, Remedial & Mass Excavation
tblOffRoadEquipment	PhaseName		Demo Structures and Improvements
tblOffRoadEquipment	PhaseName		Haul off Demo Debris
tblOffRoadEquipment	PhaseName		Clear and Grub
tblOffRoadEquipment	PhaseName		Demo Structures and Improvements
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	440.00

Marja Acres Community Plan - San Diego County APCD Air District, Annual

tblTripsAndVMT	HaulingTripNumber	7,201.00	8,230.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripNumber	37.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	37.00	2.00
tblTripsAndVMT	VendorTripNumber	37.00	0.00
tblTripsAndVMT	VendorTripNumber	37.00	2.00
tblTripsAndVMT	WorkerTripLength	10.80	0.19
tblTripsAndVMT	WorkerTripLength	10.80	0.19
tblTripsAndVMT	WorkerTripLength	10.80	0.19
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	228.00	0.00
tblTripsAndVMT	WorkerTripNumber	46.00	0.00
tblTripsAndVMT	WorkerTripNumber	228.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00

Marja Acres Community Plan - San Diego County APCD Air District, Annual

tblTripsAndVMT	WorkerTripNumber	228.00	0.00
tblTripsAndVMT	WorkerTripNumber	228.00	0.00
tblVehicleTrips	ST_TR	7.16	2.48
tblVehicleTrips	ST_TR	5.67	5.37
tblVehicleTrips	ST_TR	82.52	26.86
tblVehicleTrips	ST_TR	94.36	107.45
tblVehicleTrips	SU_TR	6.07	2.48
tblVehicleTrips	SU_TR	4.84	5.37
tblVehicleTrips	SU_TR	68.65	26.86
tblVehicleTrips	SU_TR	72.16	107.45
tblVehicleTrips	WD_TR	6.59	2.48
tblVehicleTrips	WD_TR	5.81	5.37
tblVehicleTrips	WD_TR	51.29	26.86
tblVehicleTrips	WD_TR	89.95	107.45

2.0 Emissions Summary

Marja Acres Community Plan - San Diego County APCD Air District, Annual

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	0.4315	5.7065	3.0557	9.4900e-003	0.3696	0.1876	0.5572	0.1363	0.1728	0.3090	0.0000	883.5727	883.5727	0.2031	0.0000	888.6498
2020	0.6763	0.4439	0.4459	7.5000e-004	7.2000e-004	0.0275	0.0282	2.1000e-004	0.0269	0.0271	0.0000	64.5695	64.5695	7.0700e-003	0.0000	64.7462
2021	0.6349	0.4003	0.4281	7.3000e-004	7.2000e-004	0.0229	0.0236	2.1000e-004	0.0223	0.0225	0.0000	62.8381	62.8381	6.8200e-003	0.0000	63.0086
2022	3.7200e-003	0.0376	0.0378	5.0000e-005	3.0000e-005	2.2400e-003	2.2600e-003	1.0000e-005	2.0600e-003	2.0700e-003	0.0000	4.6844	4.6844	1.4500e-003	0.0000	4.7207
Maximum	0.6763	5.7065	3.0557	9.4900e-003	0.3696	0.1876	0.5572	0.1363	0.1728	0.3090	0.0000	883.5727	883.5727	0.2031	0.0000	888.6498

Marja Acres Community Plan - San Diego County APCD Air District, Annual

2.1 Overall Construction**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	0.1413	3.1301	3.7519	9.4900e-003	0.2072	0.0172	0.2243	0.0725	0.0170	0.0895	0.0000	883.5720	883.5720	0.2031	0.0000	888.6491
2020	0.6348	0.2670	0.4437	7.5000e-004	7.2000e-004	1.0100e-003	1.7300e-003	2.1000e-004	1.0100e-003	1.2200e-003	0.0000	64.5694	64.5694	7.0700e-003	0.0000	64.7461
2021	0.6000	0.2654	0.4290	7.3000e-004	7.2000e-004	9.4000e-004	1.6700e-003	2.1000e-004	9.4000e-004	1.1500e-003	0.0000	62.8381	62.8381	6.8200e-003	0.0000	63.0086
2022	1.1900e-003	0.0253	0.0381	5.0000e-005	3.0000e-005	8.0000e-005	1.1000e-004	1.0000e-005	8.0000e-005	9.0000e-005	0.0000	4.6844	4.6844	1.4500e-003	0.0000	4.7207
Maximum	0.6348	3.1301	3.7519	9.4900e-003	0.2072	0.0172	0.2243	0.0725	0.0170	0.0895	0.0000	883.5720	883.5720	0.2031	0.0000	888.6491

	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	21.14	44.02	-17.52	0.00	43.77	92.01	62.72	46.62	91.53	74.51	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	4.1208	2.1011
2	4-1-2019	6-30-2019	1.3686	0.8519
3	7-1-2019	9-30-2019	0.5534	0.2617
4	10-1-2019	12-31-2019	0.1027	0.0706
5	1-1-2020	3-31-2020	0.0468	0.0230
6	4-1-2020	6-30-2020	0.0468	0.0230
7	7-1-2020	9-30-2020	0.4046	0.3336
8	10-1-2020	12-31-2020	0.6140	0.5156

Marja Acres Community Plan - San Diego County APCD Air District, Annual

9	1-1-2021	3-31-2021	0.5805	0.5036
10	4-1-2021	6-30-2021	0.3673	0.3132
11	7-1-2021	9-30-2021	0.0472	0.0274
12	10-1-2021	12-31-2021	0.0471	0.0273
13	1-1-2022	3-31-2022	0.0414	0.0266
		Highest	4.1208	2.1011

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	20.4481	0.3907	25.2949	0.0419		3.2484	3.2484		3.2484	3.2484	307.8214	132.7114	440.5328	0.2876	0.0242	454.9368
Energy	0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	814.3267	814.3267	0.0273	9.3700e-003	817.8025
Mobile	0.5054	1.9861	5.8006	0.0205	1.8592	0.0160	1.8752	0.4978	0.0149	0.5127	0.0000	1,889.1583	1,889.1583	0.0969	0.0000	1,891.5805
Waste						0.0000	0.0000		0.0000	0.0000	42.0719	0.0000	42.0719	2.4864	0.0000	104.2314
Water						0.0000	0.0000		0.0000	0.0000	6.6860	135.3934	142.0794	0.6922	0.0173	164.5514
Total	20.9796	2.6025	31.2060	0.0638	1.8592	3.2825	5.1417	0.4978	3.2814	3.7792	356.5793	2,971.5898	3,328.1691	3.5903	0.0509	3,433.1026

Marja Acres Community Plan - San Diego County APCD Air District, Annual

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3914	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026
Energy	0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	430.5952	430.5952	0.0119	6.1800e-003	432.7326
Mobile	0.4858	1.8859	5.3678	0.0185	1.6733	0.0146	1.6879	0.4481	0.0136	0.4616	0.0000	1,713.3947	1,713.3947	0.0892	0.0000	1,715.6254
Waste						0.0000	0.0000		0.0000	0.0000	10.5180	0.0000	10.5180	0.6216	0.0000	26.0578
Water						0.0000	0.0000		0.0000	0.0000	6.6860	89.6798	96.3658	0.6903	0.0170	118.6784
Total	1.9034	2.1371	7.6921	0.0201	1.6733	0.0449	1.7182	0.4481	0.0439	0.4920	17.2039	2,237.2853	2,254.4893	1.4165	0.0231	2,296.7968

	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	90.93	17.88	75.35	68.52	10.00	98.63	66.58	10.00	98.66	86.98	95.18	24.71	32.26	60.55	54.56	33.10

3.0 Construction Detail**Construction Phase**

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo Structures and Improvements	Demolition	1/2/2019	1/17/2019	5	12	
2	Haul off Demo Debris	Demolition	1/17/2019	1/21/2019	5	3	
3	Clear and Grub	Site Preparation	1/22/2019	1/28/2019	5	5	
4	Remedial, Remedial & Mass Excavation	Grading	1/29/2019	3/18/2019	5	35	
5	Export Excavation	Grading	3/2/2019	4/10/2019	5	28	
6	Wet Utilities	Trenching	3/19/2019	6/20/2019	5	68	
7	Dry Utilities	Trenching	6/20/2019	7/17/2019	5	20	
8	Street Improvements - Balancing/Aggregate Base	Building Construction	7/18/2019	7/25/2019	5	6	
9	Building Construction-1	Building Construction	7/18/2019	12/6/2019	5	102	
10	Street Improvements - Curb & Gutter	Paving	7/26/2019	8/1/2019	5	5	
11	Street Improvements - Asphalt Paving	Paving	8/2/2019	8/7/2019	5	4	
12	Street Improvements - Concrete Flatwork	Paving	8/8/2019	8/23/2019	5	12	
13	Building Construction-2	Building Construction	12/17/2019	8/3/2020	5	165	
14	Architectural Coating	Architectural Coating	8/4/2020	5/24/2021	5	210	
15	Building Constructicon-3	Building Construction	5/25/2021	3/31/2022	5	223	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.53

Residential Indoor: 603,450; Residential Outdoor: 201,150; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 2,376 (Architectural Coating – sqft)

OffRoad Equipment

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo Structures and Improvements	Concrete/Industrial Saws	0	8.00	81	0.73
Demo Structures and Improvements	Excavators	1	8.00	323	0.38
Demo Structures and Improvements	Off-Highway Trucks	1	6.00	313	0.38
Demo Structures and Improvements	Off-Highway Trucks	1	8.00	200	0.38
Demo Structures and Improvements	Rubber Tired Dozers	1	8.00	328	0.40
Demo Structures and Improvements	Rubber Tired Loaders	1	8.00	253	0.36
Demo Structures and Improvements	Skid Steer Loaders	1	8.00	80	0.37
Haul off Demo Debris	Concrete/Industrial Saws	0	8.00	81	0.73
Haul off Demo Debris	Excavators	0	8.00	158	0.38
Haul off Demo Debris	Rubber Tired Dozers	0	8.00	247	0.40
Haul off Demo Debris	Rubber Tired Loaders	1	8.00	253	0.36
Clear and Grub	Crawler Tractors	1	8.00	328	0.43
Clear and Grub	Off-Highway Trucks	1	8.00	200	0.38
Clear and Grub	Rubber Tired Dozers	0	8.00	247	0.40
Clear and Grub	Rubber Tired Loaders	1	8.00	253	0.36
Clear and Grub	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Remedial, Remedial & Mass Excavation	Crawler Tractors	1	8.00	328	0.43
Remedial, Remedial & Mass Excavation	Excavators	0	8.00	158	0.38
Remedial, Remedial & Mass Excavation	Graders	1	6.00	180	0.41
Remedial, Remedial & Mass Excavation	Off-Highway Trucks	1	8.00	200	0.38
Remedial, Remedial & Mass Excavation	Rubber Tired Dozers	1	8.00	450	0.40
Remedial, Remedial & Mass Excavation	Scrapers	4	8.00	700	0.48
Remedial, Remedial & Mass Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Export Excavation	Excavators	0	8.00	158	0.38

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Export Excavation	Graders	1	6.00	180	0.41
Export Excavation	Off-Highway Trucks	1	8.00	200	0.38
Export Excavation	Rubber Tired Dozers	1	8.00	450	0.40
Export Excavation	Rubber Tired Loaders	1	8.00	253	0.36
Export Excavation	Scrapers	0	8.00	367	0.48
Export Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Wet Utilities	Excavators	2	8.00	323	0.38
Wet Utilities	Off-Highway Trucks	2	8.00	200	0.38
Wet Utilities	Rubber Tired Loaders	2	8.00	160	0.36
Wet Utilities	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Dry Utilities	Off-Highway Trucks	2	8.00	200	0.38
Dry Utilities	Rubber Tired Loaders	2	8.00	160	0.36
Dry Utilities	Tractors/Loaders/Backhoes	2	8.00	102	0.37
Street Improvements - Balancing/Aggregate Base	Cranes	0	7.00	231	0.29
Street Improvements - Balancing/Aggregate Base	Forklifts	0	8.00	89	0.20
Street Improvements - Balancing/Aggregate Base	Generator Sets	0	8.00	84	0.74
Street Improvements - Balancing/Aggregate Base	Graders	2	8.00	220	0.41
Street Improvements - Balancing/Aggregate Base	Off-Highway Trucks	2	8.00	200	0.38
Street Improvements - Balancing/Aggregate Base	Rollers	2	4.00	102	0.38
Street Improvements - Balancing/Aggregate Base	Scrapers	2	8.00	359	0.48
Street Improvements - Balancing/Aggregate Base	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Street Improvements - Balancing/Aggregate Base	Welders	0	8.00	46	0.45
Building Construction-1	Bore/Drill Rigs	0	8.00	221	0.50
Building Construction-1	Cranes	0	7.00	231	0.29
Building Construction-1	Forklifts	0	8.00	89	0.20

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Building Construction-1	Generator Sets	0	8.00	84	0.74
Building Construction-1	Off-Highway Trucks	0	8.00	200	0.38
Building Construction-1	Pumps	0	8.00	84	0.74
Building Construction-1	Skid Steer Loaders	1	8.00	65	0.37
Building Construction-1	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction-1	Welders	0	8.00	46	0.45
Street Improvements - Curb & Gutter	Pavers	2	8.00	130	0.42
Street Improvements - Curb & Gutter	Paving Equipment	0	8.00	132	0.36
Street Improvements - Curb & Gutter	Rollers	0	8.00	80	0.38
Street Improvements - Asphalt Paving	Graders	2	8.00	250	0.41
Street Improvements - Asphalt Paving	Graders	2	4.00	240	0.41
Street Improvements - Asphalt Paving	Pavers	2	8.00	173	0.42
Street Improvements - Asphalt Paving	Paving Equipment	0	8.00	132	0.36
Street Improvements - Asphalt Paving	Rollers	2	6.00	102	0.38
Street Improvements - Concrete Flatwork	Pavers	0	8.00	130	0.42
Street Improvements - Concrete Flatwork	Paving Equipment	0	8.00	132	0.36
Street Improvements - Concrete Flatwork	Rollers	0	8.00	80	0.38
Street Improvements - Concrete Flatwork	Tractors/Loaders/Backhoes	3	6.00	97	0.37
Building Construction-2	Cranes	0	7.00	231	0.29
Building Construction-2	Forklifts	1	8.00	89	0.20
Building Construction-2	Generator Sets	0	8.00	84	0.74
Building Construction-2	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction-2	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	1	8.00	78	0.48
Architectural Coating	Cement and Mortar Mixers	1	8.00	9	0.56
Architectural Coating	Pumps	1	8.00	84	0.74

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Building Construcion-3	Cranes	0	7.00	231	0.29
Building Construcion-3	Forklifts	1	8.00	89	0.20
Building Construcion-3	Generator Sets	0	8.00	84	0.74
Building Construcion-3	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construcion-3	Welders	0	8.00	46	0.45

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
Demo Structures and Improvements	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Haul off Demo Debris	1	0.00	0.00	440.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Clear and Grub	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Remedial, Remedial & Mass Excavation	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Export Excavation	4	0.00	0.00	8,230.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Wet Utilities	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Dry Utilities	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Balancing/Aggregate	10	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-1	2	0.00	2.00	8.00	0.19	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Curb & Gutter	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Asphalt Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Concrete Flatwork	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction-2	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	0.00	2.00	0.00	0.19	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construcion-3	1	0.00	2.00	2.00	0.19	0.19	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demo Structures and Improvements - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0186	0.1976	0.1330	2.8000e-004		8.1100e-003	8.1100e-003		7.4600e-003	7.4600e-003	0.0000	25.0487	25.0487	7.9300e-003	0.0000	25.2469
Total	0.0186	0.1976	0.1330	2.8000e-004	0.0000	8.1100e-003	8.1100e-003	0.0000	7.4600e-003	7.4600e-003	0.0000	25.0487	25.0487	7.9300e-003	0.0000	25.2469

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.2 Demo Structures and Improvements - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6600e-003	0.0764	0.1520	2.8000e-004		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	25.0487	25.0487	7.9300e-003	0.0000	25.2468
Total	4.6600e-003	0.0764	0.1520	2.8000e-004	0.0000	4.6000e-004	4.6000e-004	0.0000	4.6000e-004	4.6000e-004	0.0000	25.0487	25.0487	7.9300e-003	0.0000	25.2468

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.2 Demo Structures and Improvements - 2019**Mitigated Construction Off-Site**

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

3.3 Haul off Demo Debris - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4000e-004	7.9200e-003	4.1600e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.0428	1.0428	3.3000e-004	0.0000	1.0510
Total	7.4000e-004	7.9200e-003	4.1600e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.0428	1.0428	3.3000e-004	0.0000	1.0510

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.3 Haul off Demo Debris - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0674	0.0147	1.7000e-004	3.7600e-003	2.5000e-004	4.0200e-003	1.0300e-003	2.4000e-004	1.2700e-003	0.0000	17.1511	17.1511	1.5500e-003	0.0000	17.1899
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.9300e-003	0.0674	0.0147	1.7000e-004	3.7600e-003	2.5000e-004	4.0200e-003	1.0300e-003	2.4000e-004	1.2700e-003	0.0000	17.1511	17.1511	1.5500e-003	0.0000	17.1899

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	1.9000e-004	3.1100e-003	6.2600e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.0428	1.0428	3.3000e-004	0.0000	1.0510
Total	1.9000e-004	3.1100e-003	6.2600e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.0428	1.0428	3.3000e-004	0.0000	1.0510

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.3 Haul off Demo Debris - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0674	0.0147	1.7000e-004	3.7600e-003	2.5000e-004	4.0200e-003	1.0300e-003	2.4000e-004	1.2700e-003	0.0000	17.1511	17.1511	1.5500e-003	0.0000	17.1899
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.9300e-003	0.0674	0.0147	1.7000e-004	3.7600e-003	2.5000e-004	4.0200e-003	1.0300e-003	2.4000e-004	1.2700e-003	0.0000	17.1511	17.1511	1.5500e-003	0.0000	17.1899

3.4 Clear and Grub - 2019**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					1.3300e-003	0.0000	1.3300e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2400e-003	0.0477	0.0256	7.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	5.9387	5.9387	1.8800e-003	0.0000	5.9857
Total	4.2400e-003	0.0477	0.0256	7.0000e-005	1.3300e-003	1.8400e-003	3.1700e-003	1.4000e-004	1.6900e-003	1.8300e-003	0.0000	5.9387	5.9387	1.8800e-003	0.0000	5.9857

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.4 Clear and Grub - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-004	0.0000	6.0000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	0.0175	0.0353	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	5.9387	5.9387	1.8800e-003	0.0000	5.9857
Total	1.0900e-003	0.0175	0.0353	7.0000e-005	6.0000e-004	1.1000e-004	7.1000e-004	6.0000e-005	1.1000e-004	1.7000e-004	0.0000	5.9387	5.9387	1.8800e-003	0.0000	5.9857

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.4 Clear and Grub - 2019**Mitigated Construction Off-Site**

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

3.5 Remedial, Remedial & Mass Excavation - 2019**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					0.1982	0.0000	0.1982	0.0680	0.0000	0.0680	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1738	2.0890	1.1763	2.7100e-003		0.0789	0.0789		0.0726	0.0726	0.0000	243.2685	243.2685	0.0770	0.0000	245.1926
Total	0.1738	2.0890	1.1763	2.7100e-003	0.1982	0.0789	0.2771	0.0680	0.0726	0.1406	0.0000	243.2685	243.2685	0.0770	0.0000	245.1926

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.5 Remedial, Remedial & Mass Excavation - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0892	0.0000	0.0892	0.0306	0.0000	0.0306	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0444	0.7152	1.4416	2.7100e-003		4.4400e-003	4.4400e-003		4.4400e-003	4.4400e-003	0.0000	243.2682	243.2682	0.0770	0.0000	245.1924
Total	0.0444	0.7152	1.4416	2.7100e-003	0.0892	4.4400e-003	0.0936	0.0306	4.4400e-003	0.0350	0.0000	243.2682	243.2682	0.0770	0.0000	245.1924

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.5 Remedial, Remedial & Mass Excavation - 2019**Mitigated Construction Off-Site**

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

3.6 Export Excavation - 2019**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					0.0958	0.0000	0.0958	0.0478	0.0000	0.0478	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0430	0.4695	0.2956	4.9000e-004		0.0197	0.0197		0.0181	0.0181	0.0000	43.7089	43.7089	0.0138	0.0000	44.0547
Total	0.0430	0.4695	0.2956	4.9000e-004	0.0958	0.0197	0.1155	0.0478	0.0181	0.0659	0.0000	43.7089	43.7089	0.0138	0.0000	44.0547

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.6 Export Excavation - 2019**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	0.0362	1.2611	0.2751	3.2400e-003	0.0704	4.7100e-003	0.0751	0.0193	4.5100e-003	0.0239	0.0000	320.8032	320.8032	0.0290	0.0000	321.5293
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0362	1.2611	0.2751	3.2400e-003	0.0704	4.7100e-003	0.0751	0.0193	4.5100e-003	0.0239	0.0000	320.8032	320.8032	0.0290	0.0000	321.5293

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					0.0431	0.0000	0.0431	0.0215	0.0000	0.0215	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9500e-003	0.1282	0.2584	4.9000e-004		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	43.7089	43.7089	0.0138	0.0000	44.0546
Total	7.9500e-003	0.1282	0.2584	4.9000e-004	0.0431	7.9000e-004	0.0439	0.0215	7.9000e-004	0.0223	0.0000	43.7089	43.7089	0.0138	0.0000	44.0546

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.6 Export Excavation - 2019**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	0.0362	1.2611	0.2751	3.2400e-003	0.0704	4.7100e-003	0.0751	0.0193	4.5100e-003	0.0239	0.0000	320.8032	320.8032	0.0290	0.0000	321.5293
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0362	1.2611	0.2751	3.2400e-003	0.0704	4.7100e-003	0.0751	0.0193	4.5100e-003	0.0239	0.0000	320.8032	320.8032	0.0290	0.0000	321.5293

3.7 Wet Utilities - 2019**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	0.0877	0.8801	0.6089	1.6000e-003		0.0394	0.0394		0.0362	0.0362	0.0000	143.6449	143.6449	0.0455	0.0000	144.7811
Total	0.0877	0.8801	0.6089	1.6000e-003		0.0394	0.0394		0.0362	0.0362	0.0000	143.6449	143.6449	0.0455	0.0000	144.7811

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.7 Wet Utilities - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0256	0.5021	0.9549	1.6000e-003		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	143.6447	143.6447	0.0455	0.0000	144.7809
Total	0.0256	0.5021	0.9549	1.6000e-003		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	143.6447	143.6447	0.0455	0.0000	144.7809

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.7 Wet Utilities - 2019**Mitigated Construction Off-Site**

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

3.8 Dry Utilities - 2019**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	0.0214	0.2076	0.1563	2.9000e-004		0.0108	0.0108		9.9400e-003	9.9400e-003	0.0000	26.4247	26.4247	8.3600e-003	0.0000	26.6337
Total	0.0214	0.2076	0.1563	2.9000e-004		0.0108	0.0108		9.9400e-003	9.9400e-003	0.0000	26.4247	26.4247	8.3600e-003	0.0000	26.6337

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.8 Dry Utilities - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.8300e-003	0.1068	0.1941	2.9000e-004		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	26.4247	26.4247	8.3600e-003	0.0000	26.6337
Total	4.8300e-003	0.1068	0.1941	2.9000e-004		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	26.4247	26.4247	8.3600e-003	0.0000	26.6337

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.8 Dry Utilities - 2019**Mitigated Construction Off-Site**

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

3.9 Street Improvements - Balancing/Aggregate Base - 2019**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	0.0137	0.1618	0.0862	1.9000e-004		6.4500e-003	6.4500e-003		5.9300e-003	5.9300e-003	0.0000	17.4383	17.4383	5.5200e-003	0.0000	17.5763
Total	0.0137	0.1618	0.0862	1.9000e-004		6.4500e-003	6.4500e-003		5.9300e-003	5.9300e-003	0.0000	17.4383	17.4383	5.5200e-003	0.0000	17.5763

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.9 Street Improvements - Balancing/Aggregate Base - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.3000e-003	0.0547	0.1078	1.9000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	17.4383	17.4383	5.5200e-003	0.0000	17.5762
Total	3.3000e-003	0.0547	0.1078	1.9000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	17.4383	17.4383	5.5200e-003	0.0000	17.5762

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.9 Street Improvements - Balancing/Aggregate Base - 2019**Mitigated Construction Off-Site**

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

3.10 Building Construction-1 - 2019**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	0.0162	0.1767	0.1883	2.6000e-004		0.0106	0.0106		9.7400e-003	9.7400e-003	0.0000	23.6956	23.6956	7.5000e-003	0.0000	23.8830
Total	0.0162	0.1767	0.1883	2.6000e-004		0.0106	0.0106		9.7400e-003	9.7400e-003	0.0000	23.6956	23.6956	7.5000e-003	0.0000	23.8830

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.10 Building Construction-1 - 2019**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	4.0000e-005	1.2300e-003	2.7000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3118	0.3118	3.0000e-005	0.0000	0.3125
Vendor	1.8000e-004	6.6300e-003	1.8100e-003	1.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.5919	0.5919	1.2000e-004	0.0000	0.5949
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.2000e-004	7.8600e-003	2.0800e-003	1.0000e-005	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.9038	0.9038	1.5000e-004	0.0000	0.9074

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	6.1500e-003	0.1284	0.1995	2.6000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	23.6955	23.6955	7.5000e-003	0.0000	23.8830
Total	6.1500e-003	0.1284	0.1995	2.6000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	23.6955	23.6955	7.5000e-003	0.0000	23.8830

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.10 Building Construction-1 - 2019**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	4.0000e-005	1.2300e-003	2.7000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3118	0.3118	3.0000e-005	0.0000	0.3125
Vendor	1.8000e-004	6.6300e-003	1.8100e-003	1.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.5919	0.5919	1.2000e-004	0.0000	0.5949
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.2000e-004	7.8600e-003	2.0800e-003	1.0000e-005	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.9038	0.9038	1.5000e-004	0.0000	0.9074

3.11 Street Improvements - Curb & Gutter - 2019**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	1.4400e-003	0.0156	0.0145	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	2.1115	2.1115	6.7000e-004	0.0000	2.1282
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.1300e-003	0.0156	0.0145	2.0000e-005		7.7000e-004	7.7000e-004		7.0000e-004	7.0000e-004	0.0000	2.1115	2.1115	6.7000e-004	0.0000	2.1282

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.11 Street Improvements - Curb & Gutter - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9000e-004	0.0104	0.0178	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1115	2.1115	6.7000e-004	0.0000	2.1282
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.8000e-004	0.0104	0.0178	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1115	2.1115	6.7000e-004	0.0000	2.1282

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.11 Street Improvements - Curb & Gutter - 2019**Mitigated Construction Off-Site**

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

3.12 Street Improvements - Asphalt Paving - 2019**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	6.2500e-003	0.0773	0.0373	9.0000e-005		3.0500e-003	3.0500e-003		2.8100e-003	2.8100e-003	0.0000	7.8707	7.8707	2.4900e-003	0.0000	7.9329
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.9400e-003	0.0773	0.0373	9.0000e-005		3.0500e-003	3.0500e-003		2.8100e-003	2.8100e-003	0.0000	7.8707	7.8707	2.4900e-003	0.0000	7.9329

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.12 Street Improvements - Asphalt Paving - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3900e-003	0.0292	0.0544	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.8707	7.8707	2.4900e-003	0.0000	7.9329
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0800e-003	0.0292	0.0544	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.8707	7.8707	2.4900e-003	0.0000	7.9329

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.12 Street Improvements - Asphalt Paving - 2019**Mitigated Construction Off-Site**

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

3.13 Street Improvements - Concrete Flatwork - 2019**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	3.1400e-003	0.0316	0.0311	4.0000e-005		2.1100e-003	2.1100e-003		1.9400e-003	1.9400e-003	0.0000	3.7665	3.7665	1.1900e-003	0.0000	3.7963
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.8300e-003	0.0316	0.0311	4.0000e-005		2.1100e-003	2.1100e-003		1.9400e-003	1.9400e-003	0.0000	3.7665	3.7665	1.1900e-003	0.0000	3.7963

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.13 Street Improvements - Concrete Flatwork - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.4000e-004	0.0183	0.0316	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.7665	3.7665	1.1900e-003	0.0000	3.7963
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.6300e-003	0.0183	0.0316	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.7665	3.7665	1.1900e-003	0.0000	3.7963

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.13 Street Improvements - Concrete Flatwork - 2019**Mitigated Construction Off-Site**

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

3.14 Building Construction-2 - 2019**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	8.8000e-004	7.8600e-003	6.5700e-003	1.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	0.7550	0.7550	2.4000e-004	0.0000	0.7610
Total	8.8000e-004	7.8600e-003	6.5700e-003	1.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004	0.0000	0.7550	0.7550	2.4000e-004	0.0000	0.7610

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.14 Building Construction-2 - 2019**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9000e-004	3.7000e-003	6.3900e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.7550	0.7550	2.4000e-004	0.0000	0.7610
Total	1.9000e-004	3.7000e-003	6.3900e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.7550	0.7550	2.4000e-004	0.0000	0.7610

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.14 Building Construction-2 - 2019**Mitigated Construction Off-Site**

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

3.14 Building Construction-2 - 2020**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	0.0111	0.0999	0.0909	1.2000e-004		7.4400e-003	7.4400e-003		6.8500e-003	6.8500e-003	0.0000	10.3404	10.3404	3.3400e-003	0.0000	10.4240
Total	0.0111	0.0999	0.0909	1.2000e-004		7.4400e-003	7.4400e-003		6.8500e-003	6.8500e-003	0.0000	10.3404	10.3404	3.3400e-003	0.0000	10.4240

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.14 Building Construction-2 - 2020**Unmitigated Construction Off-Site**

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6600e-003	0.0517	0.0894	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.3404	10.3404	3.3400e-003	0.0000	10.4240
Total	2.6600e-003	0.0517	0.0894	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.3404	10.3404	3.3400e-003	0.0000	10.4240

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.14 Building Construction-2 - 2020**Mitigated Construction Off-Site**

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

3.15 Architectural Coating - 2020**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	0.6213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0435	0.3317	0.3517	6.1000e-004		0.0200	0.0200		0.0200	0.0200	0.0000	51.3793	51.3793	3.5100e-003	0.0000	51.4670
Total	0.6648	0.3317	0.3517	6.1000e-004		0.0200	0.0200		0.0200	0.0200	0.0000	51.3793	51.3793	3.5100e-003	0.0000	51.4670

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.15 Architectural Coating - 2020**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	4.1000e-004	0.0123	3.2700e-003	3.0000e-005	7.2000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.6000e-004	0.0000	2.8497	2.8497	2.2000e-004	0.0000	2.8552
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.1000e-004	0.0123	3.2700e-003	3.0000e-005	7.2000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.6000e-004	0.0000	2.8497	2.8497	2.2000e-004	0.0000	2.8552

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	0.6213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0104	0.2030	0.3510	6.1000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	51.3793	51.3793	3.5100e-003	0.0000	51.4669
Total	0.6318	0.2030	0.3510	6.1000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	51.3793	51.3793	3.5100e-003	0.0000	51.4669

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.15 Architectural Coating - 2020**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	4.1000e-004	0.0123	3.2700e-003	3.0000e-005	7.2000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.6000e-004	0.0000	2.8497	2.8497	2.2000e-004	0.0000	2.8552
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.1000e-004	0.0123	3.2700e-003	3.0000e-005	7.2000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.6000e-004	0.0000	2.8497	2.8497	2.2000e-004	0.0000	2.8552

3.15 Architectural Coating - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5868					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0373	0.2863	0.3301	5.7000e-004		0.0162	0.0162		0.0162	0.0162	0.0000	48.5250	48.5250	3.0100e-003	0.0000	48.6001
Total	0.6241	0.2863	0.3301	5.7000e-004		0.0162	0.0162		0.0162	0.0162	0.0000	48.5250	48.5250	3.0100e-003	0.0000	48.6001

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.15 Architectural Coating - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0105	2.8000e-003	3.0000e-005	6.8000e-004	2.0000e-005	7.0000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6667	2.6667	2.0000e-004	0.0000	2.6716
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2000e-004	0.0105	2.8000e-003	3.0000e-005	6.8000e-004	2.0000e-005	7.0000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6667	2.6667	2.0000e-004	0.0000	2.6716

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	0.5868					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.8500e-003	0.1917	0.3315	5.7000e-004		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	48.5249	48.5249	3.0100e-003	0.0000	48.6001
Total	0.5967	0.1917	0.3315	5.7000e-004		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	48.5249	48.5249	3.0100e-003	0.0000	48.6001

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.15 Architectural Coating - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0105	2.8000e-003	3.0000e-005	6.8000e-004	2.0000e-005	7.0000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6667	2.6667	2.0000e-004	0.0000	2.6716
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2000e-004	0.0105	2.8000e-003	3.0000e-005	6.8000e-004	2.0000e-005	7.0000e-004	2.0000e-004	2.0000e-005	2.2000e-004	0.0000	2.6667	2.6667	2.0000e-004	0.0000	2.6716

3.16 Building Construciton-3 - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.0937	0.0928	1.2000e-004		6.6500e-003	6.6500e-003		6.1200e-003	6.1200e-003	0.0000	10.6762	10.6762	3.4500e-003	0.0000	10.7625
Total	0.0103	0.0937	0.0928	1.2000e-004		6.6500e-003	6.6500e-003		6.1200e-003	6.1200e-003	0.0000	10.6762	10.6762	3.4500e-003	0.0000	10.7625

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.16 Building Construciton-3 - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0543	0.0543	0.0000	0.0000	0.0544
Vendor	2.3000e-004	9.5900e-003	2.3700e-003	1.0000e-005	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.9160	0.9160	1.6000e-004	0.0000	0.9200
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.4000e-004	9.7800e-003	2.4200e-003	1.0000e-005	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.9703	0.9703	1.6000e-004	0.0000	0.9744

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	2.7500e-003	0.0534	0.0923	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.6762	10.6762	3.4500e-003	0.0000	10.7625
Total	2.7500e-003	0.0534	0.0923	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.6762	10.6762	3.4500e-003	0.0000	10.7625

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.16 Building Construciton-3 - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	1.9000e-004	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0543	0.0543	0.0000	0.0000	0.0544
Vendor	2.3000e-004	9.5900e-003	2.3700e-003	1.0000e-005	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.9160	0.9160	1.6000e-004	0.0000	0.9200
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.4000e-004	9.7800e-003	2.4200e-003	1.0000e-005	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.9703	0.9703	1.6000e-004	0.0000	0.9744

3.16 Building Construciton-3 - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6400e-003	0.0338	0.0369	5.0000e-005		2.2400e-003	2.2400e-003		2.0600e-003	2.0600e-003	0.0000	4.2973	4.2973	1.3900e-003	0.0000	4.3321
Total	3.6400e-003	0.0338	0.0369	5.0000e-005		2.2400e-003	2.2400e-003		2.0600e-003	2.0600e-003	0.0000	4.2973	4.2973	1.3900e-003	0.0000	4.3321

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.16 Building Construciton-3 - 2022**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	7.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0216	0.0216	0.0000	0.0000	0.0216
Vendor	8.0000e-005	3.7600e-003	8.8000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.3656	0.3656	6.0000e-005	0.0000	0.3670
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.0000e-005	3.8300e-003	9.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.3871	0.3871	6.0000e-005	0.0000	0.3887

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	1.1100e-003	0.0215	0.0372	5.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.2973	4.2973	1.3900e-003	0.0000	4.3321
Total	1.1100e-003	0.0215	0.0372	5.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.2973	4.2973	1.3900e-003	0.0000	4.3321

Marja Acres Community Plan - San Diego County APCD Air District, Annual

3.16 Building Construcion-3 - 2022**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	7.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0216	0.0216	0.0000	0.0000	0.0216
Vendor	8.0000e-005	3.7600e-003	8.8000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.3656	0.3656	6.0000e-005	0.0000	0.3670
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.0000e-005	3.8300e-003	9.0000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.3871	0.3871	6.0000e-005	0.0000	0.3887

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

Increase Diversity

Increase Transit Accessibility

Integrate Below Market Rate Housing

Marja Acres Community Plan - San Diego County APCD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4858	1.8859	5.3678	0.0185	1.6733	0.0146	1.6879	0.4481	0.0136	0.4616	0.0000	1,713.3947	1,713.3947	0.0892	0.0000	1,715.6254
Unmitigated	0.5054	1.9861	5.8006	0.0205	1.8592	0.0160	1.8752	0.4978	0.0149	0.5127	0.0000	1,889.1583	1,889.1583	0.0969	0.0000	1,891.5805

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	114.08	114.08	114.08	325,733	293,160
Condo/Townhouse	1,353.24	1,353.24	1,353.24	3,863,911	3,477,520
Hardware/Paint Store	161.16	161.16	161.16	234,448	211,004
Parking Lot	0.00	0.00	0.00		
Quality Restaurant	429.80	429.80	429.80	509,814	458,833
Total	2,058.28	2,058.28	2,058.28	4,933,907	4,440,516

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Hardware/Paint Store	9.50	7.30	7.30	13.60	67.40	19.00	45	29	26
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

Marja Acres Community Plan - San Diego County APCD Air District, Annual

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Condo/Townhouse	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Hardware/Paint Store	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Parking Lot	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Quality Restaurant	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Marja Acres Community Plan - San Diego County APCD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	171.6873	171.6873	6.9100e-003	1.4300e-003	172.2862
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	555.4188	555.4188	0.0224	4.6300e-003	557.3560
NaturalGas Mitigated	0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	258.9079	258.9079	4.9600e-003	4.7500e-003	260.4465
NaturalGas Unmitigated	0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	258.9079	258.9079	4.9600e-003	4.7500e-003	260.4465

Marja Acres Community Plan - San Diego County APCD Air District, Annual

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	516373	2.7800e-003	0.0238	0.0101	1.5000e-004		1.9200e-003	1.9200e-003		1.9200e-003	1.9200e-003	0.0000	27.5556	27.5556	5.3000e-004	5.1000e-004	27.7194
Condo/Townhouse	3.62448e+006	0.0195	0.1670	0.0711	1.0700e-003		0.0135	0.0135		0.0135	0.0135	0.0000	193.4160	193.4160	3.7100e-003	3.5500e-003	194.5653
Hardware/Paint Store	13380	7.0000e-005	6.6000e-004	5.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7140	0.7140	1.0000e-005	1.0000e-005	0.7183
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
Quality Restaurant	697520	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2223	37.2223	7.1000e-004	6.8000e-004	37.4435
Total		0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	258.9079	258.9079	4.9600e-003	4.7500e-003	260.4465

Marja Acres Community Plan - San Diego County APCD Air District, Annual

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	516373	2.7800e-003	0.0238	0.0101	1.5000e-004		1.9200e-003	1.9200e-003		1.9200e-003	1.9200e-003	0.0000	27.5556	27.5556	5.3000e-004	5.1000e-004	27.7194
Condo/Townhouse	3.62448e+006	0.0195	0.1670	0.0711	1.0700e-003		0.0135	0.0135		0.0135	0.0135	0.0000	193.4160	193.4160	3.7100e-003	3.5500e-003	194.5653
Hardware/Paint Store	13380	7.0000e-005	6.6000e-004	5.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7140	0.7140	1.0000e-005	1.0000e-005	0.7183
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
Quality Restaurant	697520	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2223	37.2223	7.1000e-004	6.8000e-004	37.4435
Total		0.0262	0.2257	0.1105	1.4300e-003		0.0181	0.0181		0.0181	0.0181	0.0000	258.9079	258.9079	4.9600e-003	4.7500e-003	260.4465

Marja Acres Community Plan - San Diego County APCD Air District, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	195223	63.8006	2.5700e-003	5.3000e-004	64.0231
Condo/Townhouse	1.26588e+006	413.7004	0.0167	3.4500e-003	415.1434
Hardware/Paint Store	75360	24.6283	9.9000e-004	2.1000e-004	24.7142
Parking Lot	8260	2.6994	1.1000e-004	2.0000e-005	2.7089
Quality Restaurant	154800	50.5900	2.0400e-003	4.2000e-004	50.7665
Total		555.4188	0.0224	4.6300e-003	557.3560

Marja Acres Community Plan - San Diego County APCD Air District, Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	-13231.7	-4.3243	-0.0002	0.0000	-4.3393
Condo/Townhouse	896174	292.8775	0.0118	2.4400e-003	293.8990
Hardware/Paint Store	-133127	-43.5072	-0.0018	-0.0004	-43.6590
Parking Lot	-178432	-58.3133	-0.0024	-0.0005	-58.5167
Quality Restaurant	-46037.4	-15.0454	-0.0006	-0.0001	-15.0979
Total		171.6873	6.9100e-003	1.4200e-003	172.2862

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Marja Acres Community Plan - San Diego County APCD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3914	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026
Unmitigated	20.4481	0.3907	25.2949	0.0419		3.2484	3.2484		3.2484	3.2484	307.8214	132.7114	440.5328	0.2876	0.0242	454.9368

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	0.4786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	18.6984	0.3652	23.0811	0.0418		3.2362	3.2362		3.2362	3.2362	307.8214	129.0958	436.9172	0.2841	0.0242	451.2342
Landscaping	0.0667	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026
Total	20.4481	0.3907	25.2949	0.0419		3.2484	3.2484		3.2484	3.2484	307.8214	132.7114	440.5328	0.2876	0.0242	454.9368

Marja Acres Community Plan - San Diego County APCD Air District, Annual

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	0.1203					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2044					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	0.0667	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026
Total	1.3914	0.0255	2.2138	1.2000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	3.6156	3.6156	3.4800e-003	0.0000	3.7026

7.0 Water Detail**7.1 Mitigation Measures Water**

Use Grey Water

Marja Acres Community Plan - San Diego County APCD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	96.3658	0.6903	0.0170	118.6784
Unmitigated	142.0794	0.6922	0.0173	164.5514

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2.99709 / 1.88947	20.5649	0.0985	2.4700e-003	23.7620
Condo/Townhouse	16.4188 / 10.351	112.6600	0.5393	0.0135	130.1745
Hardware/Paint Store	0.444435 / 0.272396	3.0213	0.0146	3.7000e-004	3.4953
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.21413 / 0.077498	5.8332	0.0398	9.8000e-004	7.1196
Total		142.0794	0.6922	0.0174	164.5514

Marja Acres Community Plan - San Diego County APCD Air District, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	2.99709 / 0	13.7046	0.0982	2.4100e-003	16.8777
Condo/Townhouse	16.4188 / 0	75.0772	0.5378	0.0132	92.4606
Hardware/Paint Store	0.444435 / 0	2.0322	0.0146	3.6000e-004	2.5028
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.21413 / 0	5.5518	0.0398	9.8000e-004	6.8373
Total		96.3658	0.6903	0.0170	118.6784

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Marja Acres Community Plan - San Diego County APCD Air District, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	10.5180	0.6216	0.0000	26.0578
Unmitigated	42.0719	2.4864	0.0000	104.2314

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	21.16	4.2953	0.2538	0.0000	10.6414
Condo/Townhouse	115.92	23.5307	1.3906	0.0000	58.2963
Hardware/Paint Store	66.53	13.5050	0.7981	0.0000	33.4580
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	3.65	0.7409	0.0438	0.0000	1.8356
Total		42.0719	2.4864	0.0000	104.2314

Marja Acres Community Plan - San Diego County APCD Air District, Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	5.29	1.0738	0.0635	0.0000	2.6604
Condo/Townhouse	28.98	5.8827	0.3477	0.0000	14.5741
Hardware/Paint Store	16.6325	3.3763	0.1995	0.0000	8.3645
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	0.9125	0.1852	0.0110	0.0000	0.4589
Total		10.5180	0.6216	0.0000	26.0579

9.0 Operational Offroad

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

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

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

Boilers

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

Marja Acres Community Plan - San Diego County APCD Air District, Annual

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

ATTACHMENT B
AERMOD Input and HARP 2 Output Files

*** AERMOD - VERSION 18081 *** *** C:\Users\apoll\Desktop\HARP2\Marja Acres\MA2\Marja Acres\Marja Acres *** 05/18/18

*** AERMET - VERSION 16216 *** ***

*** 11:25:53

PAGE 1

*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL ADJ_U*

*** MODEL SETUP OPTIONS SUMMARY ***

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

**NO GAS DEPOSITION Data Provided.

**NO PARTICLE DEPOSITION Data Provided.

**Model Uses NO DRY DEPLETION. DRYDPLT = F

**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses RURAL Dispersion Only.

**Model Allows User-Specified Options:

1. Stack-tip Downwash.
2. Allow FLAT/ELEV Terrain Option by Source,
with 0 FLAT and 1 ELEV Source(s).
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.
6. Full Conversion Assumed for NO2.

**Other Options Specified:

ADJ_U* - Use ADJ_U* option for SBL in AERMET

CCVR_Sub - Meteorological data includes CCVR substitutions

TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: PM_10

**Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates PERIOD Averages

**This Run Includes: 1 Source(s); 1 Source Group(s); and 674 Receptor(s)

with: 0 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 0 VOLUME source(s)
and: 1 AREA type source(s)
and: 0 LINE source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with 0 line(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 16216

****Output Options Selected:**

Model Outputs Tables of PERIOD Averages by Receptor

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)

Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

****NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours**

Form for Missing Hours

b for Both Calm and Missing Hours

****Misc. Inputs:** Base Elev. for Pot. Temp. Profile (m MSL) = 27.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0

Emission Units = GRAMS/SEC

: Emission Rate Unit Factor = 0.10000E+07

Output Units = MICROGRAMS/M**3

****Approximate Storage Requirements of Model = 3.6 MB of RAM.**

**Input Runstream File: aermod.inp

```
**Output Print File:      aermod.out
```

****Detailed Error/Message File: Marja Acres.err**

****File for Summary of Results: Marja Acres.sum**

*** AERMOD - VERSION 18081 *** *** C:\Users\apoll\Desktop\HARP2\Marja Acres\MA2\Marja Acres\Marja Acres *** 05/18/18

*** AERMET - VERSION 16216 ***

*** 11:25:53

PAGE 2

*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL ADJ U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1	1 1 1 1 1			

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** AERMOD - VERSION 18081 *** *** C:\Users\apoll\Desktop\HARP2\Marja Acres\MA2\Marja Acres\Marja Acres *** 05/18/18

*** AERMET - VERSION 16216 ***

*** 11:25:53

PAGE 3

*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\..\CMP_2010_2012_v16126\CMP_2010_2012_v16126.SFC

Met Version: 16216

Profile file: ..\..\CMP_2010_2012_v16126\CMP_2010_2012_v16126.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3177

Upper air station no.: 3190

Name: UNKNOWN

Name: UNKNOWN

Year: 2010

Year: 2010

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS
WD	HT	REF	TA	HT													

10	01	01	1	01	-28.6	0.283	-9.000	-9.000	-999.	362.	88.3	0.25	0.41	1.00	2.68	47.	10.0	283.1	10.0
10	01	01	1	02	-28.6	0.283	-9.000	-9.000	-999.	362.	88.3	0.25	0.41	1.00	2.68	46.	10.0	283.1	10.0
10	01	01	1	03	-24.2	0.240	-9.000	-9.000	-999.	282.	63.1	0.26	0.41	1.00	2.24	28.	10.0	283.1	10.0
10	01	01	1	04	-24.2	0.240	-9.000	-9.000	-999.	281.	63.1	0.26	0.41	1.00	2.24	26.	10.0	283.1	10.0
10	01	01	1	05	-17.4	0.189	-9.000	-9.000	-999.	198.	39.2	0.26	0.41	1.00	1.79	28.	10.0	283.8	10.0
10	01	01	1	06	-23.7	0.235	-9.000	-9.000	-999.	273.	60.7	0.25	0.41	1.00	2.24	50.	10.0	282.5	10.0
10	01	01	1	07	-23.8	0.235	-9.000	-9.000	-999.	273.	60.6	0.25	0.41	1.00	2.24	41.	10.0	282.0	10.0
10	01	01	1	08	-26.3	0.386	-9.000	-9.000	-999.	576.	199.1	0.25	0.41	0.48	3.58	55.	10.0	283.1	10.0
10	01	01	1	09	19.7	0.268	0.296	0.008	48.	341.	-89.0	0.26	0.41	0.26	2.24	25.	10.0	284.9	10.0
10	01	01	1	10	49.7	0.237	0.513	0.008	98.	278.	-24.4	0.25	0.41	0.19	1.79	344.	10.0	288.8	10.0
10	01	01	1	11	69.8	0.170	0.752	0.009	222.	169.	-6.4	0.04	0.41	0.17	1.79	274.	10.0	288.1	10.0
10	01	01	1	12	79.5	0.135	0.919	0.008	355.	119.	-2.8	0.01	0.41	0.16	1.79	252.	10.0	288.8	10.0
10	01	01	1	13	78.2	0.202	0.989	0.008	449.	218.	-9.6	0.04	0.41	0.16	2.24	277.	10.0	288.8	10.0
10	01	01	1	14	66.1	0.229	0.979	0.008	515.	263.	-16.5	0.04	0.41	0.17	2.68	286.	10.0	288.8	10.0
10	01	01	1	15	43.7	0.193	0.875	0.008	555.	204.	-15.0	0.04	0.41	0.20	2.24	289.	10.0	289.2	10.0
10	01	01	1	16	12.7	0.118	0.582	0.008	565.	99.	-11.9	0.04	0.41	0.30	1.34	292.	10.0	288.8	10.0
10	01	01	1	17	-2.0	0.064	-9.000	-9.000	-999.	40.	11.8	0.04	0.41	0.57	0.89	294.	10.0	288.1	10.0
10	01	01	1	18	-2.2	0.066	-9.000	-9.000	-999.	41.	11.9	0.04	0.41	1.00	0.89	287.	10.0	287.5	10.0
10	01	01	1	19	-4.1	0.091	-9.000	-9.000	-999.	66.	16.9	0.25	0.41	1.00	0.89	338.	10.0	287.5	10.0
10	01	01	1	20	-21.4	0.216	-9.000	-9.000	-999.	240.	51.1	0.19	0.41	1.00	2.24	85.	10.0	286.4	10.0
10	01	01	1	21	-1.6	0.070	-9.000	-9.000	-999.	68.	19.1	0.28	0.41	1.00	0.45	95.	10.0	286.4	10.0
10	01	01	1	22	-9.4	0.138	-9.000	-9.000	-999.	123.	25.2	0.26	0.41	1.00	1.34	29.	10.0	285.4	10.0
10	01	01	1	23	-23.4	0.235	-9.000	-9.000	-999.	273.	60.7	0.25	0.41	1.00	2.24	58.	10.0	284.9	10.0
10	01	01	1	24	-23.5	0.235	-9.000	-9.000	-999.	273.	60.7	0.25	0.41	1.00	2.24	33.	10.0	284.2	10.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
10	01	01	01	10.0	1	47.	2.68	283.2	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

*** AERMOD - VERSION 18081 *** *** C:\Users\apoll\Desktop\HARP2\Marja Acres\MA2\Marja Acres\Marja Acres *** 05/18/18

*** AERMET - VERSION 16216 *** ***

*** 11:25:53

PAGE 4

*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (26304 HRS) RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3

**

GROUP ID	AVERAGE CONC	NETWORK	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE
GRID-ID			

ALL 1ST HIGHEST VALUE IS 35.74528 AT (471536.99, 3668053.88, 27.55, 33.64, 0.00) DC
2ND HIGHEST VALUE IS 34.20802 AT (471536.99, 3668033.88, 28.20, 33.64, 0.00) DC
3RD HIGHEST VALUE IS 32.17480 AT (471536.99, 3668073.88, 27.49, 59.06, 0.00) DC
4TH HIGHEST VALUE IS 29.41170 AT (471556.99, 3668053.88, 27.34, 33.02, 0.00) DC
5TH HIGHEST VALUE IS 28.13647 AT (471556.99, 3668033.88, 28.11, 33.39, 0.00) DC
6TH HIGHEST VALUE IS 28.02365 AT (471536.99, 3668013.88, 30.64, 33.64, 0.00) DC
7TH HIGHEST VALUE IS 27.37339 AT (471556.99, 3668073.88, 27.16, 56.75, 0.00) DC
8TH HIGHEST VALUE IS 26.23100 AT (471536.99, 3668093.88, 27.33, 60.41, 0.00) DC
9TH HIGHEST VALUE IS 24.66660 AT (471576.99, 3668053.88, 27.36, 27.36, 0.00) DC
10TH HIGHEST VALUE IS 24.40531 AT (471436.99, 3667953.88, 29.96, 34.29, 0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART

GP = GRIDPOLR

DC = DISCCART

DP = DISCPOLR

*** AERMOD - VERSION 18081 *** ** C:\Users\apoll\Desktop\HARP2\Marja Acres\MA2\Marja Acres\Marja Acres *** 05/18/18

*** AERMET - VERSION 16216 *** **

*** 11:25:53

PAGE 5

*** MODELOPTs: NonDFAULT CONC FLAT and ELEV RURAL ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3

**

GROUP ID	DATE	AVERAGE CONC (YYMMDDHH)	NETWORK	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE
GRID-ID				

ALL HIGH 1ST HIGH VALUE IS 3421.91762 ON 11012417: AT (471716.99, 3668013.88, 23.63, 31.54, 0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART

GP = GRIDPOLR

DC = DISCCART

DP = DISCPOLR

*** AERMOD - VERSION 18081 *** ** C:\Users\apoll\Desktop\HARP2\Marja Acres\MA2\Marja Acres\Marja Acres *** 05/18/18

*** AERMET - VERSION 16216 *** **

*** 11:25:53

PAGE 6

*** MODELOPTs: NonDFAULT CONC FLAT and ELEV RURAL ADJ_U*

*** Message Summary : AERMOD Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 38 Warning Message(s)
A Total of 459 Informational Message(s)

A Total of 26304 Hours Were Processed

A Total of 57 Calm Hours Identified

A Total of 402 Missing Hours Identified (1.53 Percent)

***** FATAL ERROR MESSAGES *****

*** NONE ***

***** WARNING MESSAGES *****

ME W186	85	MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used	0.50
ME W187	85	MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET	
MX W441	14167	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081407
MX W441	14168	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081408
MX W441	14169	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081409
MX W441	14170	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081410
MX W441	14171	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081411
MX W441	14172	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081412
MX W441	14173	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081413
MX W441	14174	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081414
MX W441	14175	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081415
MX W441	14176	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081416
MX W441	14177	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081417
MX W441	14178	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081418
MX W441	14191	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081507
MX W441	14192	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081508
MX W441	14193	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081509
MX W441	14194	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081510
MX W441	14195	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081511
MX W441	14196	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081512
MX W441	14197	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081513
MX W441	14198	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081514
MX W441	14199	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081515
MX W441	14200	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081516
MX W441	14201	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081517
MX W441	14202	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081518
MX W441	14215	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081607
MX W441	14216	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081608
MX W441	14217	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081609
MX W441	14218	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081610
MX W441	14219	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081611
MX W441	14220	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081612
MX W441	14221	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081613

MX W441	14222	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081614
MX W441	14223	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081615
MX W441	14224	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081616
MX W441	14225	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081617
MX W441	14226	METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=	11081618

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully

RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 3

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 1
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors

Worker adjustment factors enabled: NO

****Fraction at time at home****
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Users\Public\Desktop\Lakes Environmental\Marja Acres\MA2\Marja Acres\hra\const-13 HCancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\Public\Desktop\Lakes Environmental\Marja Acres\MA2\Marja Acres\hra\const-13 HCancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: C:\Users\Public\Desktop\Lakes Environmental\Marja Acres\MA2\Marja Acres\hra\const-13 HNCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\Public\Desktop\Lakes Environmental\Marja Acres\MA2\Marja Acres\hra\const-13 HNCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: C:\Users\Public\Desktop\Lakes Environmental\Marja Acres\MA2\Marja Acres\hra\const-13 HNCACuteRisk.csv
Acute risk total by receptor saved to: C:\Users\Public\Desktop\Lakes Environmental\Marja Acres\MA2\Marja Acres\hra\const-13 HNCACuteRiskSumByRec.csv
HRA ran successfully

APPENDIX C
Carlsbad Climate Action Plan
Consistency Checklist

INTRODUCTION

In September 2015, the City of Carlsbad adopted a Climate Action Plan (CAP) that outlines actions that the city will undertake to achieve its proportional share of state greenhouse gas (GHG) emissions reductions. The purpose of the CAP Consistency Checklist (Checklist) is to, in conjunction with the CAP, provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA).

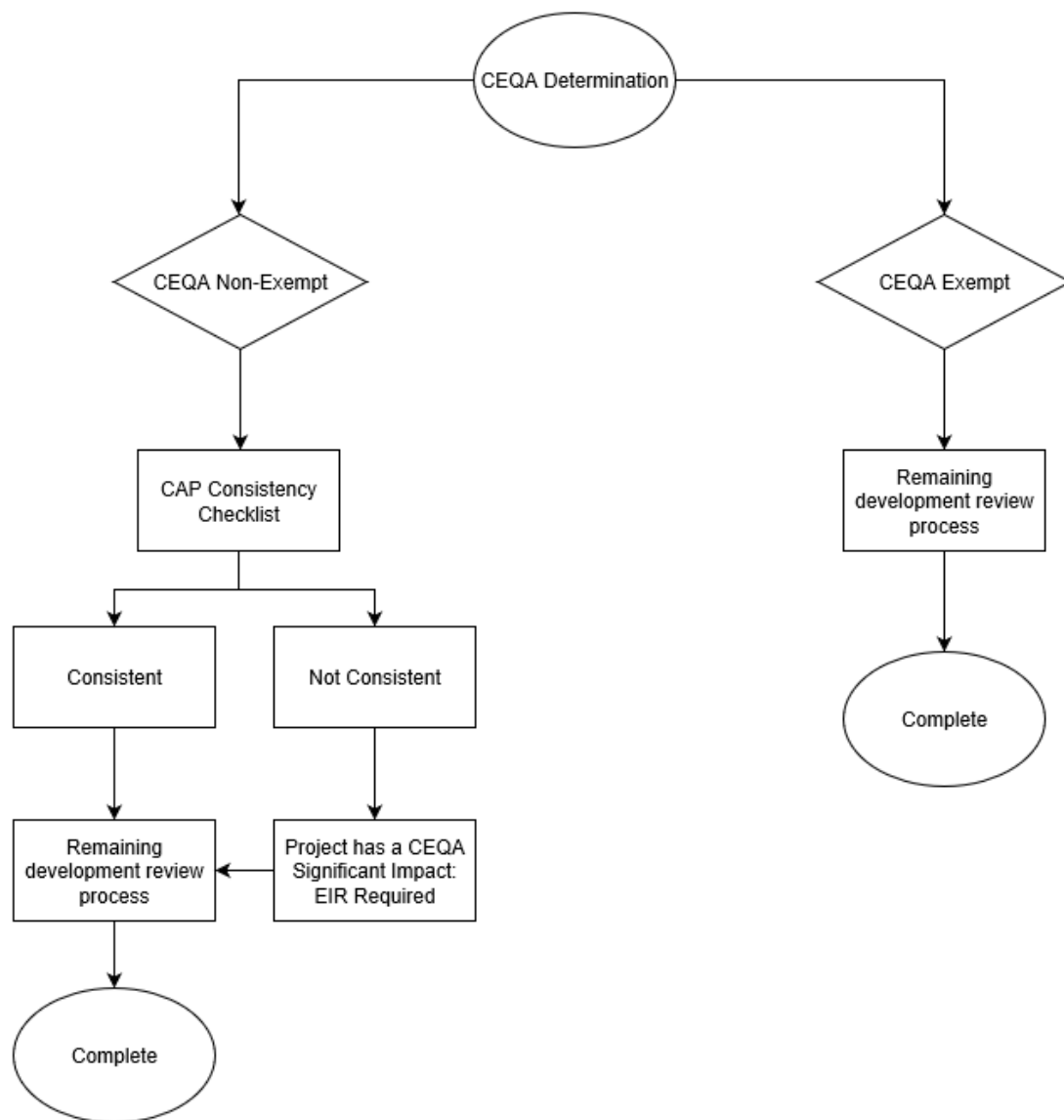
Analysis of GHG emissions and potential climate change impacts from new development is required under CEQA. The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP.

This Checklist contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP's assumption for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP as determined through the use of this Checklist may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

The Checklist may be updated from time to time to incorporate new GHG reduction techniques or to comply with later amendments to the CAP or local, state, or federal law.

APPLICATION SUBMITTAL REQUIREMENTS

- ▲ The Checklist is required only for projects subject to CEQA review. The diagram below shows the context for the CAP Consistency Checklist within the planning review process framework.
- ▲ If required, the Checklist must be included in the project submittal package. Application submittal procedures can be found on the City of Carlsbad website [here](#).
- ▲ The requirements in the Checklist will be included in the project's conditions of approval.
- ▲ The applicant must provide an explanation of how the proposed project will implement the requirements described herein to the satisfaction of the Planning Division.
- ▲ If a question in the Checklist is deemed not applicable to a project, an explanation must be provided to the satisfaction of the Planning Division.



Application Information			
Contact Information			
Project No./Name:	Marja Acres Community Plan		
Property Address/APN:	APN 207-101-35 and 207-101-37		
Applicant Name/Co.:	New Urban West, Inc.		
Contact Phone:	925-708-3638	Contact Email:	jonathan@nuwi.com
Was a consultant retained to complete this checklist?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, complete the following	
Consultant Name:	Adam Poll	Contact Phone:	805-308-8516
Company Name:	Dudek	Contact Email:	apoll@dudek.com
Project Information			
1. What is the size of the project (acres)?	20.65		
2. Identify all applicable proposed land uses:			
<input checked="" type="checkbox"/> Residential (indicate # of one- and two-family units):	298		
<input type="checkbox"/> Residential (indicate # of multi-family units):			
<input checked="" type="checkbox"/> Commercial (indicate total square footage):	10,000		
<input type="checkbox"/> Hotel (indicate # of rooms):			
<input type="checkbox"/> Industrial (indicate total square footage):			
<input type="checkbox"/> Other (describe):			
3. Provide a brief description of the project proposed:			
The project includes 299 townhomes comprised of 253 market rate and 46 age restricted affordable units.			
The project also includes a sit-down restaurant, 5,700 square feet of retail space, a community farm, and open space.			

CAP CONSISTENCY CHECKLIST QUESTIONS

STEP 1: LAND USE CONSISTENCY

The first step in this section evaluates a project's GHG emissions consistent with guidance provided by the California Air Pollution Control Officers Association (CAPCOA). New non-exempt (i.e., subject to CEQA review) discretionary development projects that emit fewer than 900 metric tons of carbon dioxide equivalent (MTCO₂e) would not contribute considerably to cumulative climate change impacts as stated in the CAP, and therefore, do not need to demonstrate consistency with the CAP.

For projects that are subject to the CAP consistency evaluation, the first step in determining CAP consistency for discretionary development is to assess the project's consistency with the growth projections used in the development of the CAP. This section allows the city to determine a project's consistency with the land use assumptions used in the CAP.

Step 1: Land Use Consistency		
Checklist Item (Check the appropriate box and provide explanation and supporting documentation for your answer)	Yes	No
<p>1. The size and type of projects listed below would emit fewer than 900 MTCO₂e per year. Based on this threshold, does the proposed project equal or exceed these characteristics?</p> <ul style="list-style-type: none"> • <u>Single-Family Housing</u>: 50 dwelling units • <u>Multi-Family Housing</u>: 70 dwelling units • <u>Office</u>: 35,000 square feet • <u>Retail Store</u>: 11,000 square feet • <u>Grocery Store</u>: 6,300 square feet • <u>Other</u>: For project types not listed in this section, including changes in use of, or enlargement of an existing building that results in a net increase in GHG emissions, the need for GHG analysis and mitigation will be made on a project-specific basis, considering the 900 MTCO₂e screening threshold. 	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If **"Yes"**, proceed to Question 2.

If **"No"**, in accordance with the City's CAP screening criteria, the project's GHG impact is less than significant and not subject to the measures of the CAP.

<p>2. Is the proposed project consistent with the existing General Plan land use and zoning designations?</p> <p>OR,</p> <p>If the proposed project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations?</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--	-------------------------------------	--------------------------

If **"Yes"**, proceed to Step 2 of the Checklist. For the second option under question 2 above, provide estimated project emissions under both existing and proposed designation(s) for comparison. Emissions must be estimated in accordance with the City's Guidance to Demonstrating Consistency with the Climate Action Plan.

If **"No"**, the project's GHG impact is potentially significant and must be analyzed in accordance with CEQA. The project must prepare a GHG analysis in accordance with the City of Carlsbad's Guidance to Demonstrating Consistency with the Climate Action Plan to demonstrate how it would offset the increase in emissions over the existing designations. The project must incorporate each of the measures identified in Step 2 to mitigate cumulative GHG emissions impacts unless the decision maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091. Proceed and complete a project-specific GHG analysis and Step 2 of the Checklist.

STEP 2: CAP MEASURES CONSISTENCY

The second step of the CAP consistency review is to review and evaluate a project's consistency with the applicable measures and actions of the CAP. Step 2 only applies to development projects that involve permits that may require a certificate of occupancy from the Building Official.¹ All other development projects that would not require a certificate of occupancy from the Building Official shall implement all emissions-related mitigation measures from the [General Plan Update EIR](#).

Step 2: CAP Measures Consistency			
Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
Residential, Commercial and Industrial Photovoltaic Systems			
1. Residential Photovoltaic Systems Does the project include photovoltaic systems with a minimum average system size of 1.6 kilowatts ² for each residential unit? Check " N/A " only if the project does not contain any residential buildings.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Commercial and Industrial Photovoltaic Systems For new nonresidential projects with more than 50 cars surface parked or on roofs of parking structures, would the project include photovoltaic panels over at least half of the surface/roof-parked cars to achieve a minimum system size equivalent to 2.5 kilowatts ² per covered parking space (up to 45 percent of project's expected annual electricity use)? OR Would the project provide equivalent energy generation onsite through rooftop photovoltaic panels or other means? Check " N/A " only if the project does not contain any non-residential buildings or provides 50 or fewer parking spaces.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Efficient Lighting Standards			
3. LED Lighting and Other Energy Efficient Lamps Would at least 75 percent of the luminaires provided by the project be comprised of LED or other similarly efficient lighting?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solar Water Heater/Heat Pump Installation			
4. Solar Water Heating <ul style="list-style-type: none"> <u>Residential Units</u>: Does the project include a solar water heating system capable of producing 2,300 kWh/year or 112 therms/year of total energy required for water heating? <u>Commercial Projects</u>: Does the project include a solar water heating system capable of producing at least 50 percent of total energy required for water heating? <u>Restaurants of 8,000 square feet or greater with a service water heater rated 75,000 Btu/h or greater</u>: Does the project include installation of a 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

¹ Actions that are not subject to Step 2 would include, for example: 1) discretionary map actions that do not propose specific development; 2) permits allowing wireless communication facilities; 3) special events permits; 4) conditional use permits that do not result in the use intensification or expansion of an existing building; and 5) non-building infrastructure projects such as roads and pipelines. Because such actions would not result in new occupancy buildings from which GHG emissions reductions could be achieved, the items contained in Step 2 would not be applicable.

² System size rated as Direct Current (DC) under Standard Test Conditions (STC).

City of Carlsbad Climate Action Plan Consistency Checklist

Step 2: CAP Measures Consistency			
Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
<p>solar water-heating system with a minimum solar saving fraction of 0.15 consistent with non-residential voluntary standards of the California Green Building Standards Code?³</p> <p>Exceptions to this measure include:</p> <ol style="list-style-type: none"> 1. Buildings with a natural gas service water heater with a minimum of 95 percent thermal efficiency. 2. Buildings where greater than 75 percent of the total roof area has annual solar access that is less than 70 percent. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access. <p>In lieu of solar water heaters, the project may propose to include heat pump water heaters to reduce the water heating load by 50 percent.</p> <p>Check "N/A" if the project does not contain any residential or non-residential buildings.</p>			
Transportation Demand Management			
<p>5. Transportation Demand Management</p> <p>For non-residential projects with more than 50 employees, would the project include a transportation demand management (TDM) plan reviewed and approved by the City of Carlsbad Transportation Division (see Attachment A, Transportation Demand Management Plan template)?</p> <p>Check "N/A" if the project is a residential project or if it would not accommodate more than 50 employees.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Increased Zero-Emissions Vehicle (ZEV) Travel			
<p>6. Zero-Emission Vehicle Infrastructure</p> <ul style="list-style-type: none"> • <u>One- and two-family dwellings and townhouses with attached private garages:</u> Would the required parking serving each new dwelling be "EV Ready"⁴ to allow for the future installation of electric vehicle supply equipment to provide an electric vehicle charging station for use by the resident? • <u>Multi-Family Projects of fewer than 17 dwelling units:</u> Would a minimum of one parking space be "EV Ready" to allow for the future installation of electric vehicle supply equipment to provide electric vehicle charging stations at such time as it is needed for use by residents? • <u>Multi-Family Projects of 17 or more dwelling units:</u> Would five percent of the total parking spaces required, or a minimum of two spaces, whichever is greater, be "EV Capable"⁵ to allow for the future installation of electric vehicle supply equipment to provide electric vehicle charging stations at such time as it is needed for use by residents? Of the total "EV Capable" spaces provided, would 50 percent of them, or a minimum of one, 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

³ Btu/h=British thermal unit per hour; solar saving fraction defined as the amount of energy provided by solar technology divided by the total energy required.

⁴ "EV Ready" means a parking space that is pre-wired with a dedicated 208/240 branch circuit installed in conduit that originates at the electrical service panel or sub-panel and 40 ampere minimum overcurrent protection device, and terminates into a cabinet, box or enclosure, in a manner approved by the building official.

⁵ "EV Capable" means a parking space that has a cabinet, box or enclosure connected to a conduit linking the parking space to the electrical service panel in a manner approved by the building official. The electrical service panel shall provide sufficient capacity to simultaneously charge all electric vehicles with or without a load management system.

City of Carlsbad Climate Action Plan Consistency Checklist

Step 2: CAP Measures Consistency			
Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
<p>whichever is greater, have the necessary electric vehicle supply equipment to provide active charging stations ready for use by residents and guests?</p> <ul style="list-style-type: none"> <u>Non-residential projects:</u> Would six percent of the total parking spaces required, or a minimum of one space, whichever is greater, be "EV Capable" to allow for the future installation of electric vehicle supply equipment to provide electric vehicle charging stations at such time as it is needed for use by future occupants? Of the total "EV Capable" spaces provided, would 50 percent of them, or a minimum of one, whichever is greater, have the necessary electric vehicle supply equipment to provide active charging stations ready for use by customers and employees? 			
Water Utilities System Improvements			
<p>7. For one- and two-family residential projects, does the project include:</p> <ul style="list-style-type: none"> Waste piping to permit the discharge of greywater to be used for outdoor irrigation in compliance with Section 1502 of the California Plumbing Code?⁶ <p>Check "N/A" if the project does not include residential buildings.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

⁶ Pursuant to Health and Safety Code Section 17922.12, greywater means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. Greywater includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers.



**Transportation Demand Management (TDM) Plan
Commercial Buildings V 1.2**

Effective Date of Architect/Developer TDM Plan: _____

**PHASE I: ARCHITECT/DEVELOPER
SECTION I: GENERAL INFORMATION**

Developer:			
Architect/Developer:			
Primary Contact:			
Mailing Address:			
Phone:			
Email:			

SECTION II: PROJECT INFORMATION

Project Address:	

SECTION III: CAP ALIGNMENT

Climate Action Plan Measure K: Promote Transportation Demand Management

--

SECTION IV: FACILITIES

Describe how you have incorporated the following Facility Standards into the design of your project plans. Include the number of amenities within each category as well as a site map. Please list at least one item from each of the six categories.

1) Bike Parking Requirements

- ☐ Secure Bicycle Parking
- ☐ Bikes available for employees
- ☐ End-of-trip facilities such as showers and changing rooms with lockers

--



**Transportation Demand Management (TDM) Plan
Commercial Buildings V 1.2**

2) Pedestrian Facilities

- ☐ Pedestrian Access to the Public Sidewalk
- ☐ Direct Routes from Public Sidewalk to Each Building in the Project

3) Transit Facilities

- ☐ Convenient Access to Transit

4) Vehicle Facilities

- ☐ Preferential Parking for Carpools and Vanpools
- ☐ Convenient Drop-off for Carpools and Vanpools Onsite

5) Facilities: On-Site Amenities

- ☐ Café or Full Service Café
- ☐ Kitchen capable of providing catering
- ☐ Conference Center/Meeting Rooms
- ☐ Conference Communication Equipment
- ☐ Wellness Center/Gym
- ☐ Athletic Facilities
- ☐ Delivery Services/Employee Service Venue; dry cleaning and/or other convenient services



**Transportation Demand Management (TDM) Plan
Commercial Buildings V 1.2**

6) Additional (Optional) Programs and Services:

- ☐ Mobility Hub Services (transportation options, shuttle, bus service, etc.)
- ☐ EV Infrastructure
- ☐ Parking Management Plan

--

SECTION V: AUTHORIZATION

Name and Signature of Designated Property Management Contact:

Printed Name	Signature	Date

Name and Signature of City of Carlsbad Representative:

Printed Name	Signature	Date



**Transportation Demand Management (TDM) Plan
Commercial Buildings V 1.2**

Effective Date of TDM Plan: _____

PHASE II: COMPANY TDM PROGRAM

SECTION I: GENERAL INFORMATION

Company:			
Property Manager/ Human Resources Manager:			
Primary Contact:			
Mailing Address:			
Phone:			
Email:			

SECTION II: PROJECT INFORMATION

Project Address:	

SECTION III: CAP ALIGNMENT

Climate Action Plan Measure K: Promote Transportation Demand Management

--

SECTION IV: PROGRAMS

The following Programs 1-7 must be implemented within one year of project completion. Please list at least one item from each of the six categories.



**Transportation Demand Management (TDM) Plan
Commercial Buildings V 1.2**

1) Completion of Annual Survey:

- ☐ Agree to conduct a TDM survey or an iCommute survey annually.

2) Designated On-site Transportation Coordinator:

- ☐ Agree to designate an on-site transportation coordinator to be the point of contact with the City, regarding transportation demand management facilities and programs. This person shall serve as the on-site coordinator.

3) Information Board or Kiosk:

- ☐ Information Board or Kiosk in Prominent Location for Residents, with resources on all modes of transportation.

4) On-Site Transit Pass Sales or Pre-Tax Transit Pass Program:

- ☐ On-Site Transit Pass Sales
☐ Pre-Tax Transit Pass Program (if applicable) or similar program
☐ Information about transit services to your location

5) Participation in Guaranteed Ride Home or similar program

- ☐ Agree to participate in a Guaranteed Ride Home Program when a personal emergency situation arises for tenant who uses an alternative commute mode to get to work (or from work to home).



**Transportation Demand Management (TDM) Plan
Commercial Buildings V 1.2**

6) Rideshare Services

- ☐ Rideshare matching services, subsidies or pre-tax donation
- ☐ Vanpool Services
- ☐ Car Sharing Services
- ☐ Assistance in Finding Commute Alternatives

--

7) Additional (Optional) Programs and Services:

- ☐ Telecommute Program
- ☐ Flexible work hours or compressed work week
- ☐ Parking Management Plan
- ☐ Other On-Site Amenities

--

SECTION V: AUTHORIZATION

Name and Signature of Designated Property Management or Human Resources Manager Contact:

Printed Name	Signature	Date

Name and Signature of on-site transportation coordinator: (preferred)

Printed Name	Signature	Date

Name and Signature of City of Carlsbad Representative:

Printed Name	Signature	Date