# Appendix 8.0 Greenhouse Gas Emissions Assessment

# Greenhouse Gas Emissions Assessment Won Meditation Center City of Wildomar, California



# Prepared by:

Kimley-Horn and Associates, Inc.

765 The City Drive, Suite 200 Orange, California 92868 Contact: Mr. Ace Malisos 714.939.1030

# **TABLE OF CONTENTS**

1	INTRODUCTION	
1.1	Project Location	1
1.2	Project Description	1
2	ENVIRONMENTAL SETTING	
2.1	Greenhouse Gases and Climate Change	5
3	REGULATORY SETTING	
3.1	Federal	7
3.2	State of California	8
3.3	Regional	14
4	SIGNIFICANCE CRITERIA AND METHODOLOGY	
4.1	Thresholds and Significant Criteria	16
4.2	Methodology	16
5	POTENTIAL GREENHOUSE GAS IMPACTS AND MITIGATION	
5.1	Greenhouse Gas Emissions	17
5.2	Greenhouse Gas Reduction Plan Compliance	18
5.3	Cumulative Setting, Impacts, and Mitigation Measures	23
6	REFERENCES	
	References	25
TABLES		
Table 1	Description of Greenhouse Gases	6
Table 2	Construction-Related Greenhouse Gas Emissions	17
Table 3	Project Greenhouse Gas Emissions	18
Table 4	Regional Transportation Plan/Sustainable Communities Strategy Consistency	19
Table 5	Project Consistency with Applicable CARB Scoping Plan Measures	21
EXHIBITS		
Exhibit 1	Regional Vicinity	2
Exhibit 2	Site Vicinity	
Exhibit 3	Site Plan	
		· · · · · · · · · · · · · · · · · · ·

#### **APPENDIX**

Appendix A: Greenhouse Gas Emissions Data

Greenhouse Gas Emissions Assessment

#### **LIST OF ABBREVIATED TERMS**

AB Assembly Bill

APN Assessor's Parcel Number
CAP Climate Action Plan

CARB California Air Resource Board
CCR California Code of Regulations

CalEEMod California Emissions Estimator Model
CEQA California Environmental Quality Act
CALGreen Code California Green Building Standards Code
CPUC California Public Utilities Commission

CO<sub>2</sub> carbon dioxide

CO<sub>2</sub>e carbon dioxide equivalent

CFC chlorofluorocarbon
CPP Clean Power Plan

CCSP Climate Change Scoping Plan

cy cubic yard

EPA Environmental Protection Agency

FCAA Federal Clean Air Act
FR Federal Register
GHG greenhouse gas

HCFC hydrochlorofluorocarbon

HFC hydrofluorocarbon

HVAC heating ventilation air conditioning

LCFS Low Carbon Fuel Standard

CH<sub>4</sub> methane

MMTCO<sub>2</sub>e million metric tons of carbon dioxide equivalent

MTCO₂e million tons of carbon dioxide equivalent

NHTSA National Highway Traffic Safety Administration

 $NF_3$  nitrogen trifluoride  $N_2O$  nitrous oxide PFC perfluorocarbon

RTP/SCS Regional Transportation Plan/Sustainable Communities Strategy

SB Senate Bill

SCAB South Coast Air Basin

SCAQMD South Coast Air Quality Management District
SCAG Southern California Association of Governments

Sf square foot

SF<sub>6</sub> sulfur hexafluoride
TAC toxic air contaminants

WRCOG Western Riverside Council of Governments

Greenhouse Gas Emissions Assessment

#### 1 INTRODUCTION

This report documents the results of a Greenhouse Gas (GHG) Emissions Assessment completed for the Won Meditation Center Project (Project). The purpose of this GHG Emissions Assessment is to evaluate the potential construction and operational emissions associated with the proposed Project and determine the level of impact the Project would have on the environment.

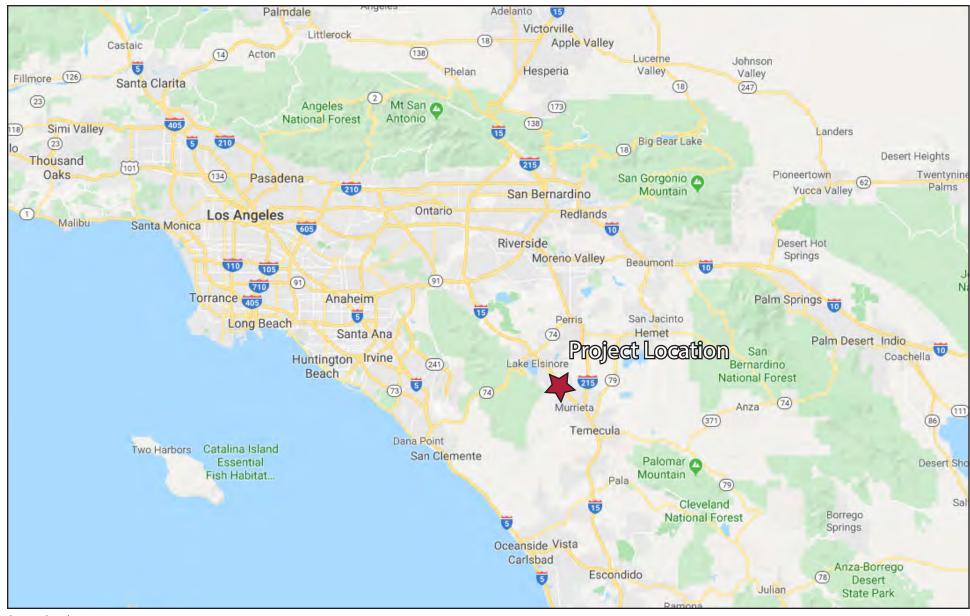
#### 1.1 PROJECT LOCATION

The Project is generally located southwest of Interstate 15 (I-15) and southeast of Lake Elsinore in the City of Wildomar, California; refer to <a href="Exhibit 1: Regional Vicinity">Exhibit 1: Regional Vicinity</a>. More specifically, the Project is located southwest of I-15 and southwest of Grand Avenue; refer to <a href="Exhibit 2: Site Vicinity">Exhibit 2: Site Vicinity</a>. The Project site includes Assessor Parcel Numbers (APN) 381-140-002 and 382-150-001 and currently consists of one existing two-story single-family home and vacant land uses. Land uses surrounding the Project are mostly residential developments and vacant land. Areas to the south and southwest are comprised of undeveloped hillsides. A vacant lot occupies the adjacent parcel to the east. Areas to the west, north, and east (beyond the adjacent parcel) are occupied by single-family residential neighborhoods.

#### 1.2 PROJECT DESCRIPTION

The Project proposes the development of a recreational retreat/meditation center that includes: a 7,840 square-foot (sf) meditation hall with kitchen and cooking facilities; two guesthouses with combined 27 rooms; and a meditation pavilion on 24.43 acres in the Rural-Residential (R-R) zone located at 19993 Grand Avenue (APN 382-140-002 & 382-150-001). The City of Wildomar General Plan designates the northeast portion of the site as Estate Density Residential -Rural Community (EDR-RC) while the western and southern portion of the site are designated as Rural Mountainous (RM). No construction or operations are proposed in the RM portion of the Project site. One of the guesthouses is 3,185 sf while the second is 2,688 sf. The Project site includes 52 parking stalls and an existing single-family home that would remain. Refer to Exhibit 3: Site Plan. The Project will also include parking and access driveway to the proposed structures.

The proposed Project does not include demolition as the existing structures would remain onsite. Construction activities would include site preparation, grading, construction of buildings, paving, and architectural coating. Site grading would disturb approximately 15 acres. The Project would require approximately 3,593 cubic yard (cy) of cut and approximately 5,760 cy of fill. This would result in approximately 2,167 cubic yards of soil to be imported.



Source: Google, 2019



Won Meditation Center City of Wildomar



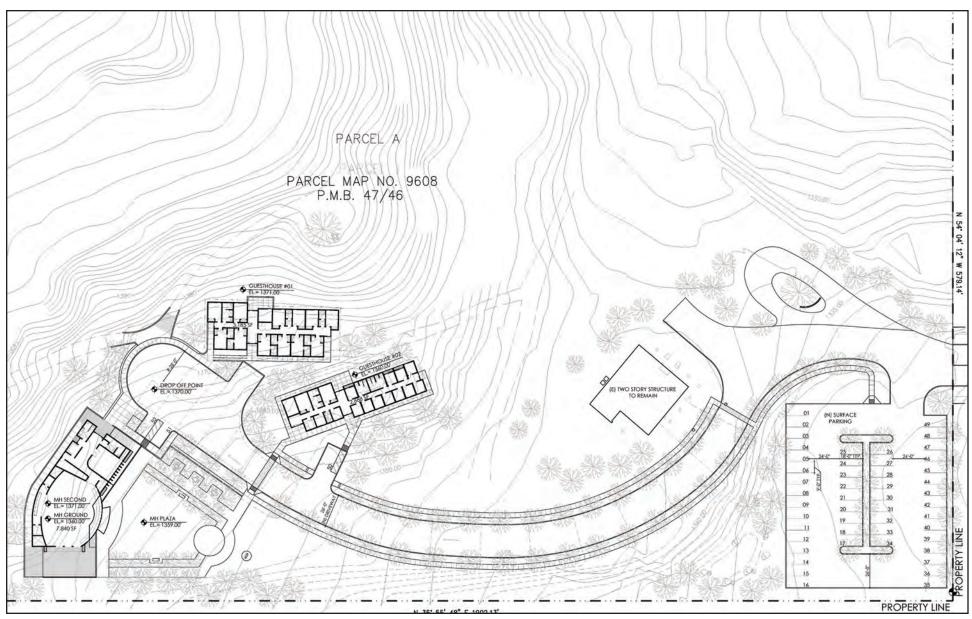












Source: Andmore Partners, 2019.







Greenhouse Gas Emissions Assessment

#### 2 ENVIRONMENTAL SETTING

#### 2.1 GREENHOUSE GASES AND CLIMATE CHANGE

Certain gases in the earth's atmosphere classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

The primary GHGs contributing to the greenhouse effect are carbon dioxide ( $CO_2$ ), methane ( $CH_4$ ), and nitrous oxide ( $N_2O$ ). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride ( $SF_6$ ), and nitrogen trifluoride ( $NF_3$ ); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the Earth's climate, known as global climate change or global warming.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO<sub>2</sub> is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO<sub>2</sub> emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO<sub>2</sub> emissions remains stored in the atmosphere<sup>1</sup>. Table 1: Description of Greenhouse Gases describes the primary GHGs attributed to global climate change, including their physical properties.

November 2019

<sup>&</sup>lt;sup>1</sup> Intergovernmental Panel on Climate Change, Carbon and Other Biogeochemical Cycles. In: Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, 2013. http://www.climatechange2013.org/images/report/WG1AR5\_ALL\_FINAL.pdf.

Greenhouse Gas Emissions Assessment

Greenhouse Gas	Description
Carbon Dioxide (CO <sub>2</sub> )	CO <sub>2</sub> is a colorless, odorless gas that is emitted naturally and through human activities. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The largest source of CO <sub>2</sub> emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. The atmospheric lifetime of CO <sub>2</sub> is variable because it is readily exchanged in the atmosphere. CO <sub>2</sub> is the most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other GHGs.
Nitrous Oxide (N₂O)	$N_2O$ is largely attributable to agricultural practices and soil management. Primary human-related sources of $N_2O$ include agricultural soil management, sewage treatment, combustion of fossil fuels, and adipic and nitric acid production. $N_2O$ is produced from biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of $N_2O$ is approximately 120 years. The Global Warming Potential of $N_2O$ is 298.
Methane (CH₄)	CH <sub>4</sub> , a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Methane is the major component of natural gas, about 87 percent by volume. Human-related sources include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. Natural sources of CH <sub>4</sub> include wetlands, gas hydrates, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. The atmospheric lifetime of CH <sub>4</sub> is about 12 years and the Global Warming Potential is 25.
Hydrofluorocarbons (HFCs)	HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of CFCs and HCFCs gains momentum. The 100-year Global Warming Potential of HFCs range from 124 for HFC-152 to 14,800 for HFC-23.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Global Warming Potentials range from 6,500 to 9,200.
Chlorofluoro- carbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987. Global Warming Potentials for CFCs range from 3,800 to 14,400.
Sulfur Hexafluoride (SF <sub>6</sub> )	$SF_6$ is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas. The Global Warming Potential of $SF_6$ is 23,900.
Hydrochlorofluoro- carbons (HCFCs)	HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, HCFCs are subject to a consumption cap and gradual phase out. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year Global Warming Potentials of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b.
Nitrogen Trifluoride (NF <sub>3</sub> )	NF <sub>3</sub> was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. This gas is used in electronics manufacture for semiconductors and liquid crystal displays. It has a high global warming potential of 17,200.

November 2019

Greenhouse Gas Emissions Assessment

#### 3 REGULATORY SETTING

#### 3.1 FEDERAL

To date, national standards have not been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

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

- 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 the 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.

**U.S. Environmental Protection Agency Endangerment Finding**. The U.S. Environmental Protection Agency (EPA) authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Federal Clean Air Act (FCAA) and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing FCAA and the EPA's assessment of the scientific evidence that form the basis for the EPA's regulatory actions.

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

In 2010, President Barack 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 per 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

Greenhouse Gas Emissions Assessment

were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks.

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  $CO_2$  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 to 23 percent over the 2010 baselines.

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 and sizes of buses and work trucks. The final standards are expected to lower  $CO_2$  emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.

Clean Power Plan and New Source Performance Standards for Electric Generating Units. On October 23, 2015, the EPA published a final rule (effective December 22, 2015) establishing the carbon pollution emission guidelines for existing stationary sources: electric utility generating units (80 Federal Register [FR] 64510–64660), also known as the Clean Power Plan (CPP). These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO<sub>2</sub> emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: one fossil-fuel-fired electric utility steam-generating unit and two stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing standards of performance for GHG emissions from new, modified, and reconstructed stationary sources: electric utility generating units (80 FR 64661–65120). The rule prescribes CO<sub>2</sub> emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the CPP pending resolution of several lawsuits. Additionally, in March 2017, President Trump directed the EPA Administrator to review the CPP to determine whether it is consistent with current executive policies concerning GHG emissions, climate change, and energy.

**Presidential Executive Order 13783.** Presidential Executive Order 13783, *Promoting Energy Independence and Economic Growth* issued on March 28, 2017, orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of  $CO_2$ ,  $N_2O$ , and  $CH_4$ .

#### 3.2 STATE OF CALIFORNIA

#### **California Air Resources Board**

The California Air Resources Board (CARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects. California is a significant emitter of CO2e in the world and produced 440 million gross metric tons of CO2e in 2015. In the state, the

Greenhouse Gas Emissions Assessment

transportation sector is the largest emitter of GHGs, followed by industrial operations such as manufacturing and oil and gas extraction.

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark AB 32 California Global Warming Solutions Act of 2006, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 building efficiency standards and Title 20 appliance energy standards, were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major legislation related to GHG emissions reduction.

Assembly Bill 32 (California Global Warming Solutions Act of 2006). AB 32 instructs the CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. AB 32 also directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. It set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

CARB Scoping Plan. CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business-as-usual")<sup>2</sup>. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates early actions and additional GHG reduction measures by both CARB and the State's Climate Action Team, identifies additional measures to be pursued as regulations, and outlines the adopted role of a cap-and-trade program<sup>3</sup>. Additional development of these measures and adoption of the appropriate regulations occurred through the end of 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California cap-and-trade program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several sustainable community strategies have been adopted).
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard

November 2019

<sup>&</sup>lt;sup>2</sup> CARB defines business-as-usual (BAU) in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

The Climate Action Team, led by the secretary of the California Environmental Protection Agency, is a group of State agency secretaries and heads of agencies, boards, and departments. Team members work to coordinate statewide efforts to implement global warming emissions reduction programs and the State's Climate Adaptation Strategy.

Greenhouse Gas Emissions Assessment

(amendments to the Pavley Standard adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).

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

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated in light of current economic forecasts that accounted for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This update reduced the projected 2020 emissions from 596 million metric tons of CO<sub>2</sub>e (MMTCO<sub>2</sub>e) to 545 MMTCO<sub>2</sub>e. The reduction in forecasted 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated State-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG emissions reductions necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32.

In January 2017, CARB released the 2017 Climate Change Scoping Plan Update (Second Update) for public review and comment (CARB, 2017). The Second Update sets forth CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below). The Second Update was approved by CARB's Governing Board on December 14, 2017 (CARB, 2017).

Senate Bill 32 (California Global Warming Solutions Act of 2006: Emissions Limit). Signed into law in September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

With SB 32, the Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, CARB adopted a second update to the Scoping Plan (CARB, 2017b). The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping Plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other Federal actions.

SB 375 (The Sustainable Communities and Climate Protection Act of 2008). Signed into law on September 30, 2008, SB 375 provides a process to coordinate land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction goals established by AB 32. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies.

**AB 1493 (Pavley Regulations and Fuel Efficiency Standards)**. AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty

November 2019

Greenhouse Gas Emissions Assessment

trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the by the U.S. District Court for the District of Columbia in 2011. The regulations establish one set of emission standards for model years 2009–2016 and a second set of emissions standards for model years 2017 to 2025. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO<sub>2</sub>e emissions and 75 percent fewer smog-forming emissions.

SB 1368 (Emission Performance Standards). SB 1368 is the companion bill of AB 32, which directs the California Public Utilities Commission (CPUC) to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 limits carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. The new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The CPUC adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, for 1,100 pounds of  $CO_2$  per megawatt-hour.

SB 1078 and SBX1-2 (Renewable Electricity Standards). SB 1078 requires California to generate 20 percent of its electricity from renewable energy by 2017. This goal was accelerated with SB 107, which changed the due date to 2010 instead of 2017. On November 17, 2008, Executive Order S-14-08 established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Executive Order S-21-09 also directed CARB to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. SB X1-2 codified the 33 percent by 2020 goal.

**SB 350 (Clean Energy and Pollution Reduction Act of 2015).** Signed into law on October 7, 2015, SB 350 implements the goals of Executive Order B-30-15. The objectives of SB 350 are to increase the procurement of electricity from renewable sources from 33 percent to 50 percent (with interim targets of 40 percent by 2024, and 25 percent by 2027) and to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation. SB 350 also reorganizes the Independent System Operator to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

AB 398 (Market-Based Compliance Mechanisms). Signed on July 25, 2017, AB 398 extended the duration of the Cap-and-Trade program from 2020 to 2030. AB 398 required CARB to update the Scoping Plan and for all GHG rules and regulations adopted by the State. It also designated CARB as the statewide regulatory body responsible for ensuring that California meets its statewide carbon pollution reduction targets, while retaining local air districts' responsibility and authority to curb toxic air contaminants and criteria pollutants from local sources that severely impact public health. AB 398 also decreased free carbon allowances over 40 percent by 2030 and prioritized Cap-and-Trade spending to various programs including reducing diesel emissions in impacted communities.

**SB 150 (Regional Transportation Plans).** Signed on October 10, 2017, SB 150 aligns local and regional GHG reduction targets with State targets (i.e., 40 percent below their 1990 levels by 2030). SB 150 creates a process to include communities in discussions on how to monitor their regions' progress on meeting these

Greenhouse Gas Emissions Assessment

goals. The bill also requires the CARB to regularly report on that progress, as well as on the successes and the challenges regions experience associated with achieving their targets. SB 150 provides for accounting of climate change efforts and GHG reductions and identify effective reduction strategies.

**SB 100 (California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases).** Signed into Law in September 2018, SB 100 increased California's renewable electricity portfolio from 50 to 60 percent by 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

#### **Executive Orders Related to GHG Emissions**

California's Executive Branch has taken several actions to reduce GHGs using executive orders. Although not regulatory, they set the tone for the State and guide the actions of state agencies.

**Executive Order S-3-05**. Executive Order S-3-05 was issued on June 1, 2005, which established the following GHG emissions reduction targets:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

**Executive Order S-01-07**. Issued on January 18, 2007, Executive Order S 01-07 mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. The executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. CARB adopted the LCFS on April 23, 2009.

**Executive Order S-13-08**. Issued on November 14, 2008, Executive Order S-13-08 facilitated the California Natural Resources Agency development of the 2009 California Climate Adaptation Strategy. Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

**Executive Order S-14-08**. Issued on November 17, 2008, Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the Renewable Electricity Standard on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

**Executive Order S-21-09**. Issued on July 17, 2009, Executive Order S-21-09 directs CARB to adopt regulations to increase California's RPS to 33 percent by 2020. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Greenhouse Gas Emissions Assessment

**Executive Order B-30-15**. Issued on April 29, 2015, Executive Order B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO<sub>2</sub>e (MMTCO<sub>2</sub>e). The 2030 target acts as an interim goal on the way to achieving reductions of 80 percent below 1990 levels by 2050, a goal set by Executive Order S-3-05. The executive order also requires the State's climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. With the enactment of SB 32 in 2016, the Legislature codified the goal of reducing GHG emissions by 2030 to 40 percent below 1990 levels.

**Executive Order B-55-18.** Issued on September 10, 2018, Executive Order B-55-18 establishes a goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide targets of reducing GHG emissions. The executive order requires CARB to work with relevant state agencies to develop a framework for implementing this goal. It also requires CARB to update the Scoping Plan to identify and recommend measures to achieve carbon neutrality. The executive order also requires state agencies to develop sequestration targets in the Natural and Working Lands Climate Change Implementation Plan.

#### **California Regulations and Building Codes**

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

**Title 20 Appliance Efficiency Regulations**. The appliance efficiency regulations (California Code of Regulations [CCR] Title 20, Sections 1601-1608) include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

Title 24 Building Energy Efficiency Standards. California's Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR Title 24, Part 6), was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 Building Energy Efficiency Standards approved on January 19, 2016 went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018 and take effect on January 1, 2020. Under the 2019 standards, residential dwellings will be required to use approximately 53 percent less energy and nonresidential buildings will be required to use approximately 30 percent less energy than buildings under the 2016 standards.

Title 24 California Green Building Standards Code. The California Green Building Standards Code (CCR Title 24, Part 11 code) commonly referred to as CALGreen, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and nonresidential buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the 2016 CALGreen Code, went into effect January 1, 2017. Updates to the 2016 CALGreen Code will take effect on January 1, 2020 (2019 CALGreen). The 2019 CALGreen standards will continue to improve upon the

Greenhouse Gas Emissions Assessment

existing standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The new 2019 CALGreen standards require residential buildings are required to be solar ready through solar panels (refer to Section 110.10 in the 2019 Building Energy Efficiency Standards for more details).

#### 3.3 REGIONAL

#### **South Coast Air Quality Management District Thresholds**

The South Coast Air Quality Management District (SCAQMD) formed a GHG California Environmental Quality Act (CEQA) Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. As of the last Working Group meeting (Meeting 15) held in September 2010, the SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency.

With the tiered approach, the Project is compared with the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from SB 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. For all industrial projects, the SCAQMD is proposing a screening threshold of 10,000 metric tons of CO<sub>2</sub>e (MTCO<sub>2</sub>e) per year industrial projects and 3,000 MTCO<sub>2</sub>e for non-industrial projects. SCAQMD concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact.

Tier 4 consists of three decision tree options. Under the Tier 4 first option, SCAQMD initially outlined that a project would be excluded if design features and/or mitigation measures resulted in emissions 30 percent lower than business as usual emissions. However, the Working Group did not provide a recommendation for this approach. The Working Group folded the Tier 4 second option into the third option. Under the Tier 4 third option, the project would be excluded if it was below an efficiency-based threshold of 4.8 MTCO₂e per service population per year. Tier 5 would exclude projects that implement offsite mitigation (GHG reduction projects) or purchase offsets to reduce GHG emission impacts to less than the proposed screening level.

GHG efficiency metrics are utilized as thresholds to assess the GHG efficiency of a project on a per capita basis or on a service population basis (the sum of the number of jobs and the number of residents provided by a project) such that the project would allow for consistency with the goals of AB 32 (i.e., 1990 GHG emissions levels by 2020 and 2035). GHG efficiency thresholds can be determined by dividing the GHG emissions inventory goal of the State, by the estimated 2035 population and employment. This method allows highly efficient projects with higher mass emissions to meet the overall reduction goals of AB 32, and is appropriate, because the threshold can be applied evenly to all project types (residential or commercial/retail only and mixed use).

#### **Southern California Association of Governments**

On April 7, 2016, the Southern California Association of Governments (SCAG) Regional Council adopted the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS). The RTP/SCS seeks to closely integrate land use and transportation so that the region can grow sustainably. The strategy was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations,

November 2019

Greenhouse Gas Emissions Assessment

businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The RTP/SCS is a long-range vision plan that balances future mobility and housing needs with economic, environmental, and public health goals. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by state law to lower regional GHG emissions.

#### Western Riverside Council of Governments Subregional Climate Action Plan

The Western Riverside Council of Governments (WRCOG) worked with its twelve cities, including the City of Wildomar, to develop a Subregional Climate Action Plan (CAP), which sets forth a subregional emissions reduction target, emissions reduction measures, and actions to assist each community in demonstrating consistency with AB 32 and SB 32. WRCOG's CAP was adopted in June 2014. Each participating municipality is responsible for its own CEQA documentation, local adoption, and employing a CEQA-appropriate GHG threshold.

The subregional CAP establishes emission targets for compliance with the goals of AB 32, but does not establish targets for individual cities within the WRCOG. The CAP identifies objectives and actions in four categories to set the subregion on a path to meet the 2020 GHG emission target, including energy, transportation, solid waste, and water reduction measures. The City of Wildomar is also a member of the Western Riverside Energy Leader Partnership (WRELP) which is funded by Southern California Edison and includes 11 WRCOG jurisdictions served by the utility company. The WRELP Program builds upon the existing policies and programs in the region to analyze energy-sector emissions and measures that further reduce GHG emissions.

Greenhouse Gas Emissions Assessment

#### 4 SIGNIFICANCE CRITERIA AND METHODOLOGY

#### 4.1 THRESHOLDS AND SIGNIFICANT CRITERIA

The GHG analysis in this section is modeled after the Initial Study Checklist recommended by CEQA Guidelines, as amended and prepared in accordance with the City of Wildomar's *Local California Environmental Quality Act Guidelines and Procedures* (dated August 12, 2015). The standards presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant impact if it causes one or more of the following to occur:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance; or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Addressing GHG emissions generation impacts requires an agency to determine what constitutes a significant impact. The amendments to the CEQA Guidelines specifically allow lead agencies to determine thresholds of significance that illustrate the extent of an impact and are a basis from which to apply mitigation measures. This means that each agency is left to determine whether a project's GHG emissions would have a "significant" impact on the environment. The guidelines direct that agencies are to use "careful judgment" and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" a project's GHG emissions (14 California Code of Regulations Section 15064.4(a)).

The City of Wildomar has not adopted project-specific significance thresholds. For the proposed Project, the SCAQMD's proposed 3,000 MTCO₂e annual non-industrial screening threshold is used as the significance threshold, in addition to the qualitative thresholds of significance set forth below from CEQA Guidelines Appendix G Section VII.

#### 4.2 METHODOLOGY

The Project's construction and operational emissions were calculated using the California Emissions Estimator Model version 2016.3.2 (CalEEMod). Details of the modeling assumptions and emission factors are provided in <u>Appendix A: Greenhouse Gas Emissions Data</u>. For construction, CalEEMod calculates emissions from off-road equipment usage and on-road vehicle travel associated with haul, delivery, and construction worker trips. GHG emissions during construction were forecasted based on the proposed construction schedule and applying the mobile-source and fugitive dust emissions factors derived from CalEEMod. The Project's construction-related GHG emissions would be generated from off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. The Project's operations-related GHG emissions would be generated by vehicular traffic, area sources (e.g., landscaping maintenance, consumer products), electrical generation, natural gas consumption, water supply and wastewater treatment, and solid waste.

#### 5 POTENTIAL IMPACTS AND MITIGATION

#### 5.1 GREENHOUSE GAS EMISSIONS

# Threshold 5.1 Would the Project generate greenhouse gas emissions, either directly or indirectly, that could have a significant impact on the environment?

#### **Short-Term Construction Greenhouse Gas Emissions**

The proposed Project would result in direct emissions of GHGs from construction. The approximate quantity of daily GHG emissions generated by construction equipment utilized to build the proposed Project is depicted in <u>Table 2</u>: <u>Construction-Related Greenhouse Gas Emissions</u>.

Table 2: Construction-Related Greenhouse Gas Emissions				
Category	MTCO₂e			
2021	291			
2022	158			
Total Construction Emissions	450			
30- Year Amortized Construction 15				
Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.				

As shown in <u>Table 2</u>, the Project would result in the generation of approximately  $450 \text{ MTCO}_2\text{e}$  over the course of construction. Construction GHG emissions are typically summed and amortized over the lifetime of the Project (assumed to be 30 years), then added to the operational emissions<sup>4</sup>. The amortized Project emissions would be approximately  $15 \text{ MTCO}_2\text{e}$  per year. Once construction is complete, the generation of these GHG emissions would cease.

#### **Long-Term Operational Greenhouse Gas Emissions**

Operational or long-term emissions occur over the life of the proposed Project. GHG emissions would result from direct emissions such as Project generated vehicular traffic, on-site combustion of natural gas, operation of any landscaping equipment. Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power, the energy required to convey water to, and wastewater from the Project site, the emissions associated with solid waste generated from the Project site, and any fugitive refrigerants from air conditioning or refrigerators. Total GHG emissions associated with the proposed Project are summarized in <u>Table 3</u>: <u>Project Greenhouse Gas Emissions</u>. As shown in <u>Table 3</u>, the Project would generate approximately 325 MTCO<sub>2</sub>e annually GHG emissions from both construction and operations and the proposed Project would not exceed the SCAQMD GHG threshold of 3,000 MTCO<sub>2</sub>e per year. Therefore, Project-related GHG emissions would be less than significant and no mitigation measures are required.

November 2019

<sup>&</sup>lt;sup>4</sup> The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13*, August 26, 2009).

Greenhouse Gas Emissions Assessment

Emissions Source	MTCO₂e per Year
Construction Amortized Over 30 Years	15
Area Source	6.34
Energy	105.98
Mobile	152.34
Waste	28.72
Water and Wastewater	16.38
Total	324.74
SCAQMD Project Threshold	3,000
Exceeds SCAQMD Threshold?	No

**Mitigation Measures:** No mitigation is required. **Level of Significance:** Less than significant impact.

#### 5.2 GREENHOUSE GAS REDUCTION PLAN COMPLIANCE

# Threshold 5.2 Would the Project conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing greenhouse gas emissions?

The WRCOG Climate Action Plan includes the City of Wildomar. The subregional CAP establishes emission targets for compliance with the goals of AB 32, but does not establish targets for individual cities within the WRCOG. The CAP identifies objectives and actions in four categories to set the subregion on a path to meet the 2020 GHG emission target, including energy, transportation, solid waste, and water reduction measures. The Project would comply with objectives and actions included in the subregional CAP. The proposed Project would be subject to compliance with all building codes in effect at the time of construction, which include energy conservation measures mandated by California Building Standards Code Title 24 - Energy Efficiency Standards. Because Title 24 standards require energy conservation features in new construction (e.g., high- efficiency lighting, high-efficiency heating, ventilating, and airconditioning (HVAC) systems, thermal insulation, double-glazed windows, water conserving plumbing fixtures), they indirectly regulate and reduce GHG emissions. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2016 standards improved upon the 2013 standards for new construction of, and additions and alterations to, residential, commercial, and industrial buildings. The 2016 standards went into effect on January 1, 2017. Additionally, the 2019 building standards further improve upon the 2016 standards and go into effect on January 1, 2020. These updated building standards would further reduce GHG emissions.

#### Consistency with the SCAG RTP/SCS

Adopted on April 7, 2016, the RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS embodies a collective

Greenhouse Gas Emissions Assessment

vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders in the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. SCAG's RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035 as well as an overall GHG target for the Project region consistent with both the target date of AB 32 and the post-2020 GHG reduction goals of Executive Orders 5-03-05 and B-30-15.

The RTP/SCS contains over 4,000 transportation projects, ranging from highway improvements, railroad grade separations, bicycle lanes, new transit hubs and replacement bridges. These future investments were included in county plans developed by the six county transportation commissions and seek to reduce traffic bottlenecks, improve the efficiency of the region's network, and expand mobility choices for everyone. The RTP/SCS is an important planning document for the region, allowing project sponsors to qualify for federal funding.

The plan accounts for operations and maintenance costs to ensure reliability, longevity, and cost effectiveness. The RTP/SCS is also supported by a combination of transportation and land use strategies that help the region achieve state GHG emissions reduction goals and FCAA requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry, and utilize resources more efficiently. GHG emissions resulting from development-related mobile sources are the most potent source of emissions, and therefore project comparison to the RTP/SCS is an appropriate indicator of whether the proposed Project would inhibit the post-2020 GHG reduction goals promulgated by the state. The proposed Project's consistency with the RTP/SCS goals is analyzed in detail in Table 4: Regional Transportation Plan/Sustainable Communities Strategy Consistency.

Table 4: Re	Table 4: Regional Transportation Plan/Sustainable Communities Strategy Consistency				
SCAG Goals		Compliance			
GOAL 1:	Align the plan investments and policies with improving regional economic development and competitiveness.	N/A:	This is not a project-specific policy and is therefore not applicable.		
GOAL 2:	Maximize mobility and accessibility for all people and goods in the region.	N/A:	This is not a transportation improvement project and is therefore not applicable.		
GOAL 3:	Ensure travel safety and reliability for all people and goods in the region.	N/A:	This is not a transportation improvement project and is therefore not applicable.		
GOAL 4:	Preserve and ensure a sustainable regional transportation system.	N/A:	This is not a transportation improvement project and is therefore not applicable.		
GOAL 5:	Maximize the productivity of our transportation system.	N/A:	This is not a transportation improvement project and is therefore not applicable.		
GOAL 6:	Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).	Consistent:	The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development are encouraged through the development of alternative transportation methods, green design techniques for buildings, and other energy-reducing techniques. This development project is required to comply with the provisions of the California Building Energy Efficiency Standards		

**Greenhouse Gas Emissions Assessment** 

SCAG Goals		Compliance		
			and the Green Building Standards Code (CALGreen).	
GOAL 7:	Actively encourage and create incentives for energy efficiency, where possible.	N/A:	This is not a project-specific policy and is therefore not applicable.	
GOAL 8:	Encourage land use and growth patterns that facilitate transit as well as non-motorized transportation.	Consistent:	See response to RTP/SCS Goal 6.	
GOAL 9:	Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	N/A:	This is not a transportation improvement project and is therefore not applicable.	

Compliance with applicable State standards would ensure consistency with State and regional GHG reduction planning efforts. The goals stated in the RTP/SCS were used to determine consistency with the planning efforts previously stated. As shown in <u>Table 4</u>, the proposed Project would be consistent with the stated goals of the RTP/SCS. Therefore, the proposed Project would not result in any significant impacts or interfere with SCAG's ability to achieve the region's post-2020 mobile source GHG reduction targets.

#### **Consistency with the CARB Scoping Plan**

The California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, CARB adopted the *Climate Change Scoping Plan* (CCSP) in 2008, which outlines actions recommended to obtain that goal. The CCSP provides a range of GHG reduction actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as the cap-and-trade program, and an AB 32 implementation fee to fund the program. As shown in <u>Table 5: Project Consistency with Applicable CARB Scoping Plan Measures</u>, the proposed Project is consistent with most of the strategies, while others are not applicable to the proposed Project.

The 2017 CCSP Update identifies additional GHG reduction measures necessary to achieve the 2030 target. These measures build upon those identified in the first update to the CCSP in 2013. Although a number of these measures are currently established as policies and measures, some measures have not yet been formally proposed or adopted. It is expected that these actions to reduce GHG emissions will be adopted as required to achieve statewide GHG emissions targets. As such, impacts related to consistency with the Scoping Plan would be less than significant.

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed. Nevertheless, it is anticipated that operation of the proposed Project would comply with all applicable measures are enacted that state lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050.

Greenhouse Gas Emissions Assessment

Table 5: Project	Table 5: Project Consistency with Applicable CARB Scoping Plan Measures						
Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency				
Transportation	California Cap-and- Trade Program Linked to Western Climate Initiative	Regulation for the California Cap on Greenhouse Gas Emissions and Market- Based Compliance Mechanism October 20, 2015 (CCR 95800)	Not Applicable. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. However, the regulation indirectly affects people who use the products and services produced by these industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.				
	California Light-Duty Vehicle Greenhouse Gas Standards	Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles	Consistent. This measure applies to all new vehicles starting with model year 2012. The proposed Project would not conflict with its implementation as it would apply to all new passenger vehicles purchased in California. Passenger vehicles, model year 2012 and later, associated with construction and operation of the proposed Project would be required to comply with the Pavley emissions standards.				
	California Light-Duty Vehicle Greenhouse Gas Standards	2012 LEV III California GHG and Criteria Pollutant Exhaust and Evaporative Emission Standards	Consistent. The LEV III amendments provide reductions from new vehicles sold in California between 2017 and 2025. Passenger vehicles associated with the site would comply with LEV III standards.				
Transportation	Low Carbon Fuel Standard	2009 readopted in 2015. Regulations to Achieve Greenhouse Gas Emission Reductions Subarticle 7. Low Carbon Fuel Standard CCR 95480	Consistent. This measure applies to transportation fuels utilized by vehicles in California. The proposed Project would not conflict with implementation of this measure. Motor vehicles associated with construction and operation of the proposed Project would utilize low carbon transportation fuels as required under this measure.				
	Regional Transportation- Related Greenhouse Gas Targets	SB 375. Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28	Consistent. The proposed Project would provide development in the region that is consistent with the growth projections in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The proposed Project would not create new residents and is an amenity for visitors to the City. Therefore, the Project would not affect growth projections.				
	Goods Movement	Goods Movement Action Plan January 2007	<b>Not applicable.</b> The proposed Project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.				

Greenhouse Gas Emissions Assessment

Table 5: Project	Table 5: Project Consistency with Applicable CARB Scoping Plan Measures						
Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency				
	Medium/Heavy-Duty Vehicle	2010 Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer Greenhouse Gas Regulation	Consistent. This measure applies to medium and heavy-duty vehicles that operate in the state. The proposed Project would not conflict with implementation of this measure. Medium and heavy-duty vehicles associated with construction and operation of the proposed Project would be required to comply with the requirements of this regulation.				
	High Speed Rail	Funded under SB 862	<b>Not applicable</b> . This is a statewide measure that cannot be implemented by a project applicant or Lead Agency.				
Electricity and Natural Gas	Energy Efficiency	Title 20 Appliance Efficiency Regulation	<b>Consistent.</b> The proposed Project would not conflict with implementation of this measure. The proposed				
		Title 24 Part 6 Energy Efficiency Standards for Residential and Non- Residential Building	Project would comply with the latest energy efficiency standards.				
		Title 24 Part 11 California Green Building Code Standards					
	Renewable Portfolio Standard/Renewable Electricity Standard.	2010 Regulation to Implement the Renewable Electricity Standard (33% 2020)	Consistent. The Project would obtain electricity from the electric utility, Southern California Edison (SC SCE obtained 36.5 percent of its power supply from renewable sources in 2016. Therefore, the utility				
	Million Solar Roofs Program	SB 350 Clean Energy and Pollution Reduction Act of 2015 (50% 2030)	would provide power when needed on site that is composed of a greater percentage of renewable sources.				
	Million Solar Roofs Program	Tax Incentive Program	<b>Consistent.</b> This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs. The program provides incentives that are in place at the time of construction.				
Water	Water	Title 24 Part 11 California Green Building Code Standards	<b>Consistent.</b> The proposed Project would comply with the California Green Building Standards Code, which requires a 20 percent reduction in indoor water use. The proposed Project would also comply with the				
Water	Water	SBX 7-7—The Water Conservation Act of 2009	City's Water-Efficient Landscapes Regulations (Chapter 17.276 of the Wildomar Municipal Code).				
		Model Water Efficient Landscape Ordinance					
Green Buildings	Green Building Strategy	Title 24 Part 11 California Green	<b>Consistent.</b> The State is to increase the use of green building practices. The proposed Project would implement required green building strategies through				

Greenhouse Gas Emissions Assessment

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency	
		Building Code Standards	existing regulation that requires the proposed Proje to comply with various CalGreen requirements. The proposed Project includes sustainability design features that support the Green Building Strategy.	
Industry	Industrial Emissions	2010 CARB Mandatory Reporting Regulation	Not applicable. The Mandatory Reporting Regulation requires facilities and entities with more than 10,00 MTCO <sub>2</sub> e of combustion and process emissions, facilities belonging to certain industries, and all electropower entities to submit an annual GHG emission data report directly to CARB. As shown above, to Project GHG emissions would not exceed 10,00 MTCO <sub>2</sub> e. Therefore, this regulation would not apply.	
Recycling and Waste Management	Recycling and Waste	Title 24 Part 11 California Green Building Code Standards	Consistent. The proposed Project would not consistent. The proposed Project would not consistently achieve the recycling manual consistently achieved its state recycling manuals.	
		AB 341 Statewide 75 Percent Diversion Goal		
Forests	Sustainable Forests	Cap and Trade Offset Projects	<b>Not applicable.</b> The proposed Project site is in an ardesignated for urban uses. No forested lands exist casite.	
High Global Warming Potential	High Global Warming Potential Gases	CARB Refrigerant Management Program CCR 95380	Not applicable. The regulations are applicable refrigerants used by large air conditioning systems a large commercial and industrial refrigerators and constorage system. The proposed Project would reconflict with the refrigerant management regulation adopted by CARB.	
Agriculture	Agriculture	Cap and Trade Offset Projects for Livestock and Rice Cultivation	Not applicable. The Project site is designated for urb development. No grazing, feedlot, or other agricultu activities that generate manure occur currently ex on-site or are proposed by the Project.	

Further, the Project is estimated to emit approximately 325 MTCO<sub>2</sub>e annually from on-site activities and indirectly from off-site motor vehicles, which is below the SCAQMD's 3,000 MTCO<sub>2</sub>eq threshold, see <u>Table</u> 3. The GHG emissions caused by long-term operation of the proposed would be less than significant.

**Mitigation Measures:** No mitigation is required. **Level of Significance:** Less than significant impact.

#### 5.3 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

#### **Cumulative Setting**

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air

Greenhouse Gas Emissions Assessment

quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have much longer atmospheric lifetimes of 1 year to several thousand years, allowing them to disperse around the globe.

#### **Cumulative Impacts and Mitigation Measures**

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the proposed Project as well as other cumulative related projects would also be subject to all applicable regulatory requirements, which would further reduce GHG emissions. As shown in <u>Table 4</u> and <u>Table 5</u>, the proposed Project would not conflict with the RTP/SCS. As a result, the Project would not conflict with any GHG reduction plans including the CARB Scoping Plan. Therefore, the Project's cumulative contribution of GHG emissions would be less than significant and the Project's cumulative GHG impacts would also be less than cumulatively considerable.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

Greenhouse Gas Emissions Assessment

#### 6 REFERENCES

- 1. Andmore Partners, Site Plan, 2019.
- 2. California Air Resources Board, California's 2017 Climate Change Scoping Plan, 2017.
- 3. Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis, 2007.
- 4. Intergovernmental Panel on Climate Change, Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, 2013.
- 5. Kimley-Horn, Traffic Statement for Won Meditation Center, September 2019
- 6. National Research Council, *Advancing the Science of Climate Change*, 2010.
- 7. State of California, Code of Regulations Section 15065.5a, 2018.
- 8. Southern California Association of Governments, *Regional Transportation Plan/Sustainable Communities Strategy*, 2016.
- 9. South Coast Air Quality Management District, *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13*, 2009.
- 10. U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016, 2018.
- 11. U.S. EPA, Methane and Nitrous Oxide Emission from Natural Sources, 2010.
- 12. U.S. EPA, Overview of Greenhouse Gases, 2018.
- 13. Western Riverside Council of Governments, Subregional Climate Action Plan, 2014.

# Appendix A

**Greenhouse Gas Emissions Data** 

CalEEMod Version: CalEEMod.2016.3.2

Page 1 of 1

Date: 10/18/2019 2:16 PM

Won Meditation Center - Riverside-South Coast County, Annual

# **Won Meditation Center** Riverside-South Coast County, Annual

### 1.0 Project Characteristics

### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	7.84	1000sqft	0.18	7,840.00	0
Other Asphalt Surfaces	26.00	1000sqft	0.60	26,000.00	0
Parking Lot	52.00	Space	0.47	20,800.00	0
Apartments Low Rise	27.00	Dwelling Unit	1.69	5,873.00	77

### 1.2 Other Project Characteristics

Urbanization Wind Speed (m/s) Precipitation Freq (Days) Urban 2.4 28

Climate Zone 10 2022 **Operational Year** 

Southern California Edison **Utility Company** 

**CO2 Intensity** 702.44 **CH4 Intensity** 0.029 **N2O Intensity** 0.006 (lb/MWhr) (lb/MWhr)

(lb/MWhr)

#### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per Site Plan

Construction Phase - Anticipated construction

Demolition - No demolition proposed

Grading - Cut = 3,593 cy, Fill= 5,760 cy

Vehicle Trips - Per traffic report

Woodstoves - No wood-burning

Area Coating -

Construction Off-road Equipment Mitigation - Per SCAQMD dust control rules

Fleet Mix -

Off-road Equipment - No demolition

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	3.00	10.00
tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	220.00	278.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	10.00	65.00
tblFireplaces	NumberGas	22.95	24.30
tblFireplaces	NumberWood	1.35	0.00
tblGrading	MaterialImported	0.00	2,167.00
tblLandUse	LandUseSquareFeet	27,000.00	5,873.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	13.00
tblVehicleTrips	ST_TR	7.16	0.00
tblVehicleTrips	ST_TR	10.37	18.63
tblVehicleTrips	SU_TR	6.07	0.00
tblVehicleTrips	SU_TR	36.63	18.63

tblVehicleTrips	WD_TR	6.59	0.00
tblVehicleTrips	WD_TR	9.11	18.63
tblWoodstoves	NumberCatalytic	1.35	0.00
tblWoodstoves	NumberNoncatalytic	1.35	0.00

# 2.0 Emissions Summary

# 2.1 Overall Construction <a href="Unmitigated Construction">Unmitigated Construction</a>

	ROG	NOx	CO	SO2	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										МТ/уг						
2021	0.2315	1.8988	1.6509	3.3700e- 003	0.1248	0.0885	0.2133	0.0483	0.0841	0.1324	0.0000	289.7901	289.7901	0.0523	0.0000	291.0967		
2022	0.1797	0.8979	0.9182	1.8500e- 003	0.0319	0.0408	0.0727	8.5600e- 003	0.0393	0.0478	0.0000	157.7689	157.7689	0.0238	0.0000	158.3636		
Maximum	0.2315	1.8988	1.6509	3.3700e- 003	0.1248	0.0885	0.2133	0.0483	0.0841	0.1324	0.0000	289.7901	289.7901	0.0523	0.0000	291.0967		

# **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	s/yr							MT	/yr		
2021	0.2315	1.8988	1.6509	3.3700e- 003	0.0801	0.0885	0.1686	0.0279	0.0841	0.1120	0.0000	289.7898	289.7898	0.0523	0.0000	291.0965
2022	0.1797	0.8979	0.9182	1.8500e- 003	0.0303	0.0408	0.0711	8.1600e- 003	0.0393	0.0474	0.0000	157.7687	157.7687	0.0238	0.0000	158.3635
Maximum	0.2315	1.8988	1.6509	3.3700e- 003	0.0801	0.0885	0.1686	0.0279	0.0841	0.1120	0.0000	289.7898	289.7898	0.0523	0.0000	291.0965

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	29.58	0.00	16.21	36.60	0.00	11.55	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	3-1-2021	5-31-2021	0.6236	0.6236
2	6-1-2021	8-31-2021	0.6415	0.6415
3	9-1-2021	11-30-2021	0.6344	0.6344
4	12-1-2021	2-28-2022	0.5914	0.5914
5	3-1-2022	5-31-2022	0.6248	0.6248
6	6-1-2022	8-31-2022	0.0812	0.0812
		Highest	0.6415	0.6415

# 2.2 Overall Operational

**Unmitigated Operational** 

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e						
Category	tons/yr												MT	/yr								
Area	0.0678	8.2600e- 003	0.2820	5.0000e- 005		1.9500e- 003	1.9500e- 003		1.9500e- 003	1.9500e- 003	0.0000	6.2923	6.2923	5.6000e- 004	1.1000e- 004	6.3381						
Energy	3.6400e- 003	0.0319	0.0187	2.0000e- 004		2.5200e- 003	2.5200e- 003		2.5200e- 003	2.5200e- 003	0.0000	105.5189	105.5189	3.5600e- 003	1.2500e- 003	105.9817						
Mobile	0.0365	0.3054	0.3716	1.6400e- 003	0.1189	1.1200e- 003	0.1201	0.0319	1.0500e- 003	0.0329	0.0000	152.1096	152.1096	9.1800e- 003	0.0000	152.3391						
Waste						0.0000	0.0000		0.0000	0.0000	11.5928	0.0000	11.5928	0.6851	0.0000	28.7207						
Water						0.0000	0.0000		0.0000	0.0000	0.6359	13.6001	14.2360	0.0659	1.6600e- 003	16.3772						
Total	0.1080	0.3455	0.6723	1.8900e- 003	0.1189	5.5900e- 003	0.1245	0.0319	5.5200e- 003	0.0374	12.2287	277.5209	289.7496	0.7643	3.0200e- 003	309.7567						

# **Mitigated Operational**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaus PM2.5		Bio	- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr								M	Γ/yr		
Area	0.0678	8.2600e- 003	0.2820	5.0000e 005	-	1.9500e- 003	1.9500e- 003		1.9500e 003	- 1.9500e 003	- 0.	0000	6.2923	6.2923	5.6000e- 004	1.1000e- 004	6.3381
Energy	3.6400e- 003	0.0319	0.0187	2.0000e 004	-	2.5200e- 003	2.5200e- 003	A	2.5200e 003	- 2.5200e 003	- 0.	0000	105.5189	105.5189	3.5600e- 003	1.2500e- 003	105.9817
Mobile	0.0365	0.3054	0.3716	1.6400e 003	- 0.1189	1.1200e- 003	0.1201	0.0319	1.0500€ 003	- 0.0329	0.	0000	152.1096	152.1096	9.1800e- 003	0.0000	152.3391
Waste						0.0000	0.0000		0.0000	0.0000	11.	.5928	0.0000	11.5928	0.6851	0.0000	28.7207
Water						0.0000	0.0000		0.0000	0.0000	0.	6359	13.6001	14.2360	0.0659	1.6600e- 003	16.3772
Total	0.1080	0.3455	0.6723	1.8900e 003	- 0.1189	5.5900e- 003	0.1245	0.0319	5.5200e 003	- 0.0374	12	.2287	277.5209	289.7496	0.7643	3.0200e- 003	309.7567
	ROG	N	lOx (	CO					•		PM2.5 Total	Bio- C	O2 NBio	-CO2 Total	CO2 CI	14 N	20 C
Percent Reduction	0.00	0	.00 0	0.00	0.00 0	.00 0	.00 0	.00	0.00	0.00	0.00	0.00	0 0.	00 0.0	00 0.	00 0.	00 0

# 3.0 Construction Detail

# **Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2021	2/28/2021	5	0	
2	Site Preparation	Site Preparation	3/1/2021	3/12/2021	5	10	0
3	Grading	Grading	3/13/2021	4/9/2021	5	20	
4	Building Construction	Building Construction	5/8/2021	6/1/2022	5	278	
5	Paving	Paving	4/10/2021	5/7/2021	5	20	
6	Architectural Coating	Architectural Coating	5/1/2022	7/29/2022	5	65	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 10

Acres of Paving: 1.07

Residential Indoor: 11,893; Residential Outdoor: 3,964; Non-Residential Indoor: 11,760; Non-Residential Outdoor: 3,920; Striped Parking

### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	
Demolition	Rubber Tired Dozers	O	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	_
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	
Paving	Rollers	2	8.00	80	
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	
Building Construction	Forklifts	2	7.00	89	
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

# **Trips and VMT**

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
	Count	Number	Number	Number	Length	Length	Length	Class	Vehicle	Vehicle
									Class	Class

Demolition	0	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	271.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	42.00	12.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

## **3.1 Mitigation Measures Construction**

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 **Demolition - 2021** 

**Unmitigated Construction On-Site** 

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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

#### **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	s/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	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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 Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/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
	0.0000	0.0000	0.0000	0.0000	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 Site Preparation - 2021 <u>Unmitigated Construction On-Site</u>

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 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					7.9500e- 003	0.0000	7.9500e- 003	8.6000e- 004	0.0000	8.6000e- 004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7300e- 003	0.0914	0.0538	1.2000e- 004		3.5100e- 003	3.5100e- 003		3.2300e- 003	3.2300e- 003	0.0000	10.7632	10.7632	3.4800e- 003	0.0000	10.8502
Total	7.7300e- 003	0.0914	0.0538	1.2000e- 004	7.9500e- 003	3.5100e- 003	0.0115	8.6000e- 004	3.2300e- 003	4.0900e- 003	0.0000	10.7632	10.7632	3.4800e- 003	0.0000	10.8502

## **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	1.7000e- 004	1.2000e- 004	1.2600e- 003	0.0000	4.4000e- 004	0.0000	4.4000e- 004	1.2000e- 004	0.0000	1.2000e- 004	0.0000	0.3555	0.3555	1.0000e- 005	0.0000	0.3558
Total	1.7000e- 004	1.2000e- 004	1.2600e- 003	0.0000	4.4000e- 004	0.0000	4.4000e- 004	1.2000e- 004	0.0000	1.2000e- 004	0.0000	0.3555	0.3555	1.0000e- 005	0.0000	0.3558

## **Mitigated Construction On-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Fugitive Dust					3.4000e- 003	0.0000	3.4000e- 003	3.7000e- 004	0.0000	3.7000e- 004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7300e- 003	0.0914	0.0538	1.2000e- 004		3.5100e- 003	3.5100e- 003		3.2300e- 003	3.2300e- 003	0.0000	10.7632	10.7632	3.4800e- 003	0.0000	10.8502
Total	7.7300e- 003	0.0914	0.0538	1.2000e- 004	3.4000e- 003	3.5100e- 003	6.9100e- 003	3.7000e- 004	3.2300e- 003	3.6000e- 003	0.0000	10.7632	10.7632	3.4800e- 003	0.0000	10.8502

## **Mitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.7000e- 004	1.2000e- 004	1.2600e- 003	0.0000	4.2000e- 004	0.0000	4.2000e- 004	1.1000e- 004	0.0000	1.1000e- 004	0.0000	0.3555	0.3555	1.0000e- 005	0.0000	0.3558
Total	1.7000e- 004	1.2000e- 004	1.2600e- 003	0.0000	4.2000e- 004	0.0000	4.2000e- 004	1.1000e- 004	0.0000	1.1000e- 004	0.0000	0.3555	0.3555	1.0000e- 005	0.0000	0.3558

# 3.4 Grading - 2021

**Unmitigated Construction On-Site** 

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Fugitive Dust					0.0657	0.0000	0.0657	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0183	0.2021	0.0976	2.1000e- 004		9.1600e- 003	9.1600e- 003		8.4200e- 003	8.4200e- 003	0.0000	18.1039	18.1039	5.8600e- 003	0.0000	18.2503
Total	0.0183	0.2021	0.0976	2.1000e- 004	0.0657	9.1600e- 003	0.0748	0.0337	8.4200e- 003	0.0421	0.0000	18.1039	18.1039	5.8600e- 003	0.0000	18.2503

## **Unmitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Hauling	6.7000e- 004	0.0301	4.1500e- 003	1.0000e- 004	2.3400e- 003	9.0000e- 005	2.4300e- 003	6.4000e- 004	9.0000e- 005	7.3000e- 004	0.0000	9.7220	9.7220	5.9000e- 004	0.0000	9.7369
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	2.9000e- 004	3.1500e- 003	1.0000e- 005	1.1000e- 003	1.0000e- 005	1.1100e- 003	2.9000e- 004	1.0000e- 005	3.0000e- 004	0.0000	0.8889	0.8889	2.0000e- 005	0.0000	0.8894
Total	1.1000e- 003	0.0304	7.3000e- 003	1.1000e- 004	3.4400e- 003	1.0000e- 004	3.5400e- 003	9.3000e- 004	1.0000e- 004	1.0300e- 003	0.0000	10.6109	10.6109	6.1000e- 004	0.0000	10.6262

#### **Mitigated Construction On-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Fugitive Dust					0.0281	0.0000	0.0281	0.0144	0.0000	0.0144	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0183	0.2021	0.0976	2.1000e- 004		9.1600e- 003	9.1600e- 003		8.4200e- 003	8.4200e- 003	0.0000	18.1039	18.1039	5.8600e- 003	0.0000	18.2502
Total	0.0183	0.2021	0.0976	2.1000e- 004	0.0281	9.1600e- 003	0.0372	0.0144	8.4200e- 003	0.0228	0.0000	18.1039	18.1039	5.8600e- 003	0.0000	18.2502

## **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	s/yr							MT	/yr		
Hauling	6.7000e- 004	0.0301	4.1500e- 003	1.0000e- 004	2.2300e- 003	9.0000e- 005	2.3200e- 003	6.2000e- 004	9.0000e- 005	7.0000e- 004	0.0000	9.7220	9.7220	5.9000e- 004	0.0000	9.7369
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	2.9000e- 004	3.1500e- 003	1.0000e- 005	1.0400e- 003	1.0000e- 005	1.0500e- 003	2.8000e- 004	1.0000e- 005	2.8000e- 004	0.0000	0.8889	0.8889	2.0000e- 005	0.0000	0.8894
Total	1.1000e- 003	0.0304	7.3000e- 003	1.1000e- 004	3.2700e- 003	1.0000e- 004	3.3700e- 003	9.0000e- 004	1.0000e- 004	9.8000e- 004	0.0000	10.6109	10.6109	6.1000e- 004	0.0000	10.6262

# 3.5 Building Construction - 2021

**Unmitigated Construction On-Site** 

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	/yr							MT	/yr		
Off-Road	0.1738	1.3623	1.2379	2.1300e- 003		0.0695	0.0695		0.0666	0.0666	0.0000	176.5014	176.5014	0.0347	0.0000	177.3695
Total	0.1738	1.3623	1.2379	2.1300e- 003		0.0695	0.0695		0.0666	0.0666	0.0000	176.5014	176.5014	0.0347	0.0000	177.3695

## **Unmitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4300e- 003	0.0951	0.0183	2.6000e- 004	6.4400e- 003	1.8000e- 004	6.6200e- 003	1.8600e- 003	1.7000e- 004	2.0300e- 003	0.0000	24.8853	24.8853	1.9000e- 003	0.0000	24.9327
Worker	0.0153	0.0103	0.1124	3.5000e- 004	0.0392	2.4000e- 004	0.0395	0.0104	2.2000e- 004	0.0106	0.0000	31.7318	31.7318	7.4000e- 004	0.0000	31.7503
Total	0.0177	0.1054	0.1307	6.1000e- 004	0.0457	4.2000e- 004	0.0461	0.0123	3.9000e- 004	0.0127	0.0000	56.6171	56.6171	2.6400e- 003	0.0000	56.6830

## **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	0.1738	1.3623	1.2379	2.1300e- 003		0.0695	0.0695		0.0666	0.0666	0.0000	176.5012	176.5012	0.0347	0.0000	177.3693
Total	0.1738	1.3623	1.2379	2.1300e- 003		0.0695	0.0695		0.0666	0.0666	0.0000	176.5012	176.5012	0.0347	0.0000	177.3693

# **Mitigated Construction Off-Site**

ROG NOx Co	502 Fugilive Exi	haust PM10 Fugitive Exhaust M10 Total PM2.5 PM2.5	PM2.5 Bio- CO2 NBio- CO2 Total CO2 CH4	N2O CO2e
------------	------------------	---	--	----------

Category					tons	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4300e- 003	0.0951	0.0183	2.6000e- 004	6.1700e- 003	1.8000e- 004	6.3500e- 003	1.7900e- 003	1.7000e- 004	1.9700e- 003	0.0000	24.8853	24.8853	1.9000e- 003	0.0000	24.9327
Worker	0.0153	0.0103	0.1124	3.5000e- 004	0.0372	2.4000e- 004	0.0374	9.9200e- 003	2.2000e- 004	0.0101	0.0000	31.7318	31.7318	7.4000e- 004	0.0000	31.7503
Total	0.0177	0.1054	0.1307	6.1000e- 004	0.0434	4.2000e- 004	0.0438	0.0117	3.9000e- 004	0.0121	0.0000	56.6171	56.6171	2.6400e- 003	0.0000	56.6830

# 3.5 Building Construction - 2022 Unmitigated Construction On-Site

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.1002	0.7886	0.7751	1.3500e- 003		0.0379	0.0379		0.0364	0.0364	0.0000	112.1473	112.1473	0.0216	0.0000	112.6882
Total	0.1002	0.7886	0.7751	1.3500e- 003		0.0379	0.0379		0.0364	0.0364	0.0000	112.1473	112.1473	0.0216	0.0000	112.6882

#### **Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4400e- 003	0.0569	0.0108	1.6000e- 004	4.0900e- 003	1.0000e- 004	4.1900e- 003	1.1800e- 003	9.0000e- 005	1.2700e- 003	0.0000	15.6735	15.6735	1.1400e- 003	0.0000	15.7020

Worker	9.1100e-	5.9000e-	0.0658	2.1000e-	0.0249	1.5000e-	0.0251	6.6200e-	1.3000e-	6.7500e-	0.0000	19.4234	19.4234	4.2000e-	0.0000	19.4340
	003	003		004		004		003	004	003				004		
Total	0.0106	0.0628	0.0766	3.7000e- 004	0.0290	2.5000e- 004	0.0293	7.8000e- 003	2.2000e- 004	8.0200e- 003	0.0000	35.0969	35.0969	1.5600e- 003	0.0000	35.1360

## **Mitigated Construction On-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Off-Road	0.1002	0.7886	0.7751	1.3500e- 003		0.0379	0.0379	_	0.0364	0.0364	0.0000	112.1471	112.1471	0.0216	0.0000	112.6880
Total	0.1002	0.7886	0.7751	1.3500e- 003		0.0379	0.0379		0.0364	0.0364	0.0000	112.1471	112.1471	0.0216	0.0000	112.6880

# **Mitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4400e- 003	0.0569	0.0108	1.6000e- 004	3.9200e- 003	1.0000e- 004	4.0200e- 003	1.1400e- 003	9.0000e- 005	1.2300e- 003	0.0000	15.6735	15.6735	1.1400e- 003	0.0000	15.7020
Worker	9.1100e- 003	5.9000e- 003	0.0658	2.1000e- 004	0.0236	1.5000e- 004	0.0238	6.3000e- 003	1.3000e- 004	6.4300e- 003	0.0000	19.4234	19.4234	4.2000e- 004	0.0000	19.4340
Total	0.0106	0.0628	0.0766	3.7000e- 004	0.0276	2.5000e- 004	0.0278	7.4400e- 003	2.2000e- 004	7.6600e- 003	0.0000	35.0969	35.0969	1.5600e- 003	0.0000	35.1360

## **Unmitigated Construction On-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Off-Road	0.0106	0.1065	0.1178	1.8000e- 004		5.8300e- 003	5.8300e- 003		5.3700e- 003	5.3700e- 003	0.0000	15.5048	15.5048	4.9100e- 003	0.0000	15.6276
Paving	1.4000e- 003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0120	0.1065	0.1178	1.8000e- 004		5.8300e- 003	5.8300e- 003		5.3700e- 003	5.3700e- 003	0.0000	15.5048	15.5048	4.9100e- 003	0.0000	15.6276

## **Unmitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/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	6.4000e- 004	4.3000e- 004	4.7200e- 003	1.0000e- 005	1.6500e- 003	1.0000e- 005	1.6600e- 003	4.4000e- 004	1.0000e- 005	4.5000e- 004	0.0000	1.3333	1.3333	3.0000e- 005	0.0000	1.3341
Total	6.4000e- 004	4.3000e- 004	4.7200e- 003	1.0000e- 005	1.6500e- 003	1.0000e- 005	1.6600e- 003	4.4000e- 004	1.0000e- 005	4.5000e- 004	0.0000	1.3333	1.3333	3.0000e- 005	0.0000	1.3341

# **Mitigated Construction On-Site**

Ī	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
					PIVITO	PIVITO	Total	PIVIZ.5	PIVIZ.5	Total						

Category					tons/yr						МТ	-/yr		
Off-Road	0.0106	0.1065	0.1178	1.8000e- 004	5.8300e- 003	5.8300e- 003	5.3700e- 003	5.3700e- 003	0.0000	15.5048	15.5048	4.9100e- 003	0.0000	15.6276
Paving	1.4000e- 003				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0120	0.1065	0.1178	1.8000e- 004	5.8300e- 003	5.8300e- 003	5.3700e- 003	5.3700e- 003	0.0000	15.5048	15.5048	4.9100e- 003	0.0000	15.6276

# **Mitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/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	6.4000e- 004	4.3000e- 004	4.7200e- 003	1.0000e- 005	1.5600e- 003	1.0000e- 005	1.5700e- 003	4.2000e- 004	1.0000e- 005	4.3000e- 004	0.0000	1.3333	1.3333	3.0000e- 005	0.0000	1.3341
Total	6.4000e- 004	4.3000e- 004	4.7200e- 003	1.0000e- 005	1.5600e- 003	1.0000e- 005	1.5700e- 003	4.2000e- 004	1.0000e- 005	4.3000e- 004	0.0000	1.3333	1.3333	3.0000e- 005	0.0000	1.3341

# 3.7 Architectural Coating - 2022 <u>Unmitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0612					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e- 003	0.0458	0.0589	1.0000e- 004		2.6600e- 003	2.6600e- 003		2.6600e- 003	2.6600e- 003	0.0000	8.2981	8.2981	5.4000e- 004	0.0000	8.3116

Total	0.0679	0.0458	0.0589	1.0000e-	2.6600e-	2.6600e-	2.6600e-	2.6600e-	0.0000	8.2981	8.2981	5.4000e-	0.0000	8.3116
				004	003	003	003	003				004		

## **Unmitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/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	1.0400e- 003	6.8000e- 004	7.5400e- 003	2.0000e- 005	2.8600e- 003	2.0000e- 005	2.8700e- 003	7.6000e- 004	2.0000e- 005	7.7000e- 004	0.0000	2.2267	2.2267	5.0000e- 005	0.0000	2.2279
Total	1.0400e- 003	6.8000e- 004	7.5400e- 003	2.0000e- 005	2.8600e- 003	2.0000e- 005	2.8700e- 003	7.6000e- 004	2.0000e- 005	7.7000e- 004	0.0000	2.2267	2.2267	5.0000e- 005	0.0000	2.2279

# **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	0.0612					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e- 003	0.0458	0.0589	1.0000e- 004		2.6600e- 003	2.6600e- 003		2.6600e- 003	2.6600e- 003	0.0000	8.2981	8.2981	5.4000e- 004	0.0000	8.3116
Total	0.0679	0.0458	0.0589	1.0000e- 004		2.6600e- 003	2.6600e- 003		2.6600e- 003	2.6600e- 003	0.0000	8.2981	8.2981	5.4000e- 004	0.0000	8.3116

## **Mitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.0400e- 003	6.8000e- 004	7.5400e- 003	2.0000e- 005	2.7100e- 003	2.0000e- 005	2.7300e- 003	7.2000e- 004	2.0000e- 005	7.4000e- 004	0.0000	2.2267	2.2267	5.0000e- 005	0.0000	2.2279
Total	1.0400e- 003	6.8000e- 004	7.5400e- 003	2.0000e- 005	2.7100e- 003	2.0000e- 005	2.7300e- 003	7.2000e- 004	2.0000e- 005	7.4000e- 004	0.0000	2.2267	2.2267	5.0000e- 005	0.0000	2.2279

# 4.0 Operational Detail - Mobile

# **4.1 Mitigation Measures Mobile**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					tons	s/yr							MT	/yr		
Mitigated	0.0365	0.3054	0.3716	1.6400e- 003	0.1189	1.1200e- 003	0.1201	0.0319	1.0500e- 003	0.0329	0.0000	152.1096	152.1096	9.1800e- 003	0.0000	152.3391
Unmitigated	0.0365	0.3054	0.3716	1.6400e- 003	0.1189	1.1200e- 003	0.1201	0.0319	1.0500e- 003	0.0329	0.0000	152.1096	152.1096	9.1800e- 003	0.0000	152.3391

# **4.2 Trip Summary Information**

	Avera	age Daily Trip Rate	Unmitigated	Mitigated
Land Use	Weekday	Saturday Sunday	Annual VMT	Annual VMT

Apartm	ents Low Rise	0.00	0.00	0.00		
Other A	sphalt Surfaces	0.00	0.00	0.00		
Pa	arking Lot	0.00	0.00	0.00		
Place	e of Worship	146.06	146.06	146.06	311,514	311,514
	Total	146.06	146.06	146.06	311,514	311,514

# **4.3 Trip Type Information**

		Miles			Trip %			Trip Purpos	e %
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

#### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Parking Lot	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Place of Worship	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

# 5.0 Energy Detail

Historical Energy Use: N

# **5.1 Mitigation Measures Energy**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 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	69.4859	69.4859	2.8700e- 003	5.9000e- 004	69.7345
Electricity Unmitigated					0.0000	0.0000	0.0000	0.0000	0.0000	69.4859	69.4859	2.8700e- 003	5.9000e- 004	69.7345
NaturalGas Mitigated	3.6400e- 003	0.0319	0.0187	2.0000e- 004	2.5200e- 003	2.5200e- 003	2.5200e- 003	2.5200e- 003	0.0000	36.0330	36.0330	6.9000e- 004	6.6000e- 004	36.2471
NaturalGas Unmitigated	3.6400e- 003	0.0319	0.0187	2.0000e- 004	2.5200e- 003	2.5200e- 003	2.5200e- 003	2.5200e- 003	0.0000	36.0330	36.0330	6.9000e- 004	6.6000e- 004	36.2471

# **5.2 Energy by Land Use - NaturalGas Unmitigated**

	NaturalGas Use	ROG	NOx	СО	SO2	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	s/yr							МТ	√yr		
Apartments Low Rise	420512	2.2700e- 003	0.0194	8.2500e- 003	1.2000e- 004		1.5700e- 003	1.5700e- 003		1.5700e- 003	1.5700e- 003	0.0000	22.4401	22.4401	4.3000e- 004	4.1000e- 004	22.5735
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	254722	1.3700e- 003	0.0125	0.0105	7.0000e- 005		9.5000e- 004	9.5000e- 004		9.5000e- 004	9.5000e- 004	0.0000	13.5929	13.5929	2.6000e- 004	2.5000e- 004	13.6737
Total		3.6400e- 003	0.0319	0.0187	1.9000e- 004		2.5200e- 003	2.5200e- 003		2.5200e- 003	2.5200e- 003	0.0000	36.0330	36.0330	6.9000e- 004	6.6000e- 004	36.2471

#### **Mitigated**

	NaturalGas Use	ROG	NOx	СО	SO2	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	s/yr							МТ	/yr		
Apartments Low Rise	420512	2.2700e- 003	0.0194	8.2500e- 003	1.2000e- 004		1.5700e- 003	1.5700e- 003		1.5700e- 003	1.5700e- 003	0.0000	22.4401	22.4401	4.3000e- 004	4.1000e- 004	22.5735
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	254722	1.3700e- 003	0.0125	0.0105	7.0000e- 005	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	9.5000e- 004	9.5000e- 004	 9.5000e- 004	9.5000e- 004	0.0000	13.5929	13.5929	2.6000e- 004	2.5000e- 004	13.6737
Total		3.6400e- 003	0.0319	0.0187	1.9000e- 004		2.5200e- 003	2.5200e- 003	2.5200e- 003	2.5200e- 003	0.0000	36.0330	36.0330	6.9000e- 004	6.6000e- 004	36.2471

# 5.3 Energy by Land Use - Electricity <u>Unmitigated</u>

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		M	Г/уг	
Apartments Low Rise	131227	41.8117	1.7300e- 003	3.6000e- 004	41.9613
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	7280	2.3196	1.0000e- 004	2.0000e- 005	2.3279
Place of Worship	79576	25.3546	1.0500e- 003	2.2000e- 004	25.4453
Total		69.4859	2.8800e- 003	6.0000e- 004	69.7345

#### **Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		M	Γ/yr	
Apartments Low Rise	131227	41.8117	1.7300e- 003	3.6000e- 004	41.9613
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	7280	2.3196	1.0000e- 004	2.0000e- 005	2.3279

Place of Worship	25.3546	1.0500e- 003	2.2000e- 004	25.4453
Total	69.4859	2.8800e- 003	6.0000e- 004	69.7345

# 6.0 Area Detail

# **6.1 Mitigation Measures Area**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0678	8.2600e- 003	0.2820	5.0000e- 005		1.9500e- 003	1.9500e- 003		1.9500e- 003	1.9500e- 003	0.0000	6.2923	6.2923	5.6000e- 004	1.1000e- 004	6.3381
Unmitigated	0.0678	8.2600e- 003	0.2820	5.0000e- 005		1.9500e- 003	1.9500e- 003		1.9500e- 003	1.9500e- 003	0.0000	6.2923	6.2923	5.6000e- 004	1.1000e- 004	6.3381

# 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	s/yr							MT	/yr		
Architectural Coating	6.1200e- 003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0526					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.9000e- 004	5.0400e- 003	2.1400e- 003	3.0000e- 005		4.1000e- 004	4.1000e- 004		4.1000e- 004	4.1000e- 004	0.0000	5.8353	5.8353	1.1000e- 004	1.1000e- 004	5.8700

Landscaping	8.5200e- 003	3.2200e- 003	0.2798	1.0000e- 005	1.5400e- 003	1.5400e- 003	1.5400e- 003	1.5400e- 003	0.0000	0.4570	0.4570	4.4000e- 004	0.0000	0.4681
Total	0.0678	8.2600e- 003	0.2820	4.0000e- 005	1.9500e- 003	1.9500e- 003	1.9500e- 003	1.9500e- 003	0.0000	6.2923	6.2923	5.5000e- 004	1.1000e- 004	6.3381

# **Mitigated**

	ROG	NOx	СО	SO2	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	6.1200e- 003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0526					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.9000e- 004	5.0400e- 003	2.1400e- 003	3.0000e- 005		4.1000e- 004	4.1000e- 004		4.1000e- 004	4.1000e- 004	0.0000	5.8353	5.8353	1.1000e- 004	1.1000e- 004	5.8700
Landscaping	8.5200e- 003	3.2200e- 003	0.2798	1.0000e- 005		1.5400e- 003	1.5400e- 003		1.5400e- 003	1.5400e- 003	0.0000	0.4570	0.4570	4.4000e- 004	0.0000	0.4681
Total	0.0678	8.2600e- 003	0.2820	4.0000e- 005		1.9500e- 003	1.9500e- 003		1.9500e- 003	1.9500e- 003	0.0000	6.2923	6.2923	5.5000e- 004	1.1000e- 004	6.3381

# 7.0 Water Detail

# 7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category		MT	/yr	
Mitigated	14.2360	0.0659	1.6600e- 003	16.3772

Unmitigated	▦	14 2360	= 1111659	1 66000-	16 3772
Orinningated	- 11	17.2000	0.0000	1.00000	10.0772
	噩		≣	002	
	- 11		<b></b>	000	
	===		<b></b>		

# 7.2 Water by Land Use <u>Unmitigated</u>

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		M	Г/уг	
Apartments Low Rise	1.75916 / 1.10903	11.7823	0.0578	1.4500e- 003	13.6589
Other Asphalt Surfaces	0/0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0/0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.245305 / 0.383682	2.4537	8.0900e- 003	2.1000e- 004	2.7183
Total		14.2360	0.0659	1.6600e- 003	16.3772

#### **Mitigated**

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		M	T/yr	
Apartments Low Rise	1.75916 / 1.10903	11.7823	0.0578	1.4500e- 003	13.6589
Other Asphalt Surfaces	0/0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0/0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.245305 / 0.383682	2.4537	8.0900e- 003	2.1000e- 004	2.7183

Total	14.2360	0.0659	1.6600e-	16.3772
			003	
			003	

# 8.0 Waste Detail

# 8.1 Mitigation Measures Waste

## Category/Year

	Total CO2	CH4	N2O	CO2e					
	MT/yr								
Mitigated	11.5928	0.6851	0.0000	28.7207					
Unmitigated	11.5928	0.6851	0.0000	28.7207					

# 8.2 Waste by Land Use

## <u>Unmitigated</u>

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons		M	T/yr	
Apartments Low Rise	12.42	2.5212	0.1490	0.0000	6.2460
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	44.69	9.0717	0.5361	0.0000	22.4747

Total	11.5928	0.6851	0.0000	28.7207

#### **Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons		M	Г/уг	
Apartments Low Rise	12.42	2.5212	0.1490	0.0000	6.2460
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	44.69	9.0717	0.5361	0.0000	22.4747
Total		11.5928	0.6851	0.0000	28.7207

# 9.0 Operational Offroad

Equipment Type	Number H	lours/Day [	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	----------	-------------	-----------	-------------	-------------	-----------

# 10.0 Stationary Equipment

## **Fire Pumps and Emergency Generators**

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

# **Boilers**

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

#### **User Defined Equipment**

Equipment Type	Number

