APPENDIX E:
GREENHOUSE GAS EMISSIONS ASSESSMENT

Greenhouse Gas Emissions Assessment for the proposed Westport Project in the City of Cupertino, California

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LIST OF ABBREVIATED TERMS

AB	Assembly Bill
ABAG	Association of Bay Area Governments
BAAQMD	Bay Area Air Quality Management District
CAP	Climate Action Plan
CARB	California Air Resources Board
CFCs	Chlorofluorocarbons
CH_4	methane
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
EPA	Environmental Protection Agency
GHG	greenhouse gas
HFCs	Hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LEED	Leadership in Energy and Environmental Design
MMT	million metric tons
MTC	Metropolitan Transportation Commission
MWh	megawatt-hour
N_2O	nitrous oxide
NHTSA	National Highway Traffic Safety Administration
PFCs	Perfluorocarbons
RHNA	Regional Housing Allocation Needs Allocation
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF_6	Sulfur Hexafluoride
SP	service population
VMT	vehicle miles traveled

1 INTRODUCTION

This report evaluates greenhouse gas (GHG) emissions associated with the proposed Westport Project and analyzes project compliance with applicable regulations. The project's consistency with applicable plans, policies, and regulations, as well as the introduction of new sources of GHGs, is analyzed in this report.

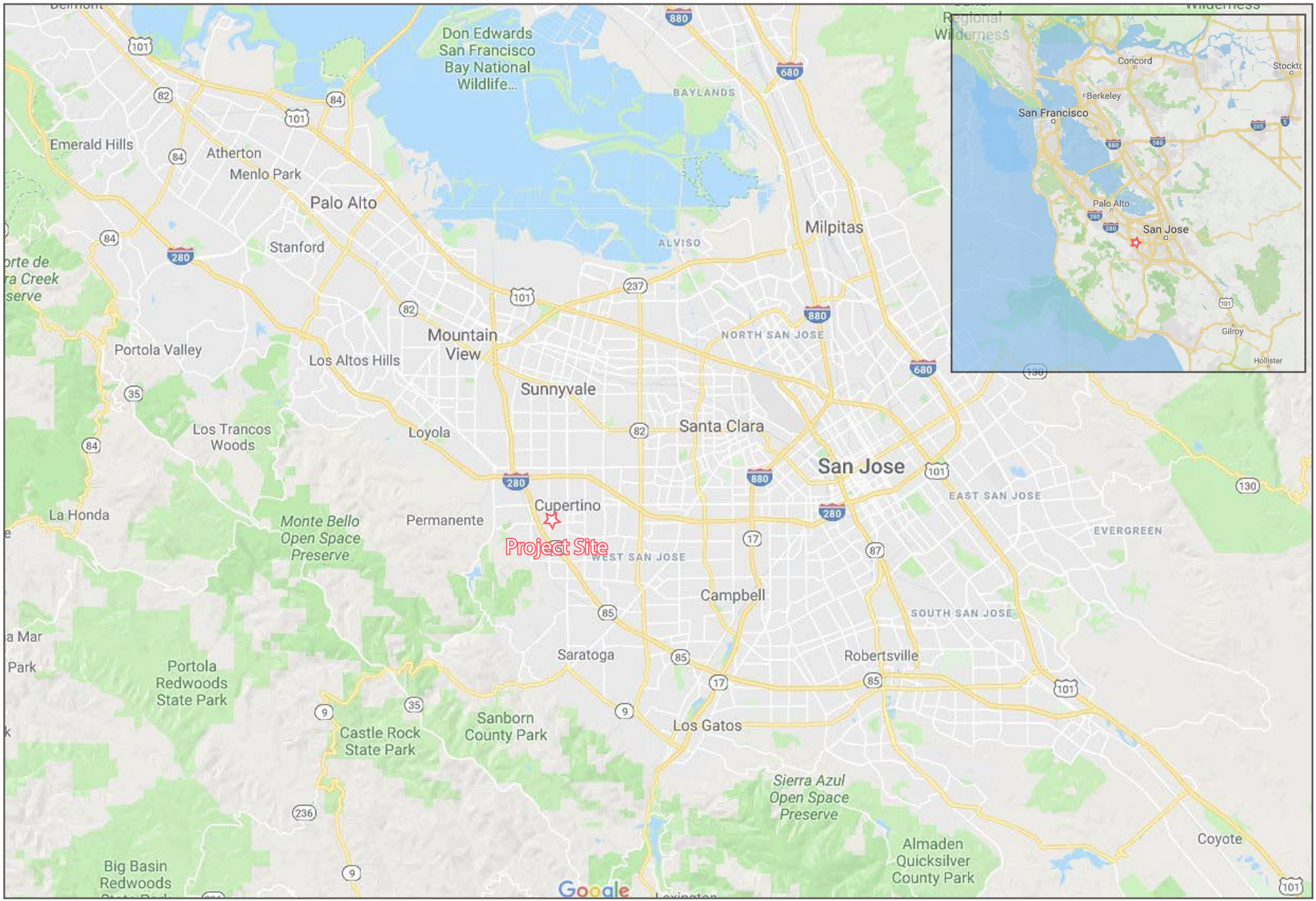
1.1 PROJECT LOCATION

The project site is located in the City of Cupertino, California within the Heart of the City Specific Plan area and is designated as a Priority Housing Site (HE-3) in the adopted Housing Element; refer to Exhibit 1. The project is located adjacent to SR-85 and Stevens Creek Boulevard; refer to Exhibit 2.

1.2 PROJECT DESCRIPTION

The proposed project is the redevelopment of 71,254 square-feet of shopping center on an 8.1-acre site to provide mixed-use urban village with 242 residential units and 20,000 square-feet of retail space. The project would have a six-story building with 115 residential units and 17,700 square-feet of ground-floor retail, a five-story building with 39 senior units and 2,300 ground-floor retail, 69 residential townhouses, and 19 residential rowhouses. The proposed project includes a one story- belowground garage with 232 parking spaces, 117 surface parking spaces, and 176 private garage units. The proposed project includes 20 separate buildings. The maximum building height would be 70 feet. The townhouses and rowhomes have attached garages, while the mixed-use buildings use the parking garage or surface parking.

In the Heart of the City Specific Plan the project site is designated as Oaks Gateway, a Mixed Use Planned Development (General Commercial) [P(CG)]. The CG designation allows professional, general, administrative, business offices, dance and music studios, child care centers, as well as other uses that do not involve the direct retailing of goods or services to the general public. However, the mixed use allows residential located behind the primary uses and above the ground level.



Source: Kimley-Horn and Associates, 2018

Figure 1: Regional Location Map
Westport Project

Not to scale

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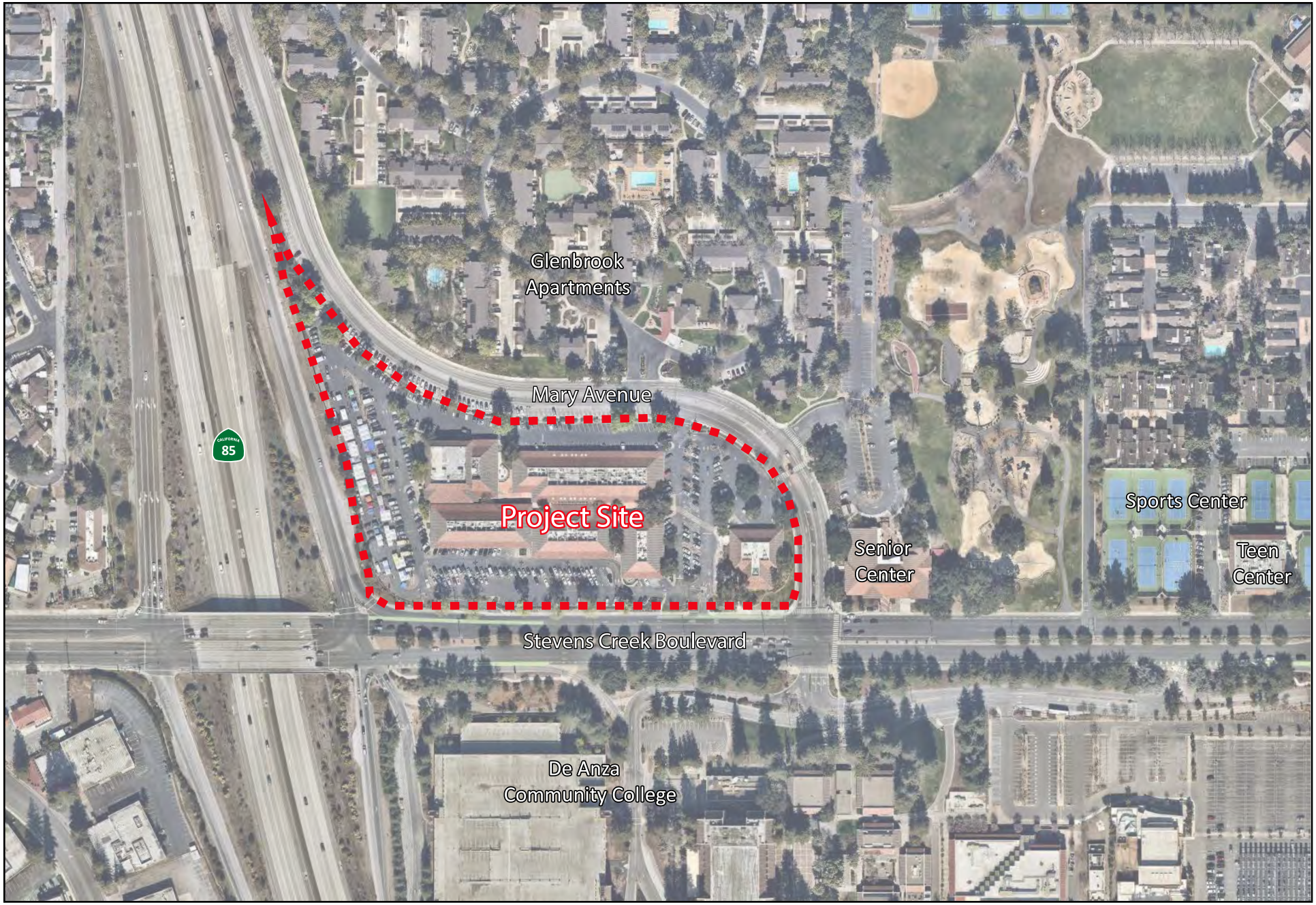

Source: Kimley-Horn and Associates, 2018

Exhibit 2: Site Vicinity
Westport Project

Not to scale

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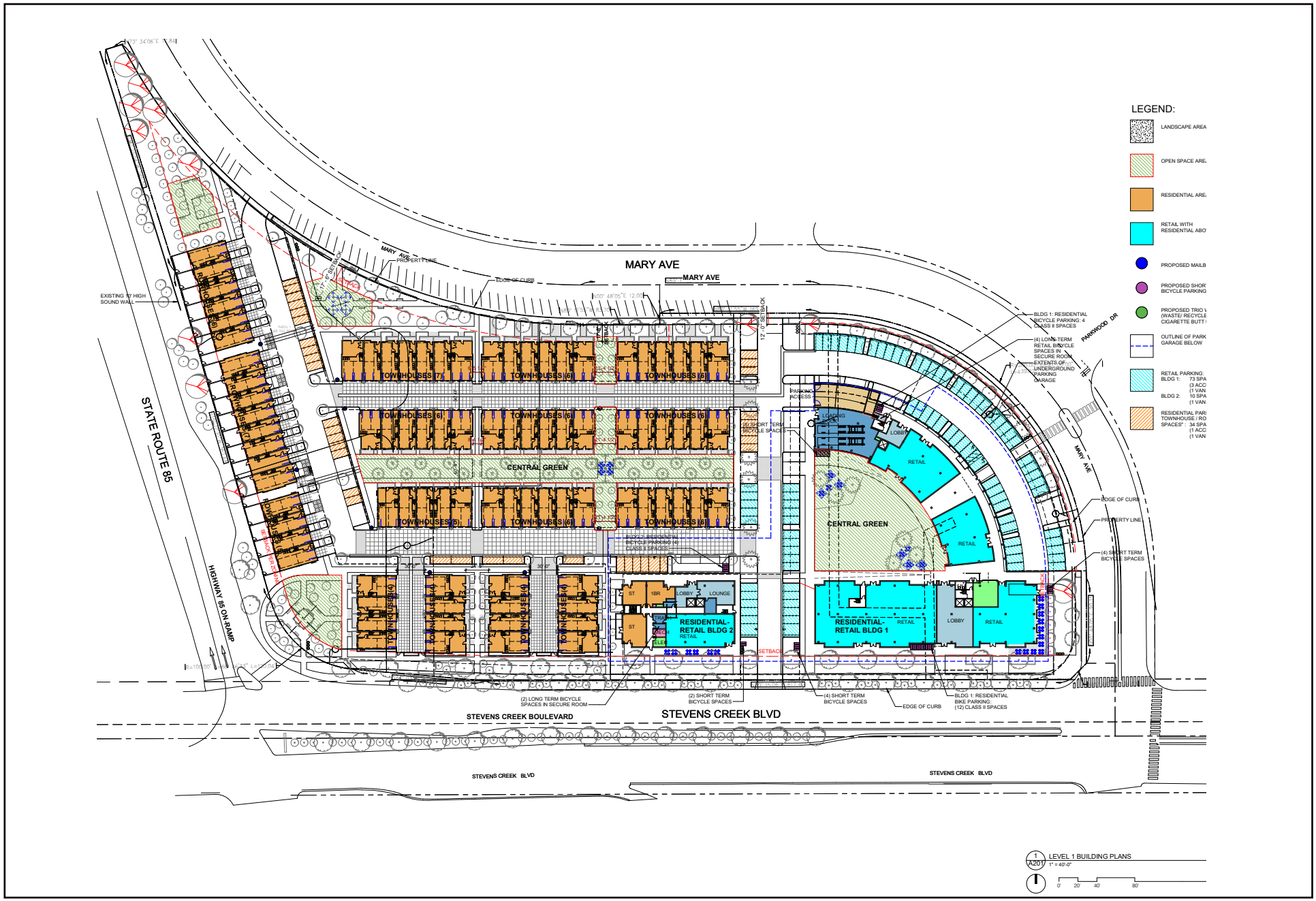

Source: C2K Architecture Inc., 2018

Exhibit 3: Site Plan

Westport Project

Not to scale

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2 ENVIRONMENTAL SETTING

2.1 GREENHOUSE GASES AND CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as greenhouse gases (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. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of 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, 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 any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO_2 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_2 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_2 emissions remains stored in the atmosphere (IPCC 2013).[1] *Table 1, Description of Greenhouse Gases,* describes the primary GHGs attributed to global climate change, including their physical properties.

[1] IPCC (Intergovernmental Panel on Climate Change). 2013. 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. http://www.climatechange2013.org/ images/report/WG1AR5_ALL_FINAL.pdf.

Table 1: Description of Greenhouse Gases

Greenhouse Gas	Description
Carbon Dioxide (CO_2)	CO_2 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_2 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_2 is variable because it is readily exchanged in the atmosphere. CO_2 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 (N_2O)	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 (CH_4)	Methane, 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_4 include wetlands, gas hydrates, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. The atmospheric lifetime of CH_4 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 Chlorofluorocarbons (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.
Chlorofluorocarbons (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_6)	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.
Hydrochlorofluorocarbons (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	Nitrogen trifluoride (NF_3) 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.

Source: Compiled from U.S. EPA, *Overview of Greenhouse Gases*, April 11, 2018 (https://www.epa.gov/ghgemissions/overview-greenhouse-gases); U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016*, 2018; IPCC *Climate Change 2007: The Physical Science Basis*, 2007; National Research Council, Advancing the Science of Climate Change, 2010; U.S. EPA, *Methane and Nitrous Oxide Emission from Natural Sources*, April 2010.

3 REGULATORY SETTING

3.1 FEDERAL

To date, no national standards have 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. 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 Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (carbon dioxide [CO_2], methane [CH_4], nitrous oxide [N_2O], hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF_6]) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and the U.S. EPA's assessment of the scientific evidence that form the basis for the U.S. EPA's regulatory actions.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, Executive Order 13432 was issued in 2007 directing the U.S. 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 U.S. EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, an Executive Memorandum directing the Department of Transportation, Department of Energy, U.S. 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 U.S. 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 CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved

solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January 12, 2017, the U.S. EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks. It should be noted that the U.S. EPA is currently proposing to freeze the vehicle fuel efficiency standards at their planned 2020 level (37 mpg), canceling any future strengthening (currently 54.5 mpg by 2026).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the U.S. 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 U.S. 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 U.S. 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 U.S. EPA published a final rule (effective December 22, 2015) establishing the carbon pollution emission guidelines for existing stationary sources: electric utility generating units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units and (2) stationary combustion turbines. Concurrently, the U.S. 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_2 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 Clean Power Plan pending resolution of several lawsuits. Additionally, in March 2017, the federal government directed the U.S. EPA Administrator to review the Clean Power Plan in order 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 (March 28, 2017), orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

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 carbon dioxide equivalents (CO_2e) in the world and produced 459 million gross metric tons of CO_2e in 2013. In the State, the 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 provisions of the legislation.

Assembly Bill 32 (California Global Warming Solutions Act). Assembly Bill (AB) 32 instructs the CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. AB 32 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")[2]. The Scoping Plan evaluates opportunities for sector-specific reductions; integrates early actions by CARB and the State's Climate Action Team and additional GHG reduction measures by both entities; identifies additional measures to be pursued as regulations; and outlines the adopted role of a cap-and-trade program.[3] 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 Communities 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

[2] 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.

[3] 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.

(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 (CARB 2008).

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_2e ($MMTCO_2e$) to 545 $MMTCO_2e$. 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 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. 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[4]. 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.

Senate Bill 32 (California Global Warming Solutions Act of 2006: emissions limit). Signed into law in September 2016, Senate Bill (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.

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.

[4] California Air Resources Board, *California's 2017 Climate Change Scoping Plan,* https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed May 9, 2018.

AB 1493 (Pavley Regulations and Fuel Efficiency Standards). California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the U.S. EPA's denial of an implementation waiver. The U.S. 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_2e 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 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 California Public Utilities Commission 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, of 1,100 lbs. CO_2 per megawatt-hour (MWh).

SB 1078 and SBX1-2 (Renewable Electricity Standards). SB 1078 requires California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which 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. SBX1-2, which 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 final end uses of retail customers through energy efficiency and conservation. SB 350 also reorganizes the Independent System Operator (ISO) 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.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs through the use of 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. In particular, 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 Low Carbon Fuel Standard 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 Renewable Portfolio Standard (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.

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 $MMCO_2e$. 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.

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 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 (California Code of Regulations 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, homes will use about 53 percent less energy and nonresidential buildings will use about 30 percent less energy than buildings under the 2016 standards.

Title 24 California Green Building Standards Code. The California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) commonly referred to as the CALGreen Code, 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 commercial 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 CALGreen Code went into effect January 1, 2017.

3.3 REGIONAL

Bay Area Air Quality Management District

The BAAQMD is the regional agency with jurisdiction over the nine-county region located in the Basin. The Association of Bay Area Governments (ABAG), Metropolitan Transportation Commission (MTC), county transportation agencies, cities and counties, and various nongovernmental organizations also join in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs.

Under CEQA, the BAAQMD is a commenting responsible agency on air quality within its jurisdiction or impacting its jurisdiction. The BAAQMD reviews projects to ensure that they would: (1) support the primary goals of the latest Air Quality Plan; (2) include applicable control measures from the Air Quality Plan; and (3) not disrupt or hinder implementation of any Air Quality Plan control measures.

In May 2010, the BAAQMD adopted its updated *California Environmental Quality Act (CEQA) Air Quality Guidelines* as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The BAAQMD *CEQA Guidelines* include methodologies and thresholds for addressing project and program level air quality and GHG emissions. The Guidelines were called into question by an order issued March 5, 2012, in *California Building Industry Association (CBIA) v. BAAQMD* (Alameda Superior Court Case No. RGI0548693). The Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it

adopted the thresholds. The court also issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD had complied with CEQA. Notably, the court's ruling was based solely on BAAQMD's failure to comply with CEQA. The court did not reach any issues relating to the validity of the scientific reasoning underlying the recommended significance thresholds.

In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds.[5] CBIA sought review by the California Supreme Court on three issues, including the appellate court's decision to uphold the BAAQMD's adoption of the thresholds, and the Court granted review on just one: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users of a proposed project? In December 2015, the California Supreme Court confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project.[6] The BAAQMD published a new version of the Guidelines dated May 2017, which includes revisions made to address the Supreme Court's opinion. The BAAQMD is currently working to revise any outdated information in the Guidelines as part of its update to the CEQA Guidelines and thresholds of significance.

Clean Air Plan

Air quality plans developed to meet federal requirements are referred to as State Implementation Plans. The federal and state Clean Air Acts require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the state PM_{10} standard). The *2017 Clean Air Plan: Spare the Air, Cool the Climate* was adopted on April 19, 2019, by the BAAQMD.

The 2017 Clean Air Plan provides a regional strategy to protect public health and protect the climate. To protect public health, the plan describes how the BAAQMD will continue progress toward attaining all state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the 2017 Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious greenhouse gas (GHG) reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets.

The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other "super-GHGs" that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

3.4 LOCAL

City of Cupertino General Plan

The City of Cupertino General Plan "Community Vision 2015-2040" describes the community's overall philosophy regarding the character and accessibility of existing and new neighborhoods and mixed-use corridors. The City of Cupertino's vision is to be a balanced community with quiet and attractive residential neighborhoods; exemplary parks and schools; accessible open space areas, hillsides and creeks; and a

[5] California Court of Appeal, First Appellate District, Case Nos. A135335 & A136212.
[6] *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 [No. S 213478]

vibrant, mixed-use "Heart of the City". The City will be safe, friendly, healthy, connected, walkable, bikeable and inclusive for all residents and workers.

Goal M-8: Promote policies to help achieve state, regional and local air quality and greenhouse gas emission reduction targets.

Policy M-8.1: Greenhouse Gas Emissions

Promote transportation policies that help to reduce greenhouse gas emissions.

Policy M-8.2: Land Use

Support development and transportation improvements that help reduce greenhouse gas emissions by reducing per capita Vehicle Miles Traveled (VMT), reducing impacts on the City's transportation network and maintaining the desired levels of service for all mode of transportation.

Policy M-8.5: Design of new developments

Encourage new commercial developments to provide shared office facilities, cafeterias, daycare facilities, lunchrooms, showers, bicycle parking, home offices, shuttle buses to transit facilities and other amenities that encourage the use of transit, bicycling or walking as commute modes to work. Provide pedestrian pathways and orient buildings to the street to encourage pedestrian activity.

Policy M-8.6: Alternative Fuel Charging Stations

Develop a city-wide strategy to encourage the construction of a network of public and private alternative fuel vehicle charging/ fueling stations.

Goal ES-1: Ensure a sustainable future for the city of Cupertino

Policy ES-1.1: Principles of Sustainability

Incorporate the principles of sustainability into Cupertino's planning, infrastructure and development process in order to improve the environment, reduce greenhouse gas emissions and meet the needs of the community without compromising the needs of future generations.

Strategies:

ES-1.1.1: Climate Action Plan (CAP)

Adopt, implement and maintain a Climate Action Plan to attain greenhouse gas emission targets consistent with state law and regional requirements. This qualified greenhouse gas emissions reduction plan, by BAAQMD's definition, will allow for future project CEQA streamlining and will identify measures to:

- Reduce energy use through conservation and efficiency
- Reduce fossil fuel use through multi-modal and alternative transportation
- Maximize use of and, where feasible, install renewable energy resources
- Increase citywide water conservation and recycled water use
- Accelerate Resource Recovery through expanded recycling, composting, extended producer responsibility and procurement practices
- Promote and incentivize each of those efforts to maximize community participation and impacts
- Integrate multiple benefits of green infrastructure with climate resiliency and adaptation.

ES-1.1.2: CAP and Sustainability Strategies Implementation

Periodically review and report on the effectiveness of the measures outlined in the CAP and the strategies in this Element. Institutionalize sustainability by developing a methodology to ensure all environmental, social and lifecycle costs are considered in project, program, policy and budget decisions.

ES-1.1.3: Climate Adaptation and Resiliency

Conduct a climate vulnerability assessment and set preparedness goals and strategies to safeguard human health and community assets susceptible to the impacts of a changing climate (e.g., increased drought, wildfires, flooding). Incorporate these into all relevant plans, including the Emergency Preparedness Plan, Local Hazard Mitigation Plan, Dam Failure Plan, Climate Action Plan, Watershed Protection Plan, and Energy Assuredness Plan.

Policy ES-1.2: Regional Growth and Transportation Coordination

Coordinate with local and regional agencies to prepare updates to regional growth plans and strategies, including the Regional Housing Allocation Needs Allocation (RHNA), One Bay Area Plan, Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS).

Strategies:

ES-1.2.1: Local Plan Consistency with Regional Plans

Update and maintain local plans and strategies so they are consistent with One Bay Area Plan to qualify for State transportation and project CEQA streamlining.

City of Cupertino Climate Action Plan

The City of Cupertino's Climate Action Plan (CAP) was first published in January 2015. The City has since released a 2015 CAP Progress Report, 2015 GHG Inventory Update, 2016 CAP Progress Report, and 2017

CAP Progress Report. The CAP is a strategy to achieve 15 percent reduction in carbon emissions by the year 2020, 49 percent reduction by 2035, and 83 percent by 2050. The reduction measures proposed in the CAP build on inventory results and key opportunities prioritized by City staff, members from the community, and elected officials. The strategies in the CAP consist of measures and actions that identify the steps the City will take to support reductions in GHG emissions. The City of Cupertino will achieve these reductions in GHG emissions through a mix of voluntary programs and new strategic standards. The standards presented in the CAP respond to the needs of development, avoiding unnecessary regulation, streamlining new development, and achieving more efficient use of resources.

In April 2017, Silicon Valley Clean Energy began offering 100 percent carbon free electricity to all residents and businesses in the City of Cupertino. The City upgraded its municipal electricity accounts to all renewable energy. The City also put in effect a Mandatory Commercial Organics Ordinance that went into effect early 2016 for all businesses that generate three cubic yards or more of organic waste per week or generate a solid waste stream that is comprised of 25 percent or more organic food waste material. Cupertino City Council approved the updated 2016 Bicycle Transportation Plan and dedicated $2 million towards implementation.

City of Cupertino Municipal Code

Chapter 16.58, Green Building Ordinance, of the City's Municipal Code includes the CALGreen requirements with local amendments for projects in the City. As part of the City's Green Building Ordinance, the City of Cupertino requires new construction greater than 9 residential units or 25,000 square feet of non-residential development and greater to build to Leadership in Energy and Environmental Design (LEED) or alternative reference standards. The LEED construction and/or other types of equivalent green building verification systems typically require enhanced building energy efficiency, which reduces heating and cooling requirements of a building and therefore also reduces GHG emissions.

4 SIGNIFICANCE CRITERIA AND METHODOLOGY

4.1 GREENHOUSE GAS THRESHOLDS

Based upon the criteria derived from Appendix G of the CEQA Guidelines, a project normally would have a significant effect on the environment if it would:

- **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.**

BAAQMD Thresholds

The BAAQMD's 2017 *CEQA Air Quality Guidelines* provide significance thresholds for project GHG emissions that are used by the City of Cupertino. If the BAAQMD thresholds are exceeded, a potentially significant impact could result. These thresholds are substantiated in the *Options and Justification Report* (dated October 2009) prepared by the BAAQMD. These recommendations represent the best available science on the subject of what constitutes a significant GHG effect on climate change for this project. BAAQMD's recommended thresholds are as follows:

- Compliance with a Qualified Climate Action Plan or
- Meet one of the following thresholds:
    - 1,100 MT CO_2e/year (yr); or
    - 4.6 MTCO_2e/service population (sp)/yr (residents and employees)

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 Appendix A, *Greenhouse Gas Emissions Data*. 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

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

The project would include direct and indirect GHG emissions. Direct operational-related GHG emissions for the proposed project would include emissions from area and mobile sources, while indirect emissions are from energy consumption, water demand, and solid waste.

Construction Emissions

Construction of the project would result in direct emissions of CO_2, N_2O, and CH_4 from the operation of construction equipment and the transport of materials and construction workers to and from the project site. 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.[7] BAAQMD does not have a threshold for construction GHG emissions. However, the BAAQMD advises that construction GHG should be disclosed and a determination on the significance of construction GHG emissions in relation to meeting AB 32 GHG reduction goals should be made. Total GHG emissions generated during all phases of construction were combined and are presented in Table 2, *Project Greenhouse Gas Emissions*. The CalEEMod outputs are contained within the Appendix A, *Greenhouse Gas Emissions Data*. As shown in Table 2, the project construction would result in 1,730 $MTCO_2e$ (58 $MTCO_2e$ per year when amortized over 30 years) and would not exceed BAAQMD's threshold of 1,100 million metric tons of carbon dioxide equivalent per year ($MTCO_2e$ per year). Construction emissions would be less than significant and no mitigation measures would be required.

Table 2: Project Greenhouse Gas Emissions

Category	Project ($MTCO_2e$)[1]	Percent Total[2]
CONSTRUCTION EMISSIONS		
Total Mitigated Construction Emissions (2019-2020)	1,730.18	N/A
30- Year Amortized Construction	57.67	N/A
OPERATIONAL EMISSIONS		
Existing		
Area	0.0014	0%
Energy	232	16%
On-Road Mobile Sources[4]	1,214	82%
Waste	19	1%
Water/Wastewater	19	1%
Total	**1,484**	**100%**
Proposed Project		
Area[5]	8	0%
Energy	648	35%

[7] 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).

Table 2: Project Greenhouse Gas Emissions		
Category	**Project ($MTCO_2e$)[1]**	**Percent Total[2]**
On-Road Mobile Sources[4]	1,102	60%
Waste[6]	33	2%
Water/Wastewater	51	3%
Total	**1,843**	**100%**
Net Change		
Area	8	--
Energy	416	--
On-Road Mobile Sources	-112	--
Waste	14	--
Water/Wastewater	32	--
Total	**359**	**--**
BAAQMD Bright-Line Threshold	**1,100 $MTCO_2e$/year**	**--**
Exceeds BAAQMD Thresholds?	**No**	

Notes:
1. Emissions were calculated using CalEEMod.
2. Emissions may not total to 100 percent due to rounding.
3. Construction emissions are provided for informational purposes. The BAAQMD does not have construction GHG thresholds.
4. The mobile emissions modeled CalEEMod emissions are based on the project total daily trip generation of 2,174 vehicles. Credit for internal trip capture and proximity to transit was applied in the CalEEMod mitigation module (i.e., land use and site enhancement, increase density, and increase diversity). These measures were applied in accordance with the criteria within the California Air Pollution Control Officers Association (CAPCOA), *Quantifying Greenhouse Gas Mitigation Measures* (2010) guidance, and the CalEEMod User's Guide.
5. The area source emissions include compliance with BAAQMD Regulation 6, Rule 3 (Wood Burning Devices) and were applied in the mitigation tab of CalEEMod.
6. The waste source emissions include compliance with AB 939 requiring 50 percent diversion of the solid waste stream.

Source: Kimley-Horn and Associates, 2018; refer to Appendix A.

Operational 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 over the life of the project, 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. Table 2, summarizes the total GHG emissions associated with proposed project. As shown, the project would generate approximately 1,843 $MTCO_2e$ per year.

Land use and site enhancement measures were applied in CalEEMod to represent project attributes and include the following:

- Urban Project Setting: The CalEEMod User's Guide defines the urban setting as an area which is located within the central city with higher density of land uses than you would find in the suburbs. It may be characterized by multi-family housing and located near office and retail. The project fits this definition as it involves a mixed-use development with residential and commercial uses within the Heart of the City Specific Plan area and near the Cupertino business district.

- Increase Density and Diversity: The project has a density of approximately 25 dwelling units per acre. Additionally, having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport. For example, when residential areas are in the same neighborhood as retail and office buildings, a resident does not need to travel outside of the neighborhood to meet his/her trip needs. As the project involves a mixed-use urban village with a mix of residential, retail, and commercial uses, the diversity measure was applied.

- Improve Destination Accessibility: According to CARB mapping[8], the project is approximately 0.75 miles to the closest business district.

- Improve Pedestrian Network: Providing a pedestrian access network to link areas of the Project site encourages people to walk instead of drive. The project would not have any barriers to pedestrian access and interconnectivity. The project site would connect to the off-site pedestrian network.

The project site is currently developed with 71,254 square-feet of shopping center, which generates approximately 1,484 $MTCO_2e$ per year. The project proposes to remove the existing uses and redevelop the site. As a result, the project's emissions would represent a net increase in GHG emissions of 359 $MTCO_2e$ per year.

Total Proposed Project-Related Sources of Greenhouse Gases

As shown in Table 2, the net GHG emissions resulting from the proposed project would be approximately 359 $MTCO_2e$ per year. The project would not result in an increase in GHG emissions that exceed the BAAQMD's bright-line screening threshold of 1,100 $MTCO_2e$ per year. Therefore, project-related GHG emissions would be less than significant and no mitigation measures are required.

The City's General Plan EIR determined that the General Plan would achieve the 2020 and 2035 performance criteria, respectively, which would ensure that the City is on a trajectory that is consistent with the statewide GHG reduction goals. Consequently, short- and long-term GHG emissions impacts of the General Plan are less than significant. As described above, the proposed project would be consistent with the City's General Plan and the analysis in the General Plan EIR and the project would not result in emissions that exceed applicable BAAQMD thresholds. Therefore, the proposed project would not result in any impacts beyond those previously identified in the General Plan EIR.

[8] California Air Resources Board, *Distance to Central Business District*, https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/kml/jobcentermap.htm

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?

To address the potential impact, the project consistency with the City of Cupertino Climate Action Plan (CAP) is used for this analysis. The CAP is a qualified Greenhouse Gas Reduction Strategy under CEQA, which can be used to determine the significance of GHG emissions from a project (CEQA Guidelines section 15183.5). The BAAQMD also recognizes the use of a CAP as a significance threshold for a project's GHG emissions. Therefore, if the project is consistent with the CAP, then the project would result in a less than significant cumulative impact to global climate change in 2020.

City of Cupertino Climate Action Plan

The Cupertino Climate Action Plan (CAP) identifies sources of GHG emissions within the City's boundaries, presents current and future emissions estimates, identifies a GHG reduction target for future years, and presents strategic goals, measures, and actions to reduce emissions.

The City's CAP meets BAAQMD guidelines as follows:

- The CAP quantifies citywide GHG emissions, both existing and projected over the specified time period, resulting from activities within the city as defined by the City's General Plan.
- The CAP establishes a level, based on substantial evidence, below which the contribution of emissions from activities covered by the plan would not be cumulatively considerable.
- CAP policy provisions reduce emissions to 15 percent below 2005 levels by 2020.
- CAP policy provisions reduce emissions to 35 percent below 2005 levels by 2030.
- CAP policy provisions provide a foundation for the City to reach the goal of reducing emissions to 80 percent below 1990 levels by 2050.
- The CAP identifies and analyzes the emissions resulting from specific actions or categories of actions anticipated within the city.
- The CAP specifies measures or a group of measures, including performance standards.
- The CAP establishes a mechanism to monitor its progress toward achieving the level and to require amendment if the plan is not achieving specific levels.
- The reduction measures proposed in the CAP build on inventory results and key opportunities prioritized by City staff, members from the community, and elected officials. The strategies in the CAP consist of measures and actions that identify the steps the City will take to support reductions in GHG emissions. The City of Cupertino will achieve these reductions in GHG emissions through a mix of voluntary programs and new strategic standards. The standards presented in the CAP respond to the needs of development, avoiding unnecessary regulation, streamlining new development, and achieving more efficient use of resources.

The proposed project would be consistent with the overall goals of the Cupertino CAP, which is the City's strategic planning document to reduce GHG emissions. As an infill project on a currently developed site, the proposed project would support efforts to reduce GHG emissions from VMT. The redevelopment would achieve the current Building Energy Efficiency Standards and would be constructed in conformance with CALGreen, which requires high-efficiency water fixtures for indoor plumbing and water efficient

irrigation systems that would improve energy efficiency. The proposed buildings would comply with Title 24 solar requirements and would meet solar ready requirements are associated with Title 24. While the requirements under Title 24 do not require installation of solar-energy systems, the buildings are built to accept the installation of such a system. Additionally, pursuant to Chapter 16.58 (Green Building Ordinance) of the Cupertino Municipal Code, the project would be required to build to LEED or an alternative reference standard. The proposed project would comply with SB X7-7, which requires California to achieve a 20 percent reduction in urban per capita water use by 2020. The proposed project would implement best management practices for water conservation to achieve the City's water conservation goals. Furthermore, the proposed project would comply with the City's Construction and Demolition Debris Diversion Ordinance, which requires applicable construction projects to divert 60 percent of construction waste. Prior to receiving a final building inspection, a construction recycling report would be submitted to show the tons recycled and disposed by material type. The proposed project would not conflict any strategies to reduce GHG emissions in the CAP and impacts would be less than significant.

In summary, the proposed project, an infill and mixed-use project within a currently developed area would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

CARB Scoping Plan

The latest CARB Climate Change Scoping Plan (2017) outlines the state's strategy to return reduce state's GHG emissions to return to 40 percent below 1990 levels by 2030 pursuant to SB 32. The CARB Scoping Plan is applicable to state agencies and is not directly applicable to cities/counties and individual projects. Nonetheless, the Scoping Plan has been the primary tool that is used to develop performance-based and efficiency-based CEQA criteria and GHG reduction targets for climate action planning efforts.

The project's GHG emissions shown in Table 2 above include reductions associated with statewide strategies such as the Pavley I motor vehicle emission standards, the Low Carbon Fuel Standard (LCFS), and the 2016 Title 24 Energy Efficiency Standards. However, the modeling does not incorporate reductions from the Pavley II (LEV III) Advanced Clean Cars Program (extends to model year 2025), the Renewable Portfolio Standards (RPS), Green Building Code Standards for indoor water use, or the California Model Water Efficient Landscape Ordinance (outdoor water), or the latest 2019 Title 24 Energy Efficiency Standards (effective January 1, 2020). Therefore, actual emissions would be lower than those shown in Table 2 with the implementation of all of the statewide reduction strategies. Furthermore, the project would develop new buildings that would achieve the latest Building Energy Efficiency Standards and pursuant to Chapter 16.58 (Green Building Ordinance) of the Cupertino Municipal Code, would be required to build to LEED or an alternative reference standard. The proposed project would also be constructed in conformance with CALGreen, which requires high-efficiency water fixtures for indoor plumbing and water efficient irrigation systems. The proposed project would not conflict any statewide strategies to reduce GHG emissions. Therefore, impacts would be less than significant in this regard.

Plan Bay Area

The proposed project would be consistent with the overall goals of *Plan Bay Area 2040* in concentrating new development in locations where there is existing infrastructure as the proposed project would redevelop the project site to provide a mix of land uses. Therefore, the proposed project would not conflict with the land use concept plan in *Plan Bay Area 2040* and impacts would be less than significant.

The City's General Plan EIR determined that implementation of the General Plan policies as well as compliance with applicable State standards would ensure consistency with state and regional GHG reduction planning efforts. The General Plan EIR concluded that impact would be less than significant in this regard. As described above, the proposed project would be consistent with the General Plan, the City's CAP, the CARB Scoping Plan, and the Plan Bay Area 2040. Therefore, the proposed project would not result in any impacts beyond those previously identified in the General Plan EIR.

Level of Significance: Less than significant impact.

6 REFERENCES

1. Bay Area Air Quality Management District, *2017 CEQA Air Quality Guidelines*, 2017.
2. Bay Area Air Quality Management District, *Final 2017 Clean Air Plan*, 2017.
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4. California Air Resources Board, *California's 2017 Climate Change Scoping Plan,* 2017.
5. City of Cupertino, *Climate Action Plan*, 2014.
6. City of Cupertino, *Climate Action Plan Update*, 2016.
7. City of Cupertino, *Cupertino General Plan Community Vision 2015-2040*, 2015.
8. City of Cupertino, *2016 Climate Action Plan Progress Report*, 2017.
9. Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis*, 2007.
10. 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.
11. National Research Council, *Advancing the Science of Climate Change*, 2010.
12. U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016*, 2018.
13. U.S. EPA, *Methane and Nitrous Oxide Emission from Natural Sources*, 2010.
14. U.S. EPA, *Overview of Greenhouse Gases*, 2018.

Appendix A

Greenhouse Gas Emissions Data

Westport - Santa Clara County, Annual

Westport

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	232.00	Space	2.09	92,800.00	0
Parking Lot	117.00	Space	1.05	46,800.00	0
Apartments Low Rise	88.00	Dwelling Unit	5.50	248,000.00	252
Apartments Mid Rise	115.00	Dwelling Unit	3.03	193,500.00	329
Retirement Community	39.00	Dwelling Unit	7.80	38,800.00	112
Strip Mall	20.00	1000sqft	0.46	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on information from applicant

Land Use - Based on applicants information

Low Rise: Townhomes and Rowhomes

Construction Phase - Anticipated construction schedule

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Anticipated equipment

Off-road Equipment -

Off-road Equipment -

Trips and VMT -

Demolition - Square-footage of existing shopping center

Grading - Anticipated excavation for parking garage

Architectural Coating -

Vehicle Trips - Based on Trip Generation Table

Woodstoves - Prohibited per BAAQMD Regulation 6, Rule 3

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation - Per BAAQMD basic control measures

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	30.00	88.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	300.00	381.00
tblConstructionPhase	NumDays	20.00	109.00

tblConstructionPhase	PhaseEndDate	8/6/2019	1/30/2019
tblConstructionPhase	PhaseEndDate	8/20/2019	2/13/2019
tblConstructionPhase	PhaseEndDate	10/1/2019	6/17/2019
tblConstructionPhase	PhaseEndDate	12/22/2020	7/17/2019
tblConstructionPhase	PhaseEndDate	11/24/2020	12/31/2020
tblConstructionPhase	PhaseEndDate	1/19/2021	12/31/2020
tblConstructionPhase	PhaseStartDate	7/10/2019	1/1/2019
tblConstructionPhase	PhaseStartDate	8/7/2019	1/31/2019
tblConstructionPhase	PhaseStartDate	8/21/2019	2/14/2019
tblConstructionPhase	PhaseStartDate	11/25/2020	6/18/2019
tblConstructionPhase	PhaseStartDate	10/2/2019	7/18/2019
tblConstructionPhase	PhaseStartDate	12/23/2020	8/1/2020
tblFireplaces	NumberWood	14.96	0.00
tblFireplaces	NumberWood	19.55	0.00
tblFireplaces	NumberWood	6.63	0.00
tblGrading	MaterialExported	0.00	69,000.00
tblLandUse	LandUseSquareFeet	88,000.00	248,000.00
tblLandUse	LandUseSquareFeet	115,000.00	193,500.00
tblLandUse	LandUseSquareFeet	39,000.00	38,800.00
tblVehicleTrips	WD_TR	6.59	7.32
tblVehicleTrips	WD_TR	6.65	5.44
tblVehicleTrips	WD_TR	2.40	3.73
tblVehicleTrips	WD_TR	44.32	37.75

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.5389	6.2680	3.8177	0.0108	0.7302	0.2313	0.9615	0.2733	0.2149	0.4881	0.0000	997.8489	997.8489	0.1579	0.0000	1,001.7966
2020	3.9450	3.4618	3.3626	8.1000e-003	0.3139	0.1580	0.4718	0.0845	0.1489	0.2334	0.0000	726.1599	726.1599	0.0889	0.0000	728.3830
Maximum	**3.9450**	**6.2680**	**3.8177**	**0.0108**	**0.7302**	**0.2313**	**0.9615**	**0.2733**	**0.2149**	**0.4881**	**0.0000**	**997.8489**	**997.8489**	**0.1579**	**0.0000**	**1,001.7966**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.5389	6.2680	3.8177	0.0108	0.4271	0.2313	0.6584	0.1483	0.2149	0.3631	0.0000	997.8483	997.8483	0.1579	0.0000	1,001.7961
2020	3.9450	3.4618	3.3626	8.1000e-003	0.2980	0.1580	0.4560	0.0806	0.1489	0.2295	0.0000	726.1595	726.1595	0.0889	0.0000	728.3826
Maximum	**3.9450**	**6.2680**	**3.8177**	**0.0108**	**0.4271**	**0.2313**	**0.6584**	**0.1483**	**0.2149**	**0.3631**	**0.0000**	**997.8483**	**997.8483**	**0.1579**	**0.0000**	**1,001.7961**

	ROG	NOx	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**	**30.55**	**0.00**	**22.26**	**36.03**	**0.00**	**17.87**	**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	**7-10-2019**	**10-9-2019**	0.9988	0.9988
2	**10-10-2019**	**1-9-2020**	1.0398	1.0398
3	**1-10-2020**	**4-9-2020**	0.9398	0.9398
4	**4-10-2020**	**7-9-2020**	0.9326	0.9326
5	**7-10-2020**	**9-30-2020**	2.3033	2.3033
		Highest	2.3033	2.3033

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.3891	0.0276	1.9807	6.8000e-004		0.0384	0.0384		0.0384	0.0384	3.7744	7.4734	11.2478	0.0206	8.0000e-005	11.7879
Energy	0.0126	0.1078	0.0468	6.9000e-004		8.7000e-003	8.7000e-003		8.7000e-003	8.7000e-003	0.0000	645.6476	645.6476	0.0260	7.1600e-003	648.4298
Mobile	0.5548	2.2399	6.1817	0.0187	1.6140	0.0189	1.6329	0.4321	0.0177	0.4498	0.0000	1,713.5087	1,713.5087	0.0639	0.0000	1,715.1052
Waste						0.0000	0.0000		0.0000	0.0000	26.8598	0.0000	26.8598	1.5874	0.0000	66.5439
Water						0.0000	0.0000		0.0000	0.0000	5.4722	38.1972	43.6694	0.5638	0.0136	61.8251
Total	**2.9565**	**2.3753**	**8.2093**	**0.0201**	**1.6140**	**0.0661**	**1.6800**	**0.4321**	**0.0649**	**0.4969**	**36.1064**	**2,404.8269**	**2,440.9333**	**2.2616**	**0.0209**	**2,503.6919**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.3701	0.0248	1.8079	1.2000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	7.4734	7.4734	2.9700e-003	8.0000e-005	7.5724
Energy	0.0126	0.1078	0.0468	6.9000e-004		8.7000e-003	8.7000e-003		8.7000e-003	8.7000e-003	0.0000	645.6476	645.6476	0.0260	7.1600e-003	648.4298
Mobile	0.4881	1.7632	4.5022	0.0120	0.9906	0.0125	1.0031	0.2652	0.0117	0.2769	0.0000	1,101.2386	1,101.2386	0.0466	0.0000	1,102.4039
Waste						0.0000	0.0000		0.0000	0.0000	13.4299	0.0000	13.4299	0.7937	0.0000	33.2720
Water						0.0000	0.0000		0.0000	0.0000	4.3778	32.0931	36.4708	0.4511	0.0109	51.0014

Total	2.8708	1.8958	6.3569	0.0129	0.9906	0.0315	1.0221	0.2652	0.0307	0.2959	17.8077	1,786.4527	1,804.2603	1.3203	0.0182	1,842.6794

	ROG	NOx	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	2.90	20.18	22.56	36.10	38.62	52.37	39.16	38.63	52.72	40.47	50.68	25.71	26.08	41.62	12.99	26.40

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	1/1/2019	1/30/2019	5	22	
2	Site Preparation	Site Preparation	1/31/2019	2/13/2019	5	10	
3	Grading	Grading	2/14/2019	6/17/2019	5	88	
4	Building Construction	Building Construction	7/18/2019	12/31/2020	5	381	
5	Paving	Paving	6/18/2019	7/17/2019	5	22	
6	Architectural Coating	Architectural Coating	8/1/2020	12/31/2020	5	109	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 220

Acres of Paving: 3.14

Residential Indoor: 972,608; Residential Outdoor: 324,203; Non-Residential Indoor: 30,000; Non-Residential Outdoor: 10,000; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38

Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	324.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	8,625.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	239.00	52.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	48.00	0.00	0.00	10.80	7.30	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 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0351	0.0000	0.0351	5.3100e-003	0.0000	5.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0387	0.3936	0.2427	4.3000e-004		0.0197	0.0197		0.0184	0.0184	0.0000	38.0890	38.0890	0.0106	0.0000	38.3539
Total	**0.0387**	**0.3936**	**0.2427**	**4.3000e-004**	**0.0351**	**0.0197**	**0.0548**	**5.3100e-003**	**0.0184**	**0.0237**	**0.0000**	**38.0890**	**38.0890**	**0.0106**	**0.0000**	**38.3539**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4700e-003	0.0504	9.9600e-003	1.3000e-004	2.7500e-003	1.9000e-004	2.9400e-003	7.5000e-004	1.9000e-004	9.4000e-004	0.0000	12.4845	12.4845	5.9000e-004	0.0000	12.4991
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	6.0000e-004	4.5000e-004	4.6100e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1584	1.1584	3.0000e-005	0.0000	1.1592
Total	**2.0700e-003**	**0.0509**	**0.0146**	**1.4000e-004**	**4.0600e-003**	**2.0000e-004**	**4.2600e-003**	**1.1000e-003**	**2.0000e-004**	**1.3000e-003**	**0.0000**	**13.6429**	**13.6429**	**6.2000e-004**	**0.0000**	**13.6583**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0150	0.0000	0.0150	2.2700e-003	0.0000	2.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0387	0.3936	0.2427	4.3000e-004		0.0197	0.0197		0.0184	0.0184	0.0000	38.0889	38.0889	0.0106	0.0000	38.3538
Total	**0.0387**	**0.3936**	**0.2427**	**4.3000e-004**	**0.0150**	**0.0197**	**0.0347**	**2.2700e-003**	**0.0184**	**0.0206**	**0.0000**	**38.0889**	**38.0889**	**0.0106**	**0.0000**	**38.3538**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4700e-003	0.0504	9.9600e-003	1.3000e-004	2.6200e-003	1.9000e-004	2.8200e-003	7.2000e-004	1.9000e-004	9.1000e-004	0.0000	12.4845	12.4845	5.9000e-004	0.0000	12.4991
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	6.0000e-004	4.5000e-004	4.6100e-003	1.0000e-005	1.2400e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1584	1.1584	3.0000e-005	0.0000	1.1592
Total	**2.0700e-003**	**0.0509**	**0.0146**	**1.4000e-004**	**3.8600e-003**	**2.0000e-004**	**4.0700e-003**	**1.0500e-003**	**2.0000e-004**	**1.2500e-003**	**0.0000**	**13.6429**	**13.6429**	**6.2000e-004**	**0.0000**	**13.6583**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.4000e-004	2.5100e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6319	0.6319	2.0000e-005	0.0000	0.6323
Total	**3.3000e-004**	**2.4000e-004**	**2.5100e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6319**	**0.6319**	**2.0000e-005**	**0.0000**	**0.6323**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0386	0.0000	0.0386	0.0212	0.0000	0.0212	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0386**	**0.0120**	**0.0506**	**0.0212**	**0.0110**	**0.0322**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.4000e-004	2.5100e-003	1.0000e-005	6.8000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.6319	0.6319	2.0000e-005	0.0000	0.6323
Total	**3.3000e-004**	**2.4000e-004**	**2.5100e-003**	**1.0000e-005**	**6.8000e-004**	**0.0000**	**6.8000e-004**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6319**	**0.6319**	**2.0000e-005**	**0.0000**	**0.6323**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3855	0.0000	0.3855	0.1588	0.0000	0.1588	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2085	2.3989	1.4686	2.7300e-003		0.1048	0.1048		0.0965	0.0965	0.0000	245.0858	245.0858	0.0775	0.0000	247.0244
Total	**0.2085**	**2.3989**	**1.4686**	**2.7300e-003**	**0.3855**	**0.1048**	**0.4904**	**0.1588**	**0.0965**	**0.2553**	**0.0000**	**245.0858**	**245.0858**	**0.0775**	**0.0000**	**247.0244**

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	0.0392	1.3427	0.2652	3.4400e-003	0.0731	5.1500e-003	0.0783	0.0201	4.9300e-003	0.0250	0.0000	332.3406	332.3406	0.0156	0.0000	332.7299
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-003	2.3800e-003	0.0246	7.0000e-005	6.9800e-003	5.0000e-005	7.0300e-003	1.8600e-003	4.0000e-005	1.9000e-003	0.0000	6.1783	6.1783	1.7000e-004	0.0000	6.1825
Total	**0.0424**	**1.3451**	**0.2898**	**3.5100e-003**	**0.0801**	**5.2000e-003**	**0.0853**	**0.0220**	**4.9700e-003**	**0.0269**	**0.0000**	**338.5189**	**338.5189**	**0.0157**	**0.0000**	**338.9124**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1648	0.0000	0.1648	0.0679	0.0000	0.0679	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2085	2.3989	1.4686	2.7300e-003		0.1048	0.1048		0.0965	0.0965	0.0000	245.0855	245.0855	0.0775	0.0000	247.0241
Total	**0.2085**	**2.3989**	**1.4686**	**2.7300e-003**	**0.1648**	**0.1048**	**0.2697**	**0.0679**	**0.0965**	**0.1644**	**0.0000**	**245.0855**	**245.0855**	**0.0775**	**0.0000**	**247.0241**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0392	1.3427	0.2652	3.4400e-003	0.0698	5.1500e-003	0.0750	0.0193	4.9300e-003	0.0242	0.0000	332.3406	332.3406	0.0156	0.0000	332.7299
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	3.2000e-003	2.3800e-003	0.0246	7.0000e-005	6.6200e-003	5.0000e-005	6.6600e-003	1.7700e-003	4.0000e-005	1.8100e-003	0.0000	6.1783	6.1783	1.7000e-004	0.0000	6.1825
Total	**0.0424**	**1.3451**	**0.2898**	**3.5100e-003**	**0.0764**	**5.2000e-003**	**0.0816**	**0.0211**	**4.9700e-003**	**0.0260**	**0.0000**	**338.5189**	**338.5189**	**0.0157**	**0.0000**	**338.9124**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1405	1.2542	1.0212	1.6000e-003		0.0768	0.0768		0.0722	0.0722	0.0000	139.8870	139.8870	0.0341	0.0000	140.7389
Total	**0.1405**	**1.2542**	**1.0212**	**1.6000e-003**		**0.0768**	**0.0768**		**0.0722**	**0.0722**	**0.0000**	**139.8870**	**139.8870**	**0.0341**	**0.0000**	**140.7389**

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	0.0152	0.3907	0.1049	8.5000e-004	0.0204	2.8100e-003	0.0232	5.8800e-003	2.6900e-003	8.5700e-003	0.0000	81.3882	81.3882	4.0400e-003	0.0000	81.4892
Worker	0.0517	0.0385	0.3973	1.1000e-003	0.1128	7.4000e-004	0.1135	0.0300	6.9000e-004	0.0307	0.0000	99.8398	99.8398	2.7200e-003	0.0000	99.9077
Total	**0.0668**	**0.4292**	**0.5021**	**1.9500e-003**	**0.1331**	**3.5500e-003**	**0.1367**	**0.0359**	**3.3800e-003**	**0.0393**	**0.0000**	**181.2280**	**181.2280**	**6.7600e-003**	**0.0000**	**181.3969**

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	0.1405	1.2542	1.0212	1.6000e-003		0.0768	0.0768		0.0722	0.0722	0.0000	139.8868	139.8868	0.0341	0.0000	140.7388
Total	**0.1405**	**1.2542**	**1.0212**	**1.6000e-003**		**0.0768**	**0.0768**		**0.0722**	**0.0722**	**0.0000**	**139.8868**	**139.8868**	**0.0341**	**0.0000**	**140.7388**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0152	0.3907	0.1049	8.5000e-004	0.0195	2.8100e-003	0.0223	5.6700e-003	2.6900e-003	8.3600e-003	0.0000	81.3882	81.3882	4.0400e-003	0.0000	81.4892
Worker	0.0517	0.0385	0.3973	1.1000e-003	0.1069	7.4000e-004	0.1077	0.0286	6.9000e-004	0.0293	0.0000	99.8398	99.8398	2.7200e-003	0.0000	99.9077
Total	**0.0668**	**0.4292**	**0.5021**	**1.9500e-003**	**0.1264**	**3.5500e-003**	**0.1300**	**0.0342**	**3.3800e-003**	**0.0376**	**0.0000**	**181.2280**	**181.2280**	**6.7600e-003**	**0.0000**	**181.3969**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.2777	2.5134	2.2072	3.5300e-003		0.1463	0.1463		0.1376	0.1376	0.0000	303.4091	303.4091	0.0740	0.0000	305.2596
Total	**0.2777**	**2.5134**	**2.2072**	**3.5300e-003**		**0.1463**	**0.1463**		**0.1376**	**0.1376**	**0.0000**	**303.4091**	**303.4091**	**0.0740**	**0.0000**	**305.2596**

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	0.0270	0.7756	0.2066	1.8600e-003	0.0448	3.8400e-003	0.0487	0.0130	3.6700e-003	0.0166	0.0000	178.0948	178.0948	8.1700e-003	0.0000	178.2990
Worker	0.1040	0.0747	0.7836	2.3600e-003	0.2483	1.6000e-003	0.2499	0.0660	1.4800e-003	0.0675	0.0000	212.9480	212.9480	5.2200e-003	0.0000	213.0786
Total	**0.1310**	**0.8504**	**0.9901**	**4.2200e-003**	**0.2931**	**5.4400e-003**	**0.2986**	**0.0790**	**5.1500e-003**	**0.0842**	**0.0000**	**391.0428**	**391.0428**	**0.0134**	**0.0000**	**391.3776**

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	0.2777	2.5134	2.2072	3.5300e-003		0.1463	0.1463		0.1376	0.1376	0.0000	303.4087	303.4087	0.0740	0.0000	305.2592
Total	**0.2777**	**2.5134**	**2.2072**	**3.5300e-003**		**0.1463**	**0.1463**		**0.1376**	**0.1376**	**0.0000**	**303.4087**	**303.4087**	**0.0740**	**0.0000**	**305.2592**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0270	0.7756	0.2066	1.8600e-003	0.0429	3.8400e-003	0.0468	0.0125	3.6700e-003	0.0162	0.0000	178.0948	178.0948	8.1700e-003	0.0000	178.2990
Worker	0.1040	0.0747	0.7836	2.3600e-003	0.2354	1.6000e-003	0.2370	0.0629	1.4800e-003	0.0644	0.0000	212.9480	212.9480	5.2200e-003	0.0000	213.0786
Total	**0.1310**	**0.8504**	**0.9901**	**4.2200e-003**	**0.2784**	**5.4400e-003**	**0.2838**	**0.0754**	**5.1500e-003**	**0.0805**	**0.0000**	**391.0428**	**391.0428**	**0.0134**	**0.0000**	**391.3776**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0160	0.1677	0.1613	2.5000e-004		9.0700e-003	9.0700e-003		8.3400e-003	8.3400e-003	0.0000	22.5227	22.5227	7.1300e-003	0.0000	22.7009
Paving	1.3800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0174**	**0.1677**	**0.1613**	**2.5000e-004**		**9.0700e-003**	**9.0700e-003**		**8.3400e-003**	**8.3400e-003**	**0.0000**	**22.5227**	**22.5227**	**7.1300e-003**	**0.0000**	**22.7009**

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	6.0000e-004	4.5000e-004	4.6100e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1584	1.1584	3.0000e-005	0.0000	1.1592
Total	**6.0000e-004**	**4.5000e-004**	**4.6100e-003**	**1.0000e-005**	**1.3100e-003**	**1.0000e-005**	**1.3200e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.1584**	**1.1584**	**3.0000e-005**	**0.0000**	**1.1592**

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	0.0160	0.1677	0.1613	2.5000e-004		9.0700e-003	9.0700e-003		8.3400e-003	8.3400e-003	0.0000	22.5227	22.5227	7.1300e-003	0.0000	22.7008
Paving	1.3800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0174**	**0.1677**	**0.1613**	**2.5000e-004**		**9.0700e-003**	**9.0700e-003**		**8.3400e-003**	**8.3400e-003**	**0.0000**	**22.5227**	**22.5227**	**7.1300e-003**	**0.0000**	**22.7008**

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.5000e-004	4.6100e-003	1.0000e-005	1.2400e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.1584	1.1584	3.0000e-005	0.0000	1.1592
Total	**6.0000e-004**	**4.5000e-004**	**4.6100e-003**	**1.0000e-005**	**1.2400e-003**	**1.0000e-005**	**1.2500e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.1584**	**1.1584**	**3.0000e-005**	**0.0000**	**1.1592**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.5144					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.0918	0.0998	1.6000e-004		6.0500e-003	6.0500e-003		6.0500e-003	6.0500e-003	0.0000	13.9152	13.9152	1.0800e-003	0.0000	13.9422
Total	**3.5276**	**0.0918**	**0.0998**	**1.6000e-004**		**6.0500e-003**	**6.0500e-003**		**6.0500e-003**	**6.0500e-003**	**0.0000**	**13.9152**	**13.9152**	**1.0800e-003**	**0.0000**	**13.9422**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.6900e-003	6.2400e-003	0.0655	2.0000e-004	0.0208	1.3000e-004	0.0209	5.5200e-003	1.2000e-004	5.6400e-003	0.0000	17.7927	17.7927	4.4000e-004	0.0000	17.8036

Total	**8.6900e-003**	**6.2400e-003**	**0.0655**	**2.0000e-004**	**0.0208**	**1.3000e-004**	**0.0209**	**5.5200e-003**	**1.2000e-004**	**5.6400e-003**	**0.0000**	**17.7927**	**17.7927**	**4.4000e-004**	**0.0000**	**17.8036**

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	3.5144					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.0918	0.0998	1.6000e-004		6.0500e-003	6.0500e-003		6.0500e-003	6.0500e-003	0.0000	13.9152	13.9152	1.0800e-003	0.0000	13.9422
Total	**3.5276**	**0.0918**	**0.0998**	**1.6000e-004**		**6.0500e-003**	**6.0500e-003**		**6.0500e-003**	**6.0500e-003**	**0.0000**	**13.9152**	**13.9152**	**1.0800e-003**	**0.0000**	**13.9422**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.6900e-003	6.2400e-003	0.0655	2.0000e-004	0.0197	1.3000e-004	0.0198	5.2500e-003	1.2000e-004	5.3800e-003	0.0000	17.7927	17.7927	4.4000e-004	0.0000	17.8036
Total	**8.6900e-003**	**6.2400e-003**	**0.0655**	**2.0000e-004**	**0.0197**	**1.3000e-004**	**0.0198**	**5.2500e-003**	**1.2000e-004**	**5.3800e-003**	**0.0000**	**17.7927**	**17.7927**	**4.4000e-004**	**0.0000**	**17.8036**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4881	1.7632	4.5022	0.0120	0.9906	0.0125	1.0031	0.2652	0.0117	0.2769	0.0000	1,101.2386	1,101.2386	0.0466	0.0000	1,102.4039
Unmitigated	0.5548	2.2399	6.1817	0.0187	1.6140	0.0189	1.6329	0.4321	0.0177	0.4498	0.0000	1,713.5087	1,713.5087	0.0639	0.0000	1,715.1052

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	644.16	630.08	534.16	1,446,817	887,991
Apartments Mid Rise	625.60	734.85	673.90	1,496,873	918,713
Enclosed Parking Structure	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Retirement Community	145.47	79.17	76.05	291,199	178,725
Strip Mall	755.00	840.80	408.60	1,105,392	678,439
Total	2,170.23	2,284.90	1,692.71	4,340,280	2,663,868

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Apartments Mid Rise	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Enclosed Parking Structure	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Parking Lot	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Retirement Community	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785
Strip Mall	0.604810	0.038204	0.185149	0.108513	0.015498	0.004981	0.012268	0.020156	0.002083	0.001571	0.005363	0.000620	0.000785

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	520.9796	520.9796	0.0236	4.8700e-003	523.0209
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	520.9796	520.9796	0.0236	4.8700e-003	523.0209
NaturalGas Mitigated	0.0126	0.1078	0.0468	6.9000e-004		8.7000e-003	8.7000e-003		8.7000e-003	8.7000e-003	0.0000	124.6680	124.6680	2.3900e-003	2.2900e-003	125.4089
NaturalGas Unmitigated	0.0126	0.1078	0.0468	6.9000e-004		8.7000e-003	8.7000e-003		8.7000e-003	8.7000e-003	0.0000	124.6680	124.6680	2.3900e-003	2.2900e-003	125.4089

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	897499	4.8400e-003	0.0414	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003	0.0000	47.8940	47.8940	9.2000e-004	8.8000e-004	48.1786
Apartments Mid Rise	993537	5.3600e-003	0.0458	0.0195	2.9000e-004		3.7000e-003	3.7000e-003		3.7000e-003	3.7000e-003	0.0000	53.0189	53.0189	1.0200e-003	9.7000e-004	53.3340
Enclosed Parking Structure	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
Retirement Community	397755	2.1400e-003	0.0183	7.8000e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2257	21.2257	4.1000e-004	3.9000e-004	21.3519
Strip Mall	47400	2.6000e-004	2.3200e-003	1.9500e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5294	2.5294	5.0000e-005	5.0000e-005	2.5445
Total		**0.0126**	**0.1078**	**0.0468**	**6.8000e-004**		**8.7000e-003**	**8.7000e-003**		**8.7000e-003**	**8.7000e-003**	**0.0000**	**124.6680**	**124.6680**	**2.4000e-003**	**2.2900e-003**	**125.4089**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	897499	4.8400e-003	0.0414	0.0176	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003	0.0000	47.8940	47.8940	9.2000e-004	8.8000e-004	48.1786
Apartments Mid Rise	993537	5.3600e-003	0.0458	0.0195	2.9000e-004		3.7000e-003	3.7000e-003		3.7000e-003	3.7000e-003	0.0000	53.0189	53.0189	1.0200e-003	9.7000e-004	53.3340
Enclosed Parking Structure	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

Retirement Community	397755	2.1400e-003	0.0183	7.8000e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2257	21.2257	4.1000e-004	3.9000e-004	21.3519
Strip Mall	47400	2.6000e-004	2.3200e-003	1.9500e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5294	2.5294	5.0000e-005	5.0000e-005	2.5445
Total		**0.0126**	**0.1078**	**0.0468**	**6.8000e-004**		**8.7000e-003**	**8.7000e-003**		**8.7000e-003**	**8.7000e-003**	**0.0000**	**124.6680**	**124.6680**	**2.4000e-003**	**2.2900e-003**	**125.4089**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	382694	111.3302	5.0300e-003	1.0400e-003	111.7664
Apartments Mid Rise	474760	138.1132	6.2500e-003	1.2900e-003	138.6544
Enclosed Parking Structure	526176	153.0706	6.9200e-003	1.4300e-003	153.6704
Parking Lot	16380	4.7651	2.2000e-004	4.0000e-005	4.7838
Retirement Community	177042	51.5036	2.3300e-003	4.8000e-004	51.7054
Strip Mall	213800	62.1969	2.8100e-003	5.8000e-004	62.4406
Total		**520.9796**	**0.0236**	**4.8600e-003**	**523.0209**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	382694	111.3302	5.0300e-003	1.0400e-003	111.7664

Apartments Mid Rise	474760	138.1132	6.2500e-003	1.2900e-003	138.6544
Enclosed Parking Structure	526176	153.0706	6.9200e-003	1.4300e-003	153.6704
Parking Lot	16380	4.7651	2.2000e-004	4.0000e-005	4.7838
Retirement Community	177042	51.5036	2.3300e-003	4.8000e-004	51.7054
Strip Mall	213800	62.1969	2.8100e-003	5.8000e-004	62.4406
Total		**520.9796**	**0.0236**	**4.8600e-003**	**523.0209**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	2.3701	0.0248	1.8079	1.2000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	7.4734	7.4734	2.9700e-003	8.0000e-005	7.5724
Unmitigated	2.3891	0.0276	1.9807	6.8000e-004		0.0384	0.0384		0.0384	0.0384	3.7744	7.4734	11.2478	0.0206	8.0000e-005	11.7879

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9630					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0195	6.7300e-003	0.1745	5.9000e-004		0.0285	0.0285		0.0285	0.0285	3.7744	4.5317	8.3061	0.0177	8.0000e-005	8.7741
Landscaping	0.0552	0.0209	1.8063	1.0000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9418	2.9418	2.8800e-003	0.0000	3.0138
Total	**2.3891**	**0.0276**	**1.9807**	**6.9000e-004**		**0.0384**	**0.0384**		**0.0384**	**0.0384**	**3.7744**	**7.4734**	**11.2478**	**0.0206**	**8.0000e-005**	**11.7879**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9630					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.6000e-004	3.9100e-003	1.6700e-003	2.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.5317	4.5317	9.0000e-005	8.0000e-005	4.5586
Landscaping	0.0552	0.0209	1.8063	1.0000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	2.9418	2.9418	2.8800e-003	0.0000	3.0138
Total	**2.3701**	**0.0248**	**1.8079**	**1.2000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**7.4734**	**7.4734**	**2.9700e-003**	**8.0000e-005**	**7.5724**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	36.4708	0.4511	0.0109	51.0014
Unmitigated	43.6694	0.5638	0.0136	61.8251

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	5.73355 / 3.61463	14.5247	0.1874	4.5300e-003	20.5598
Apartments Mid Rise	7.49271 / 4.72367	18.9811	0.2449	5.9200e-003	26.8679
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	2.54101 / 1.60194	6.4371	0.0831	2.0100e-003	9.1117
Strip Mall	1.48145 / 0.907986	3.7265	0.0484	1.1700e-003	5.2857
Total		**43.6694**	**0.5638**	**0.0136**	**61.8251**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	4.58684 / 3.39414	12.1313	0.1500	3.6300e-003	16.9614
Apartments Mid Rise	5.99417 / 4.43552	15.8534	0.1960	4.7400e-003	22.1655
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	2.03281 / 1.50422	5.3764	0.0665	1.6100e-003	7.5170
Strip Mall	1.18516 / 0.852599	3.1097	0.0387	9.4000e-004	4.3576
Total		**36.4708**	**0.4511**	**0.0109**	**51.0014**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.4299	0.7937	0.0000	33.2720

Unmitigated	26.8598	1.5874	0.0000	66.5439

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	40.48	8.2171	0.4856	0.0000	20.3575
Apartments Mid Rise	52.9	10.7382	0.6346	0.0000	26.6035
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	17.94	3.6417	0.2152	0.0000	9.0221
Strip Mall	21	4.2628	0.2519	0.0000	10.5609
Total		**26.8598**	**1.5874**	**0.0000**	**66.5439**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	20.24	4.1085	0.2428	0.0000	10.1787
Apartments Mid Rise	26.45	5.3691	0.3173	0.0000	13.3018

Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	8.97	1.8208	0.1076	0.0000	4.5110
Strip Mall	10.5	2.1314	0.1260	0.0000	5.2805
Total		**13.4299**	**0.7937**	**0.0000**	**33.2720**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Westport Existing - Santa Clara County, Annual

Westport Existing

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	71.25	1000sqft	8.10	71,254.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing project

Construction Phase - Existing project

Off-road Equipment -

Off-road Equipment -

Trips and VMT -

Demolition - Square-footage of existing shopping center

Grading - Anticipated excavation for parking garage

Architectural Coating -

Vehicle Trips - Based on Trip Generation Table

Woodstoves -

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblLandUse	LandUseSquareFeet	71,250.00	71,254.00
tblLandUse	LotAcreage	1.64	8.10
tblVehicleTrips	WD_TR	44.32	32.10

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	1.8900e-003	0.0192	0.0114	2.0000e-005	6.0000e-005	9.7000e-004	1.0300e-003	2.0000e-005	9.0000e-004	9.2000e-004	0.0000	1.8105	1.8105	4.9000e-004	0.0000	1.8226
Maximum	**1.8900e-003**	**0.0192**	**0.0114**	**2.0000e-005**	**6.0000e-005**	**9.7000e-004**	**1.0300e-003**	**2.0000e-005**	**9.0000e-004**	**9.2000e-004**	**0.0000**	**1.8105**	**1.8105**	**4.9000e-004**	**0.0000**	**1.8226**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	1.8900e-003	0.0192	0.0114	2.0000e-005	6.0000e-005	9.7000e-004	1.0300e-003	2.0000e-005	9.0000e-004	9.2000e-004	0.0000	1.8105	1.8105	4.9000e-004	0.0000	1.8226
Maximum	**1.8900e-003**	**0.0192**	**0.0114**	**2.0000e-005**	**6.0000e-005**	**9.7000e-004**	**1.0300e-003**	**2.0000e-005**	**9.0000e-004**	**9.2000e-004**	**0.0000**	**1.8105**	**1.8105**	**4.9000e-004**	**0.0000**	**1.8226**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-7-2018	8-6-2018	0.0151	0.0151
		Highest	0.0151	0.0151

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3155	1.0000e-005	6.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3600e-003
Energy	9.1000e-004	8.2800e-003	6.9500e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	230.6005	230.6005	0.0102	2.2400e-003	231.5223
Mobile	0.6633	2.3792	6.6579	0.0163	1.2999	0.0200	1.3199	0.3481	0.0188	0.3668	0.0000	1,488.3029	1,488.3029	0.0665	0.0000	1,489.9660
Waste						0.0000	0.0000		0.0000	0.0000	15.1858	0.0000	15.1858	0.8975	0.0000	37.6221
Water						0.0000	0.0000		0.0000	0.0000	1.6744	11.6012	13.2756	0.1725	4.1700e-003	18.8304

Total	**0.9797**	**2.3874**	**6.6655**	**0.0164**	**1.2999**	**0.0206**	**1.3205**	**0.3481**	**0.0194**	**0.3675**	**16.8601**	**1,730.5058**	**1,747.3659**	**1.1467**	**6.4100e-003**	**1,777.9422**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3155	1.0000e-005	6.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3600e-003
Energy	9.1000e-004	8.2800e-003	6.9500e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	230.6005	230.6005	0.0102	2.2400e-003	231.5223
Mobile	0.6287	2.1279	5.8013	0.0133	1.0351	0.0165	1.0515	0.2771	0.0155	0.2926	0.0000	1,213.0067	1,213.0067	0.0580	0.0000	1,214.4571
Waste						0.0000	0.0000		0.0000	0.0000	7.5929	0.0000	7.5929	0.4487	0.0000	18.8110
Water						0.0000	0.0000		0.0000	0.0000	1.6744	11.4003	13.0747	0.1725	4.1700e-003	18.6288
Total	**0.9451**	**2.1362**	**5.8089**	**0.0133**	**1.0351**	**0.0171**	**1.0522**	**0.2771**	**0.0161**	**0.2933**	**9.2672**	**1,455.0087**	**1,464.2759**	**0.6894**	**6.4100e-003**	**1,483.4205**

	ROG	NOx	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	**3.53**	**10.53**	**12.85**	**18.46**	**20.37**	**16.91**	**20.32**	**20.37**	**16.90**	**20.19**	**45.03**	**15.92**	**16.20**	**39.88**	**0.00**	**16.57**

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	5/8/2018	5/8/2018	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8600e-003	0.0192	0.0112	2.0000e-005		9.7000e-004	9.7000e-004		9.0000e-004	9.0000e-004	0.0000	1.7562	1.7562	4.8000e-004	0.0000	1.7683
Total	**1.8600e-003**	**0.0192**	**0.0112**	**2.0000e-005**		**9.7000e-004**	**9.7000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**1.7562**	**1.7562**	**4.8000e-004**	**0.0000**	**1.7683**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0543	0.0543	0.0000	0.0000	0.0543
Total	**3.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0543**	**0.0543**	**0.0000**	**0.0000**	**0.0543**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8600e-003	0.0192	0.0112	2.0000e-005		9.7000e-004	9.7000e-004		9.0000e-004	9.0000e-004	0.0000	1.7562	1.7562	4.8000e-004	0.0000	1.7683
Total	**1.8600e-003**	**0.0192**	**0.0112**	**2.0000e-005**		**9.7000e-004**	**9.7000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**1.7562**	**1.7562**	**4.8000e-004**	**0.0000**	**1.7683**

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0543	0.0543	0.0000	0.0000	0.0543
Total	**3.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0543**	**0.0543**	**0.0000**	**0.0000**	**0.0543**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.6287	2.1279	5.8013	0.0133	1.0351	0.0165	1.0515	0.2771	0.0155	0.2926	0.0000	1,213.0067	1,213.0067	0.0580	0.0000	1,214.4571
Unmitigated	0.6633	2.3792	6.6579	0.0163	1.2999	0.0200	1.3199	0.3481	0.0188	0.3668	0.0000	1,488.3029	1,488.3029	0.0665	0.0000	1,489.9660

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Strip Mall	2,286.84	2,995.35	1455.64	3,494,816	2,782,747
Total	2,286.84	2,995.35	1,455.64	3,494,816	2,782,747

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Strip Mall	0.596719	0.040200	0.188056	0.111125	0.016796	0.004948	0.012194	0.019466	0.002007	0.001626	0.005410	0.000612	0.000841

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	221.5888	221.5888	0.0100	2.0700e-003	222.4571
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	221.5888	221.5888	0.0100	2.0700e-003	222.4571
NaturalGas Mitigated	9.1000e-004	8.2800e-003	6.9500e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	9.0117	9.0117	1.7000e-004	1.7000e-004	9.0652
NaturalGas Unmitigated	9.1000e-004	8.2800e-003	6.9500e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	9.0117	9.0117	1.7000e-004	1.7000e-004	9.0652

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	tons/yr										MT/yr					
Strip Mall	168872	9.1000e-004	8.2800e-003	6.9500e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	9.0117	9.0117	1.7000e-004	1.7000e-004	9.0652
Total		**9.1000e-004**	**8.2800e-003**	**6.9500e-003**	**5.0000e-005**		**6.3000e-004**	**6.3000e-004**		**6.3000e-004**	**6.3000e-004**	**0.0000**	**9.0117**	**9.0117**	**1.7000e-004**	**1.7000e-004**	**9.0652**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Strip Mall	168872	9.1000e-004	8.2800e-003	6.9500e-003	5.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	9.0117	9.0117	1.7000e-004	1.7000e-004	9.0652
Total		**9.1000e-004**	**8.2800e-003**	**6.9500e-003**	**5.0000e-005**		**6.3000e-004**	**6.3000e-004**		**6.3000e-004**	**6.3000e-004**	**0.0000**	**9.0117**	**9.0117**	**1.7000e-004**	**1.7000e-004**	**9.0652**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Strip Mall	761705	221.5888	0.0100	2.0700e-003	222.4571
Total		**221.5888**	**0.0100**	**2.0700e-003**	**222.4571**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Strip Mall	761705	221.5888	0.0100	2.0700e-003	222.4571
Total		**221.5888**	**0.0100**	**2.0700e-003**	**222.4571**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3155	1.0000e-005	6.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3600e-003
Unmitigated	0.3155	1.0000e-005	6.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3600e-003
Total	**0.3155**	**1.0000e-005**	**6.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2700e-003**	**1.2700e-003**	**0.0000**	**0.0000**	**1.3600e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2783					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2700e-003	1.2700e-003	0.0000	0.0000	1.3600e-003
Total	**0.3155**	**1.0000e-005**	**6.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2700e-003**	**1.2700e-003**	**0.0000**	**0.0000**	**1.3600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	13.0747	0.1725	4.1700e-003	18.6288
Unmitigated	13.2756	0.1725	4.1700e-003	18.8304

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Strip Mall	5.27767 / 3.2347	13.2756	0.1725	4.1700e-003	18.8304
Total		**13.2756**	**0.1725**	**4.1700e-003**	**18.8304**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Strip Mall	5.27767 / 3.03738	13.0747	0.1725	4.1700e-003	18.6288
Total		**13.0747**	**0.1725**	**4.1700e-003**	**18.6288**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.5929	0.4487	0.0000	18.8110
Unmitigated	15.1858	0.8975	0.0000	37.6221

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Strip Mall	74.81	15.1858	0.8975	0.0000	37.6221

Total		**15.1858**	**0.8975**	**0.0000**	**37.6221**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Strip Mall	37.405	7.5929	0.4487	0.0000	18.8110
Total		**7.5929**	**0.4487**	**0.0000**	**18.8110**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation