

Appendix C: Greenhouse Gas Assessment

**Greenhouse Gas Emissions Assessment
for the proposed
Mountain Winery Annexation Project
in the City of Saratoga, California**

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APPENDIX

Appendix A: Greenhouse Gas Emissions Data

LIST OF ABBREVIATED TERMS

AB	Assembly Bill
CARB	California Air Resource Board
CCR	California Code of Regulations
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CALGreen	California Green Building Standards
CPUC	California Public Utilities Commission
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CFC	Chlorofluorocarbon
CPP	Clean Power Plan
CCSP	Climate Change Scoping Plan
cy	cubic yard
EPA	Environmental Protection Agency
FCAA	Federal Clean Air Act
FR	Federal Register
GHG	greenhouse gas
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
LCFS	Low Carbon Fuel Standard
CH ₄	Methane
MMTCO ₂ e	million metric tons of carbon dioxide equivalent
MTCO ₂ e	million tons of carbon dioxide equivalent
NHTSA	National Highway Traffic Safety Administration
NF ₃	nitrogen trifluoride
N ₂ O	nitrous oxide
PFC	Perfluorocarbon
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
Sf	square foot
SF ₆	sulfur hexafluoride
TAC	toxic air contaminants

1 INTRODUCTION

This section describes effects on climate change and greenhouse gas emissions that would be caused by implementation of the project. Information used to prepare this section came from the following resources:

Kimley-Horn. (2019). *Greenhouse Gas Emissions Assessment* (see Appendix A)

The study area for climate change and the analysis of greenhouse gas (GHG) emissions is broad because climate change is influenced by world-wide emissions and their global effects. However, the study area is also limited by the CEQA Guidelines [Section 15064(d)], which directs lead agencies to consider an “indirect physical change” only if that change is a reasonably foreseeable impact that may be caused by the project. This analysis limits discussion to those physical changes to the environment that are not speculative and are reasonably foreseeable.

1.1 PROJECT LOCATION

The Mountain Winery is located at 14831 Pierce Road in the City of Saratoga and unincorporated Santa Clara County in California. *Figure 1: Regional Vicinity* and *Figure 2: Site Vicinity*, depict the Project site in a regional and local context. The Mountain Winery is located on three contiguous parcels: APN 503-46-005 (-005), 503-46-006 (-006) and 503-46-007 (-007). The three parcels total approximately 430 acres. The Santa Cruz Mountains are located to the west of the City and unincorporated areas of Santa Clara County border the City to the west.

Land uses surrounding the west, north, and south of the Project site include predominantly undeveloped hillside parcels. Low density single-family residential neighborhoods are located to the east of the project site. South, north, and west of the Project site are scattered residential uses and wineries or other event centers.

1.2 PROJECT DESCRIPTION

The site plan for the Project is depicted on *Figure 2*. The new General Plan land use designation (RC) and the new zoning district (RC) and Precise Plan would allow uses permitted under the Mountain Winery’s existing County Use Permit (approved in 2000, modified in 2018) to continue, while also allowing for new uses (subject to a maximum permissible density and intensity of use established by the Precise Plan). Uses currently permitted under the County Use Permit include the existing Mountain Winery operations, a future wine tasting building, a future concession building, a future event building, a future storage building, a future ticket office, and a future outdoor terrace garden area. As proposed, the Project would include lodging (up to 300 hotel rooms), a second water tank, and future connections to the Cupertino Sanitary District infrastructure.

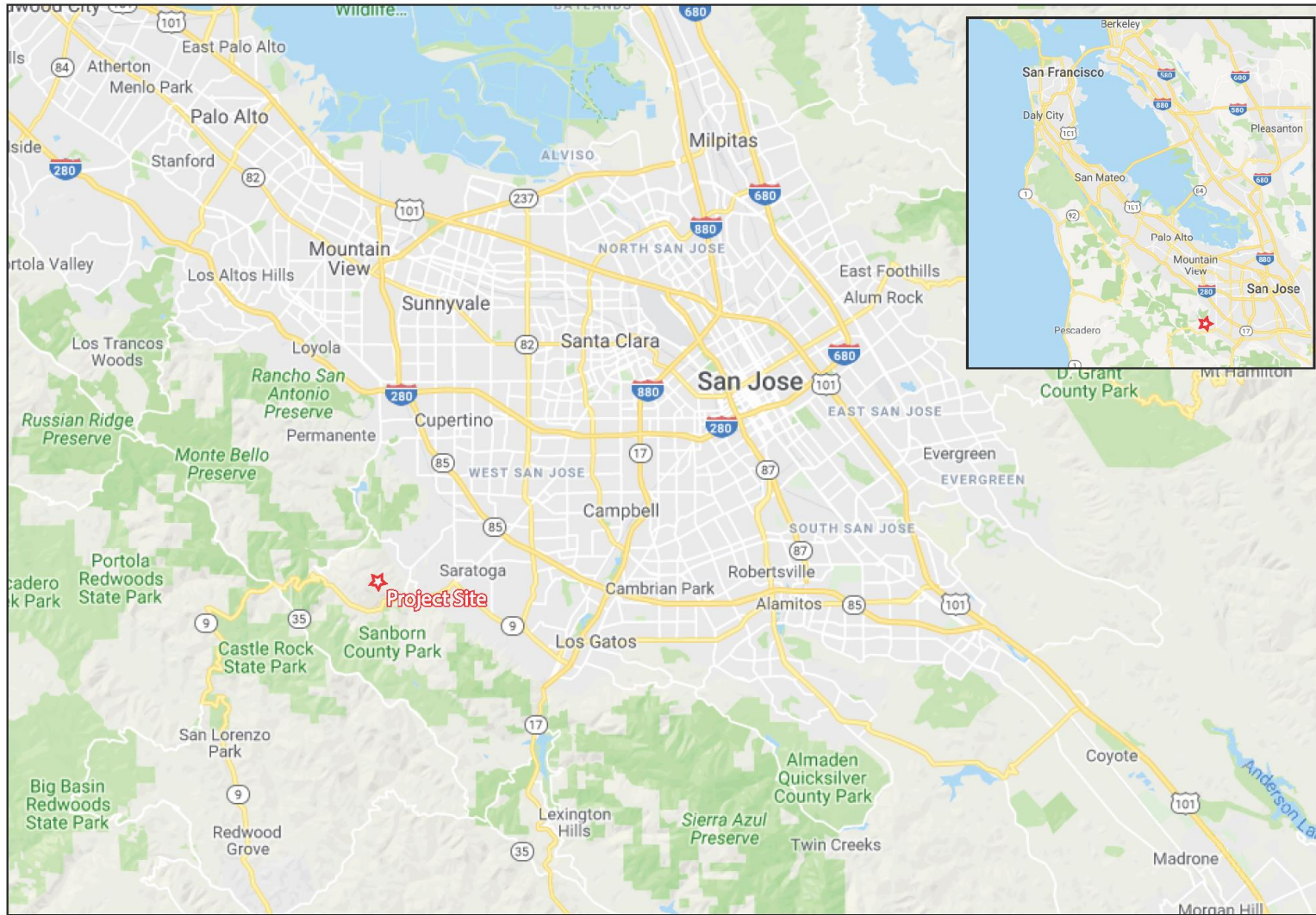
The project site is located in unincorporated Santa Clara County and is designated in the Santa Clara County General Plan as Hillside (HS). This designation is considered to be a resource conservation area and allows for agriculture and grazing; mineral extraction; parks and low-density recreational uses and facilities; land in its natural state; wildlife refuges; very low-density residential development; and commercial industrial or institutional uses, which by their nature require remote, rural settings, or which support the recreational, or productive use, study or appreciation of the natural environment. The various

parcels in the project site are zoned Hillside-d1 District, Hillside-d1-Scenic Roads; or Hillside Residential (HR). As part of Project, a General Plan amendment would be required to establish a new land use designation that would apply to the project site: Regional Commercial (RC). This land use designation would allow a broad range of visitor serving commercial uses with a regional orientation. The RC designation would allow indoor and outdoor recreation, dining, entertainment, meetings and special events, retreats, lodging, wineries, spas, agriculture, and other similar commercial activities and compatible uses.

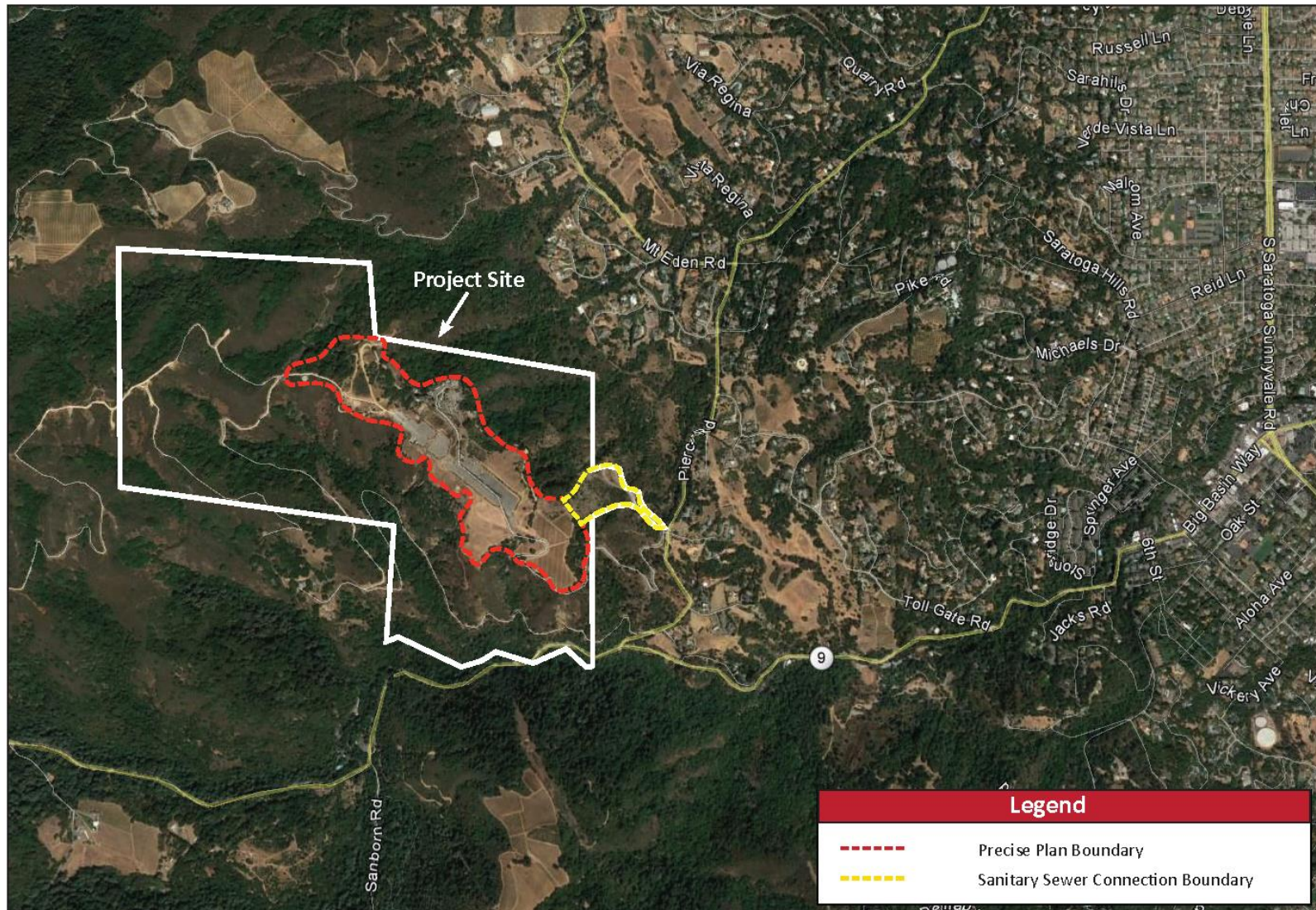
As shown in the *Figure 2*, the majority of the Mountain Winery is located within the (-006) parcel limits. The potential future connection of the Mountain Winery to the Cupertino Sanitary District system would be placed within the (-005) parcel. The existing water tank that provides water to the Mountain Winery is located within the (-007) parcel.

Primary access to the Project site would be provided via Pierce Road which intersects Saratoga-Sunnyvale Road to the north and Big Basin Way (SR-9) to the south. Access from Pierce Road is provided via the main access road terminating at the parking lot at the top of the Mountain Winery. Access to the project site would continue to be provided via the main access road and Pierce Road. The existing parking lots would remain unaltered, and on-site circulation would not be changed. Should the maximum uses allowed under the project be implemented, internal circulation roads may be constructed to provide access to the new buildings.

Construction is anticipated to begin in Summer 2020 and last approximately 18 months. The Mountain Winery would remain open during construction; however, there may be temporary closures in the parking area. Construction methods would include excavator trenching, pipe, valve and fitting installation, backfill and compaction of native fill. Construction of the Project would be required to be consistent with the City's Best Management Practices and California Building Code.

Figure 1: Regional Vicinity

Source: Google Maps, 2019

Figure 2: Site Vicinity

Source: Kimley-Horn, 2019; Google Maps, 2019.

2 ENVIRONMENTAL SETTING

2.1 GREENHOUSE GASES AND CLIMATE CHANGE

Certain gases in the earth's atmosphere classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected 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 (CO₂), methane (CH₄), and nitrous oxide (N₂O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the Earth's climate, known as global climate change or global warming.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO₂ is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO₂ 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 CO₂ emissions remains stored in the atmosphere (Intergovernmental Panel on Climate Change, 2013). Table 1: Description of Greenhouse Gases, describes the primary GHGs attributed to global climate change, including their physical properties.

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 ₂ O)	N ₂ O is largely attributable to agricultural practices and soil management. Primary human-related sources of N ₂ O include agricultural soil management, sewage treatment, combustion of fossil fuels, and adipic and nitric acid production. N ₂ O is produced from biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N ₂ O is approximately 120 years. The Global Warming Potential of N ₂ O is 298.
Methane (CH ₄)	CH ₄ , 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, approximately 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 approximately 12 years and the Global Warming Potential is 25.
Hydrofluorocarbons (HFCs)	HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of CFCs and HCFCs gains momentum. The 100-year Global Warming Potential of HFCs range from 124 for HFC-152 to 14,800 for HFC-23.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and only break down by ultraviolet rays approximately 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 (NF ₃)	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, <i>Overview of Greenhouse Gases</i> , April 11, 2018 (https://www.epa.gov/ghgemissions/overview-greenhouse-gases); U.S. EPA, <i>Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016</i> , 2018; Intergovernmental Panel on Climate Change, <i>Climate Change 2007: The Physical Science Basis</i> , 2007; National Research Council, <i>Advancing the Science of Climate Change</i> , 2010; U.S. EPA, <i>Methane and Nitrous Oxide Emission from Natural Sources</i> , April 2010.	

3 REGULATORY SETTING

3.1 FEDERAL

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

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

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

U.S. Environmental Protection Agency Endangerment Finding. The U.S. Environmental Protection Agency'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 Federal Clean Air Act (FCAA) and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing FCAA and the EPA's assessment of the scientific evidence that form the basis for the EPA's regulatory actions.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, Executive Order 13432 was issued in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, an Executive Memorandum was issued directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025

light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO₂ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks. It should be noted that the 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 EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baseline.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO₂ 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.

In 2018, President Trump and the EPA have stated their intent to halt various Federal regulatory activities to reduce GHG emission, including the phase two program. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. The timing and consequences of these types of Federal decisions and potential responses from California and other states are speculative at this time.

Clean Power Plan and New Source Performance Standards for Electric Generating Units. On October 23, 2015, the EPA published a final rule (effective December 22, 2015) establishing the carbon pollution emission guidelines for existing stationary sources: electric utility generating units (80 Federal Register [FR] 64510–64660), also known as the Clean Power Plan (CPP). These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO₂ emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: one fossil-fuel-fired electric utility steam-generating unit and two stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing standards of performance for GHG emissions from new, modified, and reconstructed stationary sources: electric utility generating units (80 FR 64661–65120). The rule prescribes CO₂ emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the CPP pending resolution of several lawsuits. Additionally, in March 2017, the federal government directed the EPA Administrator to review the CPP to determine whether it is consistent with current executive policies concerning GHG emissions, climate change, and energy.

Presidential Executive Order 13783 Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth issued on March 28, 2017, orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of CO₂, N₂O, and CH₄.

3.2 STATE OF CALIFORNIA

California Air Resources Board

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

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

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

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

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.

- Developing a California cap-and-trade program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several sustainable community strategies have been adopted).
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard (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 California's long-term commitment to AB 32 implementation.

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated considering 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 CO₂e (MMTCO₂e) to 545 MMTCO₂e. The reduction in forecasted 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated state-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

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

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

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

With SB 32, the Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, CARB adopted a second update to the Scoping Plan (CARB, 2017b). The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping

Plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other Federal actions.

SB 375 (The Sustainable Communities and Climate Protection Act of 2008). Signed into law on September 30, 2008, SB 375 provides a process to coordinate land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction goals established by AB 32. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies. The applicable sustainable community strategy in the Bay Area is Plan Bay Area 2040.

AB 1493 (Pavley Regulations and Fuel Efficiency Standards). AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the 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 CO₂e emissions and 75 percent fewer smog-forming emissions.

SB 1368 (Emission Performance Standards). SB 1368 is the companion bill of AB 32, which directs the California Public Utilities Commission (CPUC) to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 limits carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. The new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the state. The CPUC adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, for 1,100 pounds of CO₂ per megawatt-hour.

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

SB 350 (Clean Energy and Pollution Reduction Act of 2015). Signed into law on October 7, 2015, SB 350 implements the goals of Executive Order B-30-15. The objectives of SB 350 are to increase the procurement of electricity from renewable sources from 33 percent to 50 percent (with interim targets of 40 percent by 2024, and 45 percent by 2027) and to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation. SB 350 also

reorganizes the Independent System Operator to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

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

SB 150 (Regional Transportation Plans). Signed on October 10, 2017, SB 150 aligns local and regional GHG reduction targets with State targets (i.e., 40 percent below their 1990 levels by 2030). SB 150 creates a process to include communities in discussions on how to monitor their regions' progress on meeting these goals. The bill also requires the CARB to regularly report on that progress, as well as on the successes and the challenges regions experience associated with achieving their targets. SB 150 provides for accounting of climate change efforts and GHG reductions and identify effective reduction strategies.

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

Executive Orders Related to GHG Emissions

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

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

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

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

Executive Order S-01-07 Issued on January 18, 2007, Executive Order S-01-07 mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. The executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission,

CARB, the University of California, and other agencies to develop and propose protocols for measuring the “life-cycle carbon intensity” of transportation fuels. CARB adopted the LCFS on April 23, 2009

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

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

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

Executive Order B-30-15. Issued on April 29, 2015, Executive Order B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO₂e (MMTCO₂e). The 2030 target acts as an interim goal on the way to achieving reductions of 80 percent below 1990 levels by 2050, a goal set by Executive Order S-3-05. The executive order also requires the state’s climate adaptation plan to be updated every three years and for the state to continue its climate change research program, among other provisions. With the enactment of SB 32 in 2016, the Legislature codified the goal of reducing GHG emissions by 2030 to 40 percent below 1990 levels.

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

California Regulations and Building Codes

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

Title 20 Appliance Efficiency Regulations The appliance efficiency regulations (California Code of Regulations [CCR] Title 20, Sections 1601-1608) include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum

levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

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

Title 24 California Green Building Standards Code. The California Green Building Standards Code (CCR Title 24, Part 11 code) commonly referred to as CALGreen, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and nonresidential buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the 2016 CALGreen Code, went into effect January 1, 2017. Updates to the 2016 CALGreen Code will take effect on January 1, 2020 (2019 CALGreen). The 2019 CALGreen standards will continue to improve upon the existing standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The new 2019 CALGreen standards require residential buildings are required to be solar ready through solar panels (refer to Section 110.10 in the 2019 Building Energy Efficiency Standards for more details).

3.3 REGIONAL

Bay Area Air Quality Management District Thresholds

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. 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. 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 PM₁₀ 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 Saratoga

The City of Saratoga does not have a Climate Action Plan or Energy Plan. The General Plan does not include any sustainability policies. However, the City of Saratoga Municipal Code includes Chapter 17-Sustainability. This section includes a list of greenhouse gas reduction policies (17-05.010) about recycling; discharge pollutants into storm drains and watercourses; water-efficient landscaping, limitations on wood-burning fireplaces; tree regulations; small wind energy systems; and accessory dwelling units. The City of Saratoga has green building regulations (16-47) that require new developments to demonstrate compliance with green building standards. New projects in the City must also demonstrate compliance with the State of California Green Building Code (16-49).

4 SIGNIFICANCE CRITERIA AND METHODOLOGY

4.1 THRESHOLDS AND SIGNIFICANT CRITERIA

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

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

The Bay Area Air Quality Management District's (BAAQMD's) approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would be considered to contribute considerably to a significant cumulative impact. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an Air District permit to operate. If annual emissions of operational-related GHGs exceed these levels, the proposed Project would result in a cumulatively considerable contribution to a cumulatively significant impact to global climate change. BAAQMD's recommended 2020 thresholds are as follows:

Compliance with a Qualified Climate Action Plan or

- Meet one of the following thresholds:
 - 1,100 MT CO₂e/year (yr); or
 - 4.6 MTCO₂e/service population (sp)/yr (residents and employees)

BAAQMD is currently working to provide updated threshold guidance to address updated GHG regulations such as SB 32 and case law that has found efficiency metric thresholds based on state-wide data must be supported by substantial evidence that the threshold is appropriate for a specific location and specific project type.

BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, the BAAQMD recommends quantification and disclosure of construction GHG emissions. The BAAQMD also recommends that the Lead Agency should make a determination on the significance of these construction generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals, as required by the Public Resources Code, Section 21082.2. The Lead Agency is encouraged to incorporate best management practices to reduce GHG emissions during construction, as feasible and applicable.

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 for a 300-room hotel, water tank, and sewer service connection. The Project's construction-related GHG emissions 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 CalEEMod construction and operational emissions are based on the full proposed development potential of a 300-room hotel and water tank and sewer service connection. The Project's operations-related GHG emissions would be generated by vehicular traffic, area sources (e.g., landscaping maintenance, consumer products), electrical generation, propane gas consumption, water supply and wastewater treatment, and solid waste.

Details of the modeling assumptions and emission factors are provided in Appendix A, and a summary of adjustments is provided below.

CalEEMod default emission factors incorporate compliance with some, but not all, applicable rules and regulations regarding energy efficiency and vehicle fuel efficiency, and other GHG reduction policies, as described in the CalEEMod User's Guide (CAPCOA, 2016). The reductions obtained from each regulation and the source of the reduction amount used in the analysis are described below.

The following regulations are incorporated into the CalEEMod emission factors:

- Pavley I motor vehicle emission standards
- Low Carbon Fuel Standard (LCFS)
- 2016 title 24 Energy Efficiency Standards

The following regulations have not been incorporated into the CalEEMod emission factors:

- Pavley II (LEV III) Advanced Clean Cars Program (extends to model year 2025)
- Renewable Portfolio Standards (RPS)
- Green Building Code Standards (indoor water use)
- California Model Water Efficient Landscape Ordinance (Outdoor Water)
- 2019 Title 24 Energy Efficiency Standards (effective January 1, 2020)

5 POTENTIAL IMPACTS AND MITIGATION

5.1 GREENHOUSE GAS EMISSIONS

Impact GHG-1 Would the Project generate greenhouse gas emissions, either directly or indirectly, that could have a significant impact on the environment?

Short-Term Construction Greenhouse Gas Emissions

Construction of the Project would result in direct emissions of CO₂, N₂O, and CH₄ from the operation of construction equipment and the transport of materials and construction workers to and from the Project site. BAAQMD does not have a threshold for construction GHG emissions, which are one-time, short-term emissions and therefore would not significantly contribute to long-term cumulative GHG emissions impacts of the proposed Project. 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: Construction Greenhouse Gas Emissions. The CalEEMod outputs are contained within the Appendix A, Air Quality and GHG Data.

Table 2: Construction Greenhouse Gas Emissions	
Year	Project (MTCO₂e)¹
2020	557
2021	766
Total	1,323
Annual	44
Notes: 1. Due to Rounding, Total MTCO ₂ e may be marginally different from CalEEMod output. MTCO ₂ e = metric tons of carbon dioxide equivalent. Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.	

As shown in Table 2, Project construction-related activities would generate approximately 1,323 MTCO₂e of GHG emissions over the course of construction. One-time, short-term construction GHG emissions are typically summed and amortized over the Project's lifetime (assumed to be 30 years).¹ It is reasonable to look at a 30-year time frame for buildings since this is a typical interval before a new building requires the first major renovation.² The amortized Project emissions would be 44 MTCO₂e per year. Once construction is complete, the generation of construction-related GHG emissions would cease.

¹ 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).

² International Energy Agency, *Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings*, March 2008.

Long-Term Operational Greenhouse Gas Emissions

Operational or long-term emissions would occur over the Project's life. GHG emissions would result from direct emissions such as Project generated vehicular traffic, on-site combustion of propane, and 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 3: Unmitigated Operational Greenhouse Gas Emissions, summarizes the total GHG emissions associated with the Project.

Table 3: Unmitigated Operational Greenhouse Gas Emissions	
Category	MTCO ₂ e ¹
Proposed Project	
Area Source	0.11
Energy	1,260
Mobile	924
Waste	83
Water and Wastewater	13
Vegetation Land Use Change (Loss of Sequestration) ²	111
Total Project³	2,390
Threshold	1,100
Exceeds Threshold?	Yes
Notes: 1. Emissions were calculated using CalEEMod version 2016.3.2. 2. Sequestration loss is annualized over a 20-year growing period per the CalEEMod User Guide. 3. Emissions may not total due to rounding. Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.	

Below is a description of the primary sources of operational emissions:

Area Sources. Area source emissions occur from hearths (i.e. natural gas fireplaces), architectural coatings, landscaping equipment, and consumer products. Landscaping is anticipated to occur throughout the proposed lodging area. Additionally, the primary emissions from architectural coatings are volatile organic compounds, which are relatively insignificant as direct GHG emissions. The Project would result in 0.11 MTCO₂e/yr (refer to *Table 3*).

Energy Consumption. Energy consumption consists of emissions from project consumption of electricity and propane. The Project would result in 1,260 MTCO₂e/yr from energy consumption (refer to *Table 3*).

Mobile Sources. Mobile sources from the Project were calculated with CalEEMod based on the trip generation from the Project Traffic Study. As shown in *Table 3*, the mobile source emissions from the

Project would be 924 MTCO₂e/yr. The proposed Mountain Winery hotel would host visitors who wish to stay at the winery and those who are attending the many concerts that are held each summer. While there are several hotels within a short drive of the winery, the new hotel would provide guests easier access to and from on-site concerts, as well as wine tastings and other activities. Although the proposed hotel is expected to provide additional jobs and some related trips to the Mountain Winery, the hotel itself is expected to mostly serve existing patrons of the Mountain Winery. Simply, patrons of the proposed hotel are assumed to be already traveling to the Mountain Winery and are currently staying at an alternative hotel further away than the proposed hotel. These patrons would continue to stay at existing hotels further away from the Mountain Winery if the proposed hotel was not constructed.

Solid Waste. Solid waste releases GHG emissions in the form of methane when these materials decompose. The Project would result in 83 MTCO₂e/yr from solid waste (refer to *Table 3*).

Water and Wastewater. GHG emissions from water demand would occur from electricity consumption associated with water conveyance and treatment. Existing water efficiency regulations require the project to limit the use of turf. In addition, the project proposes to use recycled water. The Project would result in 13 MTCO₂e/yr from water and wastewater conveyance and treatment (refer to *Table 3*).

Vegetation Land Use Change (Loss of Sequestration). Sequestration refers to the process of vegetation storing CO₂ (resulting in a carbon sink and reducing CO₂ emissions). As the Project would potentially develop natural land with vegetation that is currently sequestering CO₂, loss of the existing vegetation would result in approximately 2,200 MT CO₂e that would not be sequestered, which is approximately 111 MT CO₂e/yr over a 20-year growing period³. The Precise Plan Design Guidelines require the Project to minimize tree removal and encourage the avoidance of development in heavily wooded areas.

Table 3, shows that unmitigated emissions from the development of up to 300 hotel rooms would potentially exceed the BAAQMD GHG threshold of 1,100 MTCO₂e per year. It should be noted that the unmitigated emissions incorporate adjustments for Project energy consumption based on the 2019 Title 24 Part 6 (Building Energy Efficiency Standards). The standards also require updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa), residential and nonresidential ventilation requirements, and nonresidential lighting requirements that would cut residential energy use by more than 50 percent (with solar) and nonresidential energy use by 30 percent. The standards also encourage demand responsive technologies including battery storage and heat pump water heaters and improve the building's thermal envelope through high performance attics, walls and windows to improve comfort and energy savings (California Energy Commission, March 2018). The Project would also comply with the appliance energy efficiency standards in Title 20 of the California Code of Regulations. The Title 20 standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances. The Project would be constructed according to the standards for high-efficiency water fixtures for indoor plumbing and water efficient irrigation systems required in 2019 Title 24, Part 11 (CALGreen).

At the state and global level, improvements in technology, policy, and social behavior can also influence and reduce operational emissions generated by a project. The state is currently on a pathway to achieving

³ The 20-year active growth period is consistent with IPCC recommendations. CalEEMod User's Guide version 2016.3.1, 2016.

the Renewable Portfolio Standards goal of 33 percent renewables by 2020 and 60 percent renewables by 2030 per SB 100. Despite these goals, the majority of the Project's emissions would still be from mobile and energy sources. Future mobile source emissions are greatly dependent on changes in vehicle technology, fuels, and social behavior, which can be influenced by policies to varying degrees. Taking known future policies into account, CARB estimates that over 90 percent of future vehicles in Santa Clara County would still run on gasoline even with increased electric vehicle mode share (California Air Resources Board, 2017). This is assumed to also be applicable to the Saratoga vehicle fleet, absent data that may suggest otherwise. Due to these external factors, average emissions from transportation in 2050 would mostly still generate GHG emissions, but the quantity is uncertain in light of potential changes in technology and policy over the next 30 years.

The majority of Project emissions (approximately 94 percent) would occur from mobile and energy sources. As noted above, energy and mobile sources are targeted by statewide measures such as low carbon fuels, cleaner vehicles, strategies to promote sustainable communities and improved transportation choices that result in reducing VMT, continued implementation of the Renewable Portfolio Standard (the target is now set at 60 percent renewables by 2030), and extension of the Cap and Trade program (requires reductions from industrial sources, energy generation, and fossil fuels). The Cap and Trade program covers approximately 85 percent of California's GHG emissions as of January 2015. The statewide cap for GHG emissions from the capped sectors (i.e., electricity generation, industrial sources, petroleum refining, and cement production) commenced in 2013 and will decline approximately three percent each year, achieving GHG emission reductions throughout the program's duration. The passage of AB 398 in July 2017 extended the duration of the Cap and Trade program from 2020 to 2030. With continued implementation of various statewide measures, the Project's operational energy and mobile source emissions would continue to decline in the future.

As the Project's unmitigated emissions associated with the development of up to 300 hotel rooms would potentially exceed thresholds, implementation of MM GHG-1 would be required. This mitigation measure would be triggered at the time the project applicant submits an application for a hotel development if the proposed development exceeds the BAAQMD GHG threshold of 1,100 MTCO₂e per year. This analysis identifies that this mitigation is triggered for a hotel with 300 rooms. Therefore, under this Project assumption, MM GHG-1 requires the Project Applicant to prepare a GHG Reduction Plan to determine the GHG emissions associated with the final Project at the time of discretionary approval. The GHG Reduction Plan would identify specific feasible GHG reduction measures to ensure Project emissions would be less than significant. The GHG Reduction Plan could potentially include such measures as electric vehicle charging stations (beyond current code requirements), a Commute Trip Reduction (CTR)/Transportation Demand Management (TDM) plan to minimize vehicle trips and mobile emissions, and net zero energy buildings through a Zero Net Energy Confirmation Report prepared by a qualified building energy efficiency and design consultant. Additionally, as discussed in Section 7, Air Quality, MM AQ-1 and AQ-2 would reduce construction emissions. These include minimizing idling times to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]), all construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications, and utilizing Tier 4 final construction equipment.

The CTR/TDM program would discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. Employees would be encouraged

to work flexible work schedules, receive transit subsidies, and have vanpool and rideshare options available. Through the incorporation of zero-energy building technology, fossil fuel-related sources of GHGs associated with energy use would be reduced to less than significant levels.

Project emissions with implementation of MM GHG-1 are shown in Table 4: Mitigated Operational Greenhouse Gas Emissions. MM GHG-1 includes potential measures such as zero net energy buildings and a CTR/TDM plan to minimize vehicle trips and mobile emissions. With implementation of MM GHG-1, Project GHG emissions would be reduced to a less than significant level.

Table 4: Mitigated Operational Greenhouse Gas Emissions	
Category	MTCO₂e¹
Proposed Project	
Area	0.11
Energy ²	0
Mobile ²	888
Waste	21
Water/Wastewater	11
Vegetation Land Use Change (Loss of Sequestration) ³	111
Total Project³	1,031
Threshold	1,100
Exceeds Threshold?	No
Notes: 1. Emissions were calculated using CalEEMod version 2016.3.2. 2. Sequestration loss is annualized over a 20-year growing period per the CalEEMod User Guide. 3. Emissions may not total due to rounding. Source: CalEEMod version 2016.3.2. Refer to Appendix A for model outputs.	

Mitigation Measures:

MM GHG-1: Prior to the issuance of grading permits for future lodging uses, the Project Applicant shall prepare and implement a GHG Reduction Plan, to the satisfaction of the City of Saratoga Community Development Director, that includes the following list of GHG emissions reduction measures. Refinement of the estimated Project GHG emissions shall be completed as part of the GHG Reduction Plan in order to reflect the most current and accurate data available regarding the Project's estimated emissions (including emission rates). The Project Applicant may submit a report to the City that substantiates why specific measures are considered infeasible or at that point in time and identify alternate measures that would achieve equivalent reductions. Recommended measures for reducing operational GHG emissions are listed below.

- **Electric Vehicle Charging.** Prior to the issuance of commercial or recreational building permits, the Project Applicant or its designee shall submit building

design plans to the City that demonstrate that the parking areas for the hotel are equipped with electric vehicle (EV) charging stations that provide charging opportunities to at least 7.5 percent of the total number of required parking spaces. The EV charging stations shall achieve a similar or better functionality as a Level 2 charging station. In the event that the installed charging stations use more superior functionality/technology other than Level 2 charging stations, the parameters of the mitigation obligation (i.e., number of parking spaces served by EV charging stations) shall reflect the comparative equivalency of Level 2 charging stations to the installed charging stations on the basis of average charge rate per hour. For purposes of this equivalency demonstration, Level 2 charging stations shall be assumed to provide charging capabilities of 25 range-miles per hour.

- **Vehicle Trip Reduction.** Develop a qualifying Commute Trip Reduction (CTR)/Transportation Demand Management (TDM) plan to reduce mobile GHG emissions for all uses. The TDM plan shall be approved by the City of Saratoga prior to the issuance of building permits and incorporated into the Project's Conditions of Approval. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The following measures shall be incorporated into the TDM plan.
 - The Project Applicant shall consult with the local transit service provider on the need to provide infrastructure to connect the Project with transit services. Evidence of compliance with this requirement may include correspondence from the local transit provider(s) regarding the potential need for installing bus turnouts, shelters or bus stops at the site.
 - The CTR/TDM plan for the hotel shall include, but not be limited to the following potential measures: ride-matching assistance, preferential carpool parking, flexible work schedules for carpools, half-time transportation coordinators, providing a web site or message board for coordinating rides, designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles, and including bicycle end of trip facilities. This list may be updated as new methods become available. Verification of this measure shall occur prior to building permit issuance for the commercial I uses.
- **Zero Net Energy.** Prior to the issuance of building permits, the Project Applicant or its designee shall submit a Zero Net Energy Confirmation Report (ZNE Report) prepared by a qualified building energy efficiency and design consultant to the City for review and confirmation that Project achieves the ZNE standard specified in this mitigation measure approval.

Specifically, the ZNE Report shall demonstrate that the Project, subject to application of Title 24, Part 6, of the California Code of Regulations has been designed and shall be constructed to achieve ZNE, as defined by CEC in its 2015 Integrated Energy Policy Report, which requires the value of the net energy produced by Project renewable energy

resources to equal the value of the energy consumed annually by the Project using the CEC's Time Dependent Valuation metric.

- The ZNE Report shall provide, at a minimum, the following information:
 - Confirmation that the Project shall comply with Title 24, Part 6 building standards that are operative at the time of building permit application.
 - Identification of additional measures or building performance standards that shall be relied upon to achieve the ZNE standard (as defined above), assuming ZNE is not already achieved by meeting the operative Title 24, Part 6 building standards.
 - In demonstrating that the Project achieves the ZNE standard, the ZNE Report may make reasonable assumptions about the estimated electricity and propane loads and energy efficiencies of the subject buildings.
 - If the Project's renewable generation is not sufficient to allow compliance with the ZNE standard, then the Project Applicant or its designee shall achieve an equivalent level of GHG emissions reductions to mitigate such shortfall by providing GHG reductions for every kilowatt-hour of renewable energy generation that would have been needed to achieve the ZNE standard for the Project, as demonstrated in the ZNE Report.
- **Onsite Recycling.** Provide interior and exterior storage areas for recyclables and adequate recycling containers located in public areas. Recycling bins in the storage areas shall be included to promote recycling of paper, metal, glass, and other recyclable material. These bins shall be emptied and recycled accordingly as part of the proposed Project's regular solid waste disposal program. The Project Applicant or its success in interest shall only contract for waste disposal services within a company that recycles waste in compliance with AB 341. This measure shall be implemented prior to issuance of occupancy permit.
 - **GHG Emissions Offsets.** The Project Applicant shall purchase and retire GHG offsets to reduce the Project's GHG emissions below the BAAQMD's thresholds of significance (i.e., below 1,100 MTCO₂e per year, or 4.6 MTCO₂e per service population per year, or the latest applicable threshold at the time). GHG offsets shall be consistent with the performance standards and requirements set forth below.
 - The GHG offsets shall be secured from an accredited registry that is recognized by the California Air Resources Board (CARB) or a California air district, or from an emissions reduction credits program that is administered by CARB or a California air district.
 - The GHG offsets shall represent the past reduction or sequestration of 1 MTCO₂e that is "not otherwise required," in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15126.4(c)(3).
 - The GHG offsets shall be real, permanent, quantifiable, verifiable, and enforceable.

- Recognizing that future regulatory mandates, technological advances, and/or final project design features would likely result in GHG emissions that are lower than the levels presented in this EIR, the Project Applicant may prepare a final project GHG emissions inventory prior to City issuance of the certificate of occupancy. The inventory shall be subject to verification by a City-approved third party (at applicant expense), with the final emissions estimates dictating the increment to be mitigated through purchase of GHG offsets. The offsets must also be secured by the applicant and verified by the City prior to issuance of the certificate of occupancy, thus providing full mitigation prior to completion of the Project.

Level of Significance: Less than significant impact.

5.2 GREENHOUSE GAS REDUCTION PLAN COMPLIANCE

Impact GHG-2: Would the Project conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing greenhouse gas emissions?

As discussed above in the Local Regulatory Section, the City of Saratoga does not have a stand-alone Climate Action Plan but includes policies and actions to reduce the generation of GHG emissions within the City. The Project would be consistent with and rely on these goals, policies, and actions. Therefore, the Project would result in a less than significant cumulative impact to global climate change.

The Project would be subject to compliance with all building codes in effect at the time of construction, which include energy conservation measures mandated by California Building Standards Code Title 24 – Energy Efficiency Standards. Because Title 24 standards require energy conservation features in new construction (e.g., high-efficiency lighting, high-efficiency heating, ventilating, and air-conditioning (HVAC) systems, thermal insulation, double-glazed windows, water conserving plumbing fixtures), they indirectly regulate and reduce GHG emissions. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2016 standards improved upon the 2013 standards for new construction of, and additions and alterations to, residential, commercial, and industrial buildings. The 2016 standards went into effect on January 1, 2017. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018 and will take effect on January 1, 2020. Under the 2019 standards, residential dwellings will be required to use approximately 53 percent less energy and nonresidential buildings will be required to use approximately 30 percent less energy than buildings under the 2016 standards.

Additionally, the Project would be required to follow Green Building Ordinance (Chapter 14.49) of the Saratoga Municipal Code. The Project would comply with SB X7-7, which requires California to achieve a 20 percent reduction in urban per capita water use by 2020. As well as implement best management practices for water conservation to achieve the City's water conservation goals.

The Project demonstrates consistency with the General Plan goals, measures, and emission reduction targets, and would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce GHG emissions, including Title 24, AB 32, and SB 32. Therefore, Project impacts would be less than significant.

Title 24, AB 32, and SB 32. Therefore, Project impacts would be less than significant.

CARB Scoping Plan

The California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the ARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan provides a range of GHG reduction actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as the cap-and-trade program, and an AB 32 implementation fee to fund the program.

The latest CARB Climate Change Scoping Plan (2017) outlines the state's strategy to 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 2017 Scoping Plan Update identifies additional GHG reduction measures necessary to achieve the 2030 target. These measures build upon those identified in the First Update to the Climate Change Scoping Plan (2013). Although a number of these measures are currently established as policies and measures, some measures have not yet been formally proposed or adopted. It is expected that these measures or similar actions to reduce GHG emissions would be adopted as required to achieve statewide GHG emissions targets.

As shown in Table 5: Project Consistency with Applicable CARB Scoping Plan Measures, the Project is consistent with most of the strategies, while others are not applicable to the Project.

Table 5: Project Consistency with Applicable CARB Scoping Plan Measures

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
Transportation	California Cap-and-Trade Program Linked to Western Climate Initiative	Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanism October 20, 2015 (CCR 95800)	Consistent. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. However, the regulation indirectly affects people who use the products and services produced by these industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.
	California Light-Duty Vehicle Greenhouse Gas Standards	Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles	Consistent. This measure applies to all new vehicles starting with model year 2012. The Project would not conflict with its implementation as it would apply to all new passenger vehicles purchased in California. Passenger vehicles, model year 2012 and later, associated with construction and operation of the Project would be required to comply with the Pavley emissions standards.
		2012 LEV III Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards	Consistent. The LEV III amendments provide reductions from new vehicles sold in California between 2017 and 2025. Passenger vehicles associated with the site would comply with LEV III standards.
	Low Carbon Fuel Standard	2009 readopted in 2015. Regulations to Achieve Greenhouse Gas Emission Reductions Subarticle 7. Low Carbon Fuel Standard CCR 95480	Consistent. This measure applies to transportation fuels utilized by vehicles in California. The Project would not conflict with implementation of this measure. Motor vehicles associated with construction and operation of the Project would utilize low carbon transportation fuels as required under this measure.
	Regional Transportation-Related Greenhouse Gas Targets	SB 375. Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28	Consistent. The project would provide development in the region that is consistent with the growth projections in the Regional Transportation Plan/Sustainable Communities Strategy (SCS) (Plan Bay Area 2040).

Table 5: Project Consistency with Applicable CARB Scoping Plan Measures

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
	Goods Movement	Goods Movement Action Plan January 2007	Not applicable. The Project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
	Medium/Heavy-Duty Vehicle	2010 Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer Greenhouse Gas Regulation	Consistent. This measure applies to medium and heavy-duty vehicles that operate in the state. The Project would not conflict with implementation of this measure. Medium and heavy-duty vehicles associated with construction and operation of the Project would be required to comply with the requirements of this regulation.
	High Speed Rail	Funded under SB 862	Not applicable. This is a statewide measure that cannot be implemented by a Project Applicant or Lead Agency.
Electricity and Natural Gas	Energy Efficiency	Title 20 Appliance Efficiency Regulation	Consistent. The Project would not conflict with implementation of this measure. The Project would comply with the latest energy efficiency standards.
		Title 24 Part 6 Energy Efficiency Standards for Residential and Non-Residential Building	
		Title 24 Part 11 California Green Building Code Standards	
	Renewable Portfolio Standard/Renewable Electricity Standard.	2010 Regulation to Implement the Renewable Electricity Standard (33% 2020) SB 350 Clean Energy and Pollution Reduction Act of 2015 (50% 2030)	Consistent. The Project would obtain electricity from the electric utility, PG&E. PG&E obtained 33 percent of its power supply from renewable sources in 2016. Therefore, the utility would provide power when needed on site that is composed of a greater percentage of renewable sources.
	Million Solar Roofs Program	Tax incentive program	Consistent. This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs. Homeowners within the project would be able to take advantage of incentives that are in place at the time of construction.
Water	Water	Title 24 Part 11 California Green Building Code Standards	Consistent. The Project would comply with the California Green Building Standards Code, which requires a 20 percent reduction in indoor water use. The Project would also comply with the City's Water-Efficient Landscape Ordinance (Chapter 15.47 of the Saratoga Municipal Code).
		SBX 7-7—The Water Conservation Act of 2009	

Table 5: Project Consistency with Applicable CARB Scoping Plan Measures

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
		Model Water Efficient Landscape Ordinance	
Green Buildings	Green Building Strategy	Title 24 Part 11 California Green Building Code Standards	Consistent. The State goal is to increase the use of green building practices. The Project would implement required green building strategies through existing regulation that requires the Project to comply with various CalGreen requirements.
Industry	Industrial Emissions	2010 CARB Mandatory Reporting Regulation	Not applicable. The Project does not include industrial land uses.
Recycling and Waste Management	Recycling and Waste	Title 24 Part 11 California Green Building Code Standards AB 341 Statewide 75 Percent Diversion Goal	Consistent. The Project would not conflict with implementation of these measures. The Project is required to achieve the recycling mandates via compliance with the CALGreen code. The City has consistently achieved its state recycling mandates.
Forests	Sustainable Forests	Cap and Trade Offset Projects	Not applicable. The Project site is in an area designated for hillside. No forested lands exist on-site.
High Global Warming Potential	High Global Warming Potential Gases	CARB Refrigerant Management Program CCR 95380	Not applicable. The regulations are applicable to refrigerants used by large air conditioning systems and large commercial and industrial refrigerators and cold storage system. The Project is not expected to use large systems subject to the refrigerant management regulations adopted by CARB.
Agriculture	Agriculture	Cap and Trade Offset Projects for Livestock and Rice Cultivation	Not applicable. The Project site is designated for development. No grazing, feedlot or other agricultural activities that generate manure currently exist on-site or are proposed to be implemented by the Project. The Project would not modify or expand the existing vineyards on-site.

Source: California Air Resources Board (CARB), *California's 2017 Climate Change Scoping Plan*, 2017b and CARB, *Climate Change Scoping Plan*, December 2008.

As noted above, the Project would emit approximately 1,030 MTCO₂e per year, directly from on-site activities and indirectly from off-site motor vehicles. Also, as demonstrated in Table 5: Project Consistency with Applicable CARB Scoping Plan Measures, the project would not conflict with the CARB Scoping Plan. GHG emissions caused by long-term operation of the proposed would be less than significant.

Appendix B, Local Action, of the 2017 CARB Scoping Plan lists potential actions that support the State's climate goals. However, the Scoping Plan notes that the applicability and performance of the actions may vary across the regions. The document is organized into two categories (A) examples of plan-level GHG

reduction actions that could be implemented by local governments and (B) examples of on-site project design features, mitigation measures, that could be required of individual projects under CEQA, if feasible, when the local jurisdiction is the lead agency.

The Project would include a number of the potential mitigation measures for construction and operation. For example, the Scoping Plan's construction measures include enforcing idling time restrictions on construction vehicles, requiring construction vehicles to operate highest tier engines commercially available, diverting and recycling construction waste, minimizing tree removal, and increase use of electric and renewable fuel powered construction equipment and require renewable diesel fuel where commercially available. These measures are consistent with the requirements in MM AQ-1, which require the minimization of idling, the use of clean off-road engines, and the recycling of construction waste.

As indicated above, GHG reductions are also achieved as a result of State of California energy and water efficiency requirements for new non-residential developments. These efficiency improvements correspond to reductions in secondary GHG emissions. For example, in California, most of the electricity that powers homes is derived from natural gas combustion. Therefore, energy saving measures, such as Title 24, reduces GHG emissions from the power generation facilities by reducing load demand.

The Project would be required to comply with existing regulations, including applicable measures from the City's General Plan, or would be directly affected by the outcomes (vehicle trips and energy consumption would be less carbon intensive due to statewide compliance with future low carbon fuel standard amendments and increasingly stringent Renewable Portfolio Standards). As such, the Project would not conflict with any other state-level regulations pertaining to GHGs.

As demonstrated in Table 5: Project Consistency with Applicable CARB Scoping Plan Measures above, the Project would not conflict with the CARB Scoping Plan. GHG emissions caused by long-term operation of the Project would be less than cumulatively considerable.

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

Plan Bay Area

The Project would be consistent with the overall goals of Plan Bay Area 2040 to provide housing, healthy and safe communities, and climate protection with an overall goal to reduce VMT. As noted above, the Project would develop the Project site with lodging uses consistent with the General Plan. While the Project would add some additional employment, trips related to employees that work directly at the hotel, the hotel itself is expected to mostly serve existing patrons of the Mountain Winery. As noted above, patrons of the proposed hotel would be already traveling to the Mountain Winery and are currently staying at an alternative hotel further away than the proposed hotel. Thus, implementation of the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and this impact would be less than significant.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

5.3 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

Cumulative Setting

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years that allow them to be dispersed around the globe.

Cumulative Impacts and Mitigation Measures

It is generally the case that an individual project of the Project's size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of Project-related GHG emissions would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the Project as well as other cumulative related projects, would be subject to all applicable regulatory requirements, which would further reduce GHG emissions. As shown in Table 34, the Project's GHG emissions would be less than significant with the implementation of MM GHG-1. The Project would not conflict with any GHG reduction plan. Therefore, the Project's cumulative contribution of GHG emissions would be less than significant and the Project's cumulative GHG impacts would also be less than cumulatively considerable.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

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.
3. California Air Pollution Control Officers Association, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.
4. California Air Pollution Control Officers Association (CAPCOA). 2016. *CalEEMod User's Guide*.
5. California Air Resources Board, *Climate Change Proposed Scoping Plan*. 2008.
6. California Air Resources Board, *California Greenhouse Gas Inventory for 2000-2010 — by Category Defined in the Scoping Plan*, 2013.
7. California Air Resources Board, *California Greenhouse Gas Emissions Inventory – 2017 Edition*, 2017.
8. California Air Resources Board, *California's 2017 Climate Change Scoping Plan*, 2017.
9. City of Saratoga, *General Plan*, 2014.
10. City of Saratoga, *Municipal Code*, 2019.
11. Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis*, 2007.
12. 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.
13. Intergovernmental Panel on Climate Change (IPCC), *Climate Change*. 2014. Synthesis Report: Approved Summary for Policymakers.
14. Kimley-Horn & Associates, *Traffic Impact Study for the Mountain Winery Annexation Project*, August 2019.
15. National Research Council, *Advancing the Science of Climate Change*, 2010.
16. U.S. EPA, *Methane and Nitrous Oxide Emission from Natural Sources*, 2010.
17. U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016*, 2018.
18. U.S. EPA, *Overview of Greenhouse Gases*, 2018.

Appendix A

Greenhouse Gas Emissions Data

Mountain Winery - Santa Clara County, Annual

Mountain Winery
Santa Clara County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	5,000.00	User Defined Unit	0.12	5,000.00	0
Other Asphalt Surfaces	250.00	1000sqft	5.74	250,000.00	0
Hotel	300.00	Room	10.00	435,600.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	146	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Per PGE 2018 Corporate Responsibility and Sustainability Report.

Land Use - User defined industrial is water tank

Construction Phase - Anticipated construction schedule

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - No demolition proposed

Off-road Equipment - Estimated construction equipment

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Site balanced, no import or export

Demolition - No demolition proposed

Grading - Site balanced with 100,000 cy

Vehicle Trips - Trip rate per Trip Generation table

Energy Use -

Land Use Change -

Sequestration -

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

Mobile Commute Mitigation -

Area Mitigation -

Energy Mitigation - per latest building code

Water Mitigation -

Waste Mitigation - Per AB 939

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	95.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	12/10/2021	12/31/2021
tblConstructionPhase	PhaseEndDate	6/26/2020	5/31/2020
tblConstructionPhase	PhaseStartDate	11/13/2021	8/22/2021
tblGrading	AcresOfGrading	270.00	75.00
tblGrading	MaterialExported	0.00	100,000.00

tblGrading	MaterialImported	0.00	100,000.00
tblLandUse	LandUseSquareFeet	0.00	5,000.00
tblLandUse	LotAcreage	0.00	0.12
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	146
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	25,000.00	0.00
tblTripsAndVMT	WorkerTripNumber	43.00	20.00
tblVehicleTrips	CC_TL	6.60	29.70
tblVehicleTrips	CC_TTP	61.60	74.00
tblVehicleTrips	CNW_TL	6.60	10.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	14.70	12.00
tblVehicleTrips	CW_TTP	19.40	26.00
tblVehicleTrips	ST_TR	8.19	1.37
tblVehicleTrips	SU_TR	5.95	1.37
tblVehicleTrips	WD_TR	8.17	1.37

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					
2020	0.3484	3.6568	2.4674	6.1800e-003	0.3745	0.1422	0.5168	0.1440	0.1320	0.2760	0.0000	554.3980	554.3980	0.1068	0.0000	557.0686
2021	2.7128	3.2125	2.9950	8.4200e-003	0.3292	0.1141	0.4433	0.0892	0.1074	0.1965	0.0000	764.1882	764.1882	0.0824	0.0000	766.2480

Maximum	2.7128	3.6568	2.9950	8.4200e-003	0.3745	0.1422	0.5168	0.1440	0.1320	0.2760	0.0000	764.1882	764.1882	0.1068	0.0000	766.2480
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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					
2020	0.2403	2.1342	2.5157	6.1800e-003	0.2348	0.0860	0.3207	0.0820	0.0805	0.1625	0.0000	554.3976	554.3976	0.1068	0.0000	557.0682
2021	2.7128	3.2125	2.9950	8.4200e-003	0.3128	0.1141	0.4268	0.0851	0.1074	0.1925	0.0000	764.1879	764.1879	0.0824	0.0000	766.2477
Maximum	2.7128	3.2125	2.9950	8.4200e-003	0.3128	0.1141	0.4268	0.0851	0.1074	0.1925	0.0000	764.1879	764.1879	0.1068	0.0000	766.2477

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	3.53	22.17	-0.88	0.00	22.19	21.95	22.13	28.33	21.51	24.87	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	6-1-2020	8-31-2020	2.4559	0.8252
2	9-1-2020	11-30-2020	1.1607	1.1607
3	12-1-2020	2-28-2021	1.0805	1.0805
4	3-1-2021	5-31-2021	1.0603	1.0603
5	6-1-2021	8-31-2021	1.2411	1.2411
6	9-1-2021	9-30-2021	0.8966	0.8966
		Highest	2.4559	1.2411

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	1.9767	4.7000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.0992	0.0992	2.6000e-004	0.0000	0.1058
Energy	0.1041	0.9462	0.7948	5.6800e-003		0.0719	0.0719		0.0719	0.0719	0.0000	1,249.8152	1,249.8152	0.0634	0.0279	1,259.7195
Mobile	0.1603	0.8285	2.6645	0.0101	0.9427	8.4000e-003	0.9511	0.2523	7.8500e-003	0.2602	0.0000	922.9005	922.9005	0.0279	0.0000	923.5977
Waste						0.0000	0.0000		0.0000	0.0000	33.3413	0.0000	33.3413	1.9704	0.0000	82.6016
Water						0.0000	0.0000		0.0000	0.0000	2.4143	2.9230	5.3373	0.2486	5.9800e-003	13.3318
Total	2.2411	1.7751	3.5105	0.0158	0.9427	0.0805	1.0232	0.2523	0.0799	0.3323	35.7556	2,175.7379	2,211.4934	2.3105	0.0339	2,279.3563

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9767	4.7000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.0992	0.0992	2.6000e-004	0.0000	0.1058
Energy	0.0548	0.4985	0.4187	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	675.6633	675.6633	0.0368	0.0154	681.1778
Mobile	0.1566	0.8030	2.5708	9.7000e-003	0.9050	8.0800e-003	0.9130	0.2423	7.5600e-003	0.2498	0.0000	886.9756	886.9756	0.0269	0.0000	887.6484
Waste						0.0000	0.0000		0.0000	0.0000	8.3353	0.0000	8.3353	0.4926	0.0000	20.6504
Water						0.0000	0.0000		0.0000	0.0000	1.9315	2.3656	4.2971	0.1989	4.7800e-003	10.6931
Total	2.1881	1.3019	3.0407	0.0127	0.9050	0.0461	0.9511	0.2423	0.0456	0.2879	10.2668	1,565.1037	1,575.3704	0.7555	0.0202	1,600.2754

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	2.36	26.66	13.38	19.53	4.00	42.68	7.04	4.00	42.93	13.37	71.29	28.07	28.76	67.30	40.41	29.79

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	- 2,220.0000
Total	- 2,220.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	5/31/2020	5	0	
2	Site Preparation	Site Preparation	6/27/2020	7/10/2020	5	10	
3	Grading	Grading	7/11/2020	8/21/2020	5	30	
4	Building Construction	Building Construction	8/22/2020	10/15/2021	5	300	
5	Paving	Paving	10/16/2021	11/12/2021	5	20	
6	Architectural Coating	Architectural Coating	8/22/2021	12/31/2021	5	95	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 5.74

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 660,900; Non-Residential Outdoor: 220,300; Striped Parking Area:

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	6	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	6	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
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

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	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	17	20.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	290.00	113.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	58.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

[illegible]

Unmitigated Construction Off-Site

[illegible]

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.3 Site Preparation - 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					
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	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	0.0204	0.2121	0.1076	1.9000e-004	0.0903	0.0110	0.1013	0.0497	0.0101	0.0598	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125
Total	3.0000e-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125

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	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	0.0204	0.2121	0.1076	1.9000e-004	0.0386	0.0110	0.0496	0.0212	0.0101	0.0313	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.2500e-003	1.0000e-005	6.8000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125
Total	3.0000e-004	2.1000e-004	2.2500e-003	1.0000e-005	6.8000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125

3.4 Grading - 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					
Fugitive Dust					0.1414	0.0000	0.1414	0.0557	0.0000	0.0557	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1620	1.9325	1.0630	2.3400e-003		0.0753	0.0753		0.0693	0.0693	0.0000	205.3075	205.3075	0.0664	0.0000	206.9675
Total	0.1620	1.9325	1.0630	2.3400e-003	0.1414	0.0753	0.2167	0.0557	0.0693	0.1249	0.0000	205.3075	205.3075	0.0664	0.0000	206.9675

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417
Total	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417

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					0.0605	0.0000	0.0605	0.0238	0.0000	0.0238	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0539	0.4099	1.1113	2.3400e-003		0.0190	0.0190		0.0178	0.0178	0.0000	205.3073	205.3073	0.0664	0.0000	206.9673
Total	0.0539	0.4099	1.1113	2.3400e-003	0.0605	0.0190	0.0795	0.0238	0.0178	0.0416	0.0000	205.3073	205.3073	0.0664	0.0000	206.9673

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
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Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.2600e-003	2.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.2000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417
Total	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.2600e-003	2.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.2000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417

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	0.0996	0.9017	0.7919	1.2600e-003		0.0525	0.0525		0.0494	0.0494	0.0000	108.8567	108.8567	0.0266	0.0000	109.5206
Total	0.0996	0.9017	0.7919	1.2600e-003		0.0525	0.0525		0.0494	0.0494	0.0000	108.8567	108.8567	0.0266	0.0000	109.5206

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	0.0198	0.5770	0.1541	1.3400e-003	0.0316	2.7300e-003	0.0343	9.1400e-003	2.6100e-003	0.0118	0.0000	128.1615	128.1615	6.1200e-003	0.0000	128.3146
Worker	0.0453	0.0325	0.3411	1.0300e-003	0.1081	7.0000e-004	0.1088	0.0288	6.4000e-004	0.0294	0.0000	92.7044	92.7044	2.2700e-003	0.0000	92.7612

Total	0.0651	0.6095	0.4952	2.3700e-003	0.1397	3.4300e-003	0.1431	0.0379	3.2500e-003	0.0411	0.0000	220.8659	220.8659	8.3900e-003	0.0000	221.0758
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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	0.0996	0.9017	0.7919	1.2600e-003		0.0525	0.0525		0.0494	0.0494	0.0000	108.8566	108.8566	0.0266	0.0000	109.5205
Total	0.0996	0.9017	0.7919	1.2600e-003		0.0525	0.0525		0.0494	0.0494	0.0000	108.8566	108.8566	0.0266	0.0000	109.5205

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	0.0198	0.5770	0.1541	1.3400e-003	0.0303	2.7300e-003	0.0330	8.8100e-003	2.6100e-003	0.0114	0.0000	128.1615	128.1615	6.1200e-003	0.0000	128.3146
Worker	0.0453	0.0325	0.3411	1.0300e-003	0.1025	7.0000e-004	0.1032	0.0274	6.4000e-004	0.0280	0.0000	92.7044	92.7044	2.2700e-003	0.0000	92.7612
Total	0.0651	0.6095	0.4952	2.3700e-003	0.1328	3.4300e-003	0.1362	0.0362	3.2500e-003	0.0394	0.0000	220.8659	220.8659	8.3900e-003	0.0000	221.0758

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1958	1.7955	1.7073	2.7700e-003		0.0987	0.0987		0.0928	0.0928	0.0000	238.5864	238.5864	0.0576	0.0000	240.0254
Total	0.1958	1.7955	1.7073	2.7700e-003		0.0987	0.0987		0.0928	0.0928	0.0000	238.5864	238.5864	0.0576	0.0000	240.0254

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	0.0359	1.1453	0.3051	2.9000e-003	0.0693	2.4300e-003	0.0717	0.0200	2.3200e-003	0.0224	0.0000	278.2688	278.2688	0.0126	0.0000	278.5846
Worker	0.0920	0.0637	0.6833	2.1700e-003	0.2369	1.4900e-003	0.2384	0.0630	1.3700e-003	0.0644	0.0000	196.1090	196.1090	4.4600e-003	0.0000	196.2205
Total	0.1279	1.2091	0.9884	5.0700e-003	0.3062	3.9200e-003	0.3101	0.0830	3.6900e-003	0.0867	0.0000	474.3778	474.3778	0.0171	0.0000	474.8051

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	0.1958	1.7955	1.7072	2.7700e-003		0.0987	0.0987		0.0928	0.0928	0.0000	238.5861	238.5861	0.0576	0.0000	240.0251
Total	0.1958	1.7955	1.7072	2.7700e-003		0.0987	0.0987		0.0928	0.0928	0.0000	238.5861	238.5861	0.0576	0.0000	240.0251

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	0.0359	1.1453	0.3051	2.9000e-003	0.0663	2.4300e-003	0.0688	0.0193	2.3200e-003	0.0216	0.0000	278.2688	278.2688	0.0126	0.0000	278.5846
Worker	0.0920	0.0637	0.6833	2.1700e-003	0.2246	1.4900e-003	0.2261	0.0600	1.3700e-003	0.0614	0.0000	196.1090	196.1090	4.4600e-003	0.0000	196.2205
Total	0.1279	1.2091	0.9884	5.0700e-003	0.2910	3.9200e-003	0.2949	0.0793	3.6900e-003	0.0830	0.0000	474.3778	474.3778	0.0171	0.0000	474.8051

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	7.5200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0201	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	7.5200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0201	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854

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
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Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1300e-003	1.0000e-005	1.1400e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1300e-003	1.0000e-005	1.1400e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.3496					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0104	0.0725	0.0863	1.4000e-004		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003	0.0000	12.1280	12.1280	8.3000e-004	0.0000	12.1488
Total	2.3600	0.0725	0.0863	1.4000e-004		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003	0.0000	12.1280	12.1280	8.3000e-004	0.0000	12.1488

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	8.4900e-003	5.8800e-003	0.0630	2.0000e-004	0.0219	1.4000e-004	0.0220	5.8100e-003	1.3000e-004	5.9400e-003	0.0000	18.0877	18.0877	4.1000e-004	0.0000	18.0980

Total	8.4900e-003	5.8800e-003	0.0630	2.0000e-004	0.0219	1.4000e-004	0.0220	5.8100e-003	1.3000e-004	5.9400e-003	0.0000	18.0877	18.0877	4.1000e-004	0.0000	18.0980
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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	2.3496					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0104	0.0725	0.0863	1.4000e-004		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003	0.0000	12.1279	12.1279	8.3000e-004	0.0000	12.1488
Total	2.3600	0.0725	0.0863	1.4000e-004		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003	0.0000	12.1279	12.1279	8.3000e-004	0.0000	12.1488

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	8.4900e-003	5.8800e-003	0.0630	2.0000e-004	0.0207	1.4000e-004	0.0209	5.5300e-003	1.3000e-004	5.6600e-003	0.0000	18.0877	18.0877	4.1000e-004	0.0000	18.0980
Total	8.4900e-003	5.8800e-003	0.0630	2.0000e-004	0.0207	1.4000e-004	0.0209	5.5300e-003	1.3000e-004	5.6600e-003	0.0000	18.0877	18.0877	4.1000e-004	0.0000	18.0980

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Implement Trip Reduction Program

Market Commute Trip Reduction Option

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.1566	0.8030	2.5708	9.7000e-003	0.9050	8.0800e-003	0.9130	0.2423	7.5600e-003	0.2498	0.0000	886.9756	886.9756	0.0269	0.0000	887.6484
Unmitigated	0.1603	0.8285	2.6645	0.0101	0.9427	8.4000e-003	0.9511	0.2523	7.8500e-003	0.2602	0.0000	922.9005	922.9005	0.0279	0.0000	923.5977

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Hotel	411.00	411.00	411.00	2,535,062	2,433,660
Other Asphalt Surfaces	0.00	0.00	0.00		
User Defined Industrial	0.00	0.00	0.00		
Total	411.00	411.00	411.00	2,535,062	2,433,660

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
Hotel	12.00	29.70	10.00	26.00	74.00	0.00	58	38	4
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Hotel	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

Other Asphalt Surfaces	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
User Defined Industrial	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	133.0441	133.0441	0.0264	5.4700e-003	135.3341
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	219.8171	219.8171	0.0437	9.0300e-003	223.6007
NaturalGas Mitigated	0.0548	0.4985	0.4187	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	542.6191	542.6191	0.0104	9.9500e-003	545.8436
NaturalGas Unmitigated	0.1041	0.9462	0.7948	5.6800e-003		0.0719	0.0719		0.0719	0.0719	0.0000	1,029.9981	1,029.9981	0.0197	0.0189	1,036.1189

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					

Hotel	1.93014e+007	0.1041	0.9462	0.7948	5.6800e-003		0.0719	0.0719		0.0719	0.0719	0.0000	1,029.9981	1,029.9981	0.0197	0.0189	1,036.1189
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.1041	0.9462	0.7948	5.6800e-003		0.0719	0.0719		0.0719	0.0719	0.0000	1,029.9981	1,029.9981	0.0197	0.0189	1,036.1189

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					
Hotel	1.01683e+007	0.0548	0.4985	0.4187	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	542.6191	542.6191	0.0104	9.9500e-003	545.8436
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0548	0.4985	0.4187	2.9900e-003		0.0379	0.0379		0.0379	0.0379	0.0000	542.6191	542.6191	0.0104	9.9500e-003	545.8436

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	3.31927e+006	219.8171	0.0437	9.0300e-003	223.6007
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000

Total		219.8171	0.0437	9.0300e-003	223.6007
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Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Hotel	2.00899e+006	133.0441	0.0264	5.4700e-003	135.3341
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		133.0441	0.0264	5.4700e-003	135.3341

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9767	4.7000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.0992	0.0992	2.6000e-004	0.0000	0.1058
Unmitigated	1.9767	4.7000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.0992	0.0992	2.6000e-004	0.0000	0.1058

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	0.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.7800e-003	4.7000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.0992	0.0992	2.6000e-004	0.0000	0.1058
Total	1.9767	4.7000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.0992	0.0992	2.6000e-004	0.0000	0.1058

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	0.2350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.7800e-003	4.7000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.0992	0.0992	2.6000e-004	0.0000	0.1058
Total	1.9767	4.7000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.0992	0.0992	2.6000e-004	0.0000	0.1058

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	4.2971	0.1989	4.7800e-003	10.6931
Unmitigated	5.3373	0.2486	5.9800e-003	13.3318

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	7.61003 / 0.845559	5.3373	0.2486	5.9800e-003	13.3318
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		5.3373	0.2486	5.9800e-003	13.3318

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Hotel	6.08802 / 0.79398	4.2971	0.1989	4.7800e-003	10.6931
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		4.2971	0.1989	4.7800e-003	10.6931

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.3353	0.4926	0.0000	20.6504
Unmitigated	33.3413	1.9704	0.0000	82.6016

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	164.25	33.3413	1.9704	0.0000	82.6016
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		33.3413	1.9704	0.0000	82.6016

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Hotel	41.0625	8.3353	0.4926	0.0000	20.6504
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		8.3353	0.4926	0.0000	20.6504

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	- 2,220.0000	0.0000	0.0000	- 2,220.0000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Trees	320 / 300	- 2,220.0000	0.0000	0.0000	- 2,220.0000
Total		- 2,220.0000	0.0000	0.0000	- 2,220.0000 0