

4.7 Greenhouse Gas Emissions

This section of the EIR describes the existing conditions and regulatory setting related to greenhouse gas (GHG) emissions for the Fanita Ranch Project (proposed project), evaluates the potential for impacts related to increased GHG emissions due to implementation of the proposed project, and recommends mitigation measures to reduce or avoid adverse impacts, as necessary. The information in this section is based on the Greenhouse Gas Analysis prepared by LSA Associates, Inc. (2020), included as Appendix H.

4.7.1 Environmental Setting

4.7.1.1 Global Climate Change

Global climate change (GCC) is the observed increase in the average temperature of Earth's atmosphere and oceans along with other significant changes in climate (e.g., precipitation or wind) that last for an extended period of time. The term "global climate change" is often used interchangeably with the term "global warming," but GCC is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures.

Climate change refers to any change in measures of weather (e.g., temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of GCC has been a rise in the average global tropospheric¹ temperature of 0.36 degree Fahrenheit (°F) per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming may occur, which may induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of the state could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in the state might include a decline in the Sierra Nevada snowpack, erosion of the state's coastline, and seawater intrusion in the San Joaquin Delta.

Average global surface temperatures have risen by 1.33°F with a variance of plus or minus 0.32°F (± 0.32°F) over the last 100 years. The rate of warming over the last 50 years is almost double that over the last 100 years (IPCC 2013). The latest projections indicate that temperatures in the state are expected to rise 3–10.5°F by the end of the century. The prevailing scientific opinion on climate change is that mostly attributable to human activities, specifically increased amounts of carbon

¹ The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

dioxide (CO₂) and other GHG emissions. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as the “greenhouse effect”² (Appendix H).

4.7.1.2 Greenhouse Gases

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The following gases are widely seen as the principal contributors to human-induced GCC.³

- CO₂
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which scientists believe can cause global warming. While GHGs produced by human activities include naturally occurring GHGs (e.g., CO₂, CH₄, and N₂O), some gases (e.g., HFCs, PFCs, and SF₆) are completely new to the atmosphere. Certain other gases (e.g., water vapor) are short-lived in the atmosphere compared to these GHGs, which remain in the atmosphere for significant periods of time and contribute to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes (e.g., oceanic evaporation). For the purposes of the EIR, the term “GHGs” will refer collectively to the six gases identified in the bulleted list provided above. The following discussion summarizes the characteristics of the six primary GHGs (Appendix H).

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO₂. Natural sources of CO₂ include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO₂ include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Earth maintains a natural carbon balance, and when concentrations of CO₂ are upset,

² The temperature on Earth is regulated by a system commonly known as the “greenhouse effect.” Just as the glass in a greenhouse allows heat from sunlight in and reduces the amount of heat that escapes, GHGs like CO₂, CH₄, and N₂O in the atmosphere keep Earth at a relatively even temperature. Without the greenhouse effect, Earth would be a frozen globe; thus, the naturally occurring greenhouse effect is necessary to keep our planet at a comfortable temperature.

³ The GHGs listed are consistent with the definition in Assembly Bill (AB) 32 (California Government Code, Section 38505), as discussed in this section.

the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO₂ to the atmosphere. Natural removal processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of human-made CO₂, and consequently, the gas is building up in the atmosphere. The concentration of CO₂ in the atmosphere has risen approximately 30 percent since the late 1800s.

Methane

CH₄ is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH₄ include fires, geologic processes, and bacteria that produce CH₄ in a variety of settings (most notably, wetlands). Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (e.g., the burning of coal, oil, and natural gas). As with CO₂, the major removal process of atmospheric CH₄ (a chemical breakdown in the atmosphere) cannot keep pace with source emissions, and CH₄ concentrations in the atmosphere are increasing.

Nitrous Oxide

N₂O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N₂O is also a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion sources emit N₂O. The quantity of N₂O emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N₂O emissions in the state.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for O₃-depleting substances regulated under the Montreal Protocol.⁴ PFCs and SF₆ are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in the state; however, the rapid growth in the semiconductor industry, which is active in the state, has led to greater use of PFCs. However, the proposed project does not include any components that are known to emit these three GHGs; therefore, these substances are not discussed further in this analysis.

⁴ The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the O₃ layer by phasing out the production of several groups of halogenated hydrocarbons that are believed to be responsible for O₃ depletion and are also potent GHGs.

Global Warming Potential

The gases described previously vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere (referred to as atmospheric lifetime). The GWP of each gas is measured relative to CO₂, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of metric tons⁵ (MT) of CO₂ equivalent (CO₂e). For example, N₂O is 265 times more potent at contributing to global warming than CO₂. Table 4.7-1 identifies the GWP for each GHG analyzed in this report.

Table 4.7-1. Global Warming Potential for Selected Greenhouse Gases

Pollutant	Lifetime (Years)	Global Warming Potential (100-Year)
Carbon Dioxide (CO ₂)	~100 ¹	1
Methane (CH ₄)	12	28
Nitrous Oxide (N ₂ O)	121	265

Source: Appendix H.

¹ CO₂ has a variable atmospheric lifetime and cannot be readily approximated as a single number.

4.7.1.3 Emissions Sources and Inventories

This section summarizes the latest information on global, national, state, and local GHG emission inventories (Appendix H). However, because GHGs persist for a long time in the atmosphere, accumulate over time, and are generally well mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

Global Emissions

Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change. Worldwide GHG emissions totaled 29 billion metric tons of carbon dioxide equivalent per year (MT CO₂e/yr) in 2012.

United States Emissions

In 2017, the United States emitted approximately 6.5 billion MT CO₂e. Total United States emissions have increased by 1.6 percent from 1990 to 2017, and emissions decreased from 2016 to 2017 by 0.3 percent. The decrease in total GHG emissions between 2016 and 2017 was driven in large part by a decrease in CO₂ emissions from fossil fuel combustion. The decrease in CO₂ emissions from fossil fuel combustion was a result of multiple factors, including substitution from coal to natural gas and other non-fossil energy sources in the electric power sector and warmer

⁵ A metric ton is equivalent to approximately 1.1 tons.

winter conditions in 2016 resulting in a decreased demand for heating fuel in the residential and commercial sectors.

State of California Emissions

The California Air Resources Board (CARB) is responsible for developing the state GHG Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities in the state and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 1990–2017 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

According to the CARB emission inventory estimates, the state emitted approximately 424 million metric tons of CO_{2e} million metric ton of carbon dioxide equivalent (MMT CO_{2e}) emissions in 2017. This is a decrease of 5 MMT CO_{2e} from 2016 and a 14 percent decrease since 2004. The CARB estimates that transportation was the source of approximately 40 percent of the state's GHG emissions in 2017, followed by industrial sources at 21 percent and electricity generation at 15 percent. The largest emissions category within the transportation sector is on-road, which consists of passenger vehicles (cars, motorcycles, and light-duty trucks) and heavy-duty vehicles. Emissions from on-road sources constitute more than 91 percent of the transportation sector total. The remaining sources of GHG emissions were residential and commercial activities at 10 percent, agriculture at 8 percent, high-GWP gases at 5 percent, and recycling and waste at 2 percent.

CARB staff has projected statewide unregulated GHG emissions for 2020, which represent the emissions that would be expected to occur in the absence of any GHG reduction actions, at 509 MMT CO_{2e}. GHG emissions from the transportation and electricity sectors as a whole are expected to increase but remain at approximately 30 percent and 32 percent of total CO_{2e} emissions, respectively.

City of Santee Emissions

The Sustainable Santee Plan (City of Santee 2020) includes a GHG baseline inventory that identifies sources and levels of GHG emissions produced by residents and businesses within the community and municipal operations. The 2005 and 2013 inventories of baseline conditions address the following emission sectors: on-road transportation, residential energy, commercial energy, solid waste, water use, off-road sources, and wastewater treatment. Government-related GHG emissions (municipal emissions), which include energy use in government buildings and facilities, vehicle fleets and equipment, solid waste, streetlights, employee commutes, and water pumping, are a subset of the community-wide emissions inventory.

Projected community-wide GHG emissions for these sectors are calculated for the years 2020, 2030, and 2035 under a business-as-usual (BAU) scenario. The BAU scenario assumes that

historical data and trends are representative of future year consumption rates for energy, water, and waste. Table 4.7-2 provides a summary of the City of Santee's (City's) emissions and forecasts. Assuming BAU, the same type of current emissions-generating practices that continue to occur in the City, GHG emissions are anticipated to increase by 7.6 percent in 2020 over 2013 levels, by 20.8 percent in 2030 over 2013 levels, and by 28 percent in 2035 over 2013 levels.

Table 4.7-2. City of Santee Baseline GHG Emissions and Percent Contributions

Emissions Sector	Baseline MT CO ₂ e (percent of total emissions)				
	2005	2013	2020	2030	2035
On-Road Transportation	181,812 (53%)	242,499 (60%)	264,162 (61%)	298,992 (62%)	318,334 (62%)
Commercial Energy Use	37,697 (11%)	48,025 (12%)	49,467 (11%)	56,486 (12%)	60,362 (12%)
Residential Energy Use	63,544 (19%)	78,651 (20%)	83,753 (19%)	91,986 (19%)	96,401 (19%)
Solid Waste	16,376 (4.8%)	11,151 (2.8%)	11,861 (2.7%)	12,651 (2.6%)	13,066 (2.5%)
Water and Wastewater	12,313 (3.6%)	7,549 (1.8%)	8,029 (1.9%)	8,565 (1.8%)	8,845 (1.7%)
Off-Road Sources	28,230 (8.3%)	14,699 (3.7%)	15,710 (3.6%)	17,490 (3.6%)	18,454 (3.6%)
Total	339,972 (100%)	402,574 (100%)	432,982 (100%)	486,170 (100%)	515,462 (100%)
<i>Percent Change from 2013 Levels</i>	—	—	7.6	20.8	28.0
Estimated Population	54,370	55,033	59,488	62,145	63,518
Estimated Employment	15,782	16,630	16,949	19,354	20,682
GHG Emissions per Service Population ¹	4.85	5.62	5.66	5.97	6.12

Source: Appendix H.

Notes: GHG = greenhouse gas; MT CO₂e = metric tons of carbon dioxide equivalent.

Totals may not add up due to rounding.

¹ Service Population is the sum of population plus employment.

Transportation emissions are the largest portion of GHG emissions in the City. GHG emissions increases from baseline years 2005 and 2013 to projected emissions in years 2020, 2030, and 2035 are primarily due to anticipated future population growth (and related consumption of energy, fuel, and water) in the City. Although the trends for each projection show an increase in GHG emissions, emission reductions are anticipated due to programs and regulations applied at the federal and state levels, such as vehicle fuel efficiency standards, low carbon fuel standards (LCFS), and renewable energy portfolio requirements. However, these actions at the federal and state levels are not considered in the 2020, 2030, and 2035 BAU projections reported in Table 4.7-2.

Table 4.7-3 summarizes municipal emissions and forecasts. Assuming BAU, that the same type of current emissions-generating practices continue to occur in the City, government-related GHG emissions are anticipated to increase by 2 percent in 2020 over 2013 levels, by 4.9 percent in 2030 over 2013 levels, and by 6.4 percent in 2035 over 2013 levels. Fleet and equipment and outdoor lights, are the two largest contributors to municipal GHG emissions.

Table 4.7-3. City of Santee Baseline Municipal Emissions

Emissions Sector	Baseline MT CO ₂ e (percent of total emissions)				
	2005	2013	2020	2030	2035
Fleet and Equipment	359 (22%)	396 (21%)	404 (21%)	416 (21%)	421 (21%)
Buildings and Facilities	275 (17%)	346 (18%)	353 (18%)	363 (18%)	368 (18%)
Solid Waste	210 (13%)	247 (13%)	252 (13%)	259 (13%)	263 (13%)
Employee Commute	208 (13%)	188 (10%)	192 (10%)	197 (10%)	200 (10%)
Outdoor Lights	586 (35%)	702 (37%)	716 (21%)	737 (21%)	747 (21%)
Water Pumping	19 (1.1%)	30 (1.6%)	31 (1.5%)	31 (1.6%)	32 (1.5%)
Total	1,657 (100%)	1,909 (100%)	1,948 (100%)	2,003 (100%)	2,031 (100%)
<i>Percent Change from 2013 Levels</i>	—	—	2.0	4.9	6.4

Source: Appendix H.

Notes: MT CO₂e = metric tons of carbon dioxide equivalent

4.7.2 Regulatory Setting

Applicable federal, state, and local regulations pertaining to GHG emissions are discussed below.

4.7.2.1 Federal

Clean Air Act

The United States has historically taken a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the U.S. Supreme Court ruled that the U.S. Environmental Protection Agency (USEPA) has the authority to regulate CO₂ emissions under the federal Clean Air Act. In 2007, through *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007), the U.S. Supreme Court held that the USEPA has authority to regulate GHGs from new motor vehicles as pollutants under Section 202(a)(1) of the federal Clean Air Act in the event that it forms a judgment that such emissions contribute to climate change. The USEPA can avoid taking regulatory action only if it determines that GHGs do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do.

While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 that are required to implement a regulatory approach to GCC.

On September 30, 2009, the USEPA announced a proposal that focused on large facilities emitting over 25,000 tons of GHG emissions per year. These facilities would be required to obtain permits that would demonstrate they are using the best practices and technologies to minimize GHG emissions.

On December 7, 2009, the USEPA Administrator signed a final action under the federal Clean Air Act, finding that six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) constitute a threat to public health and welfare and that the combined emissions from motor vehicles cause and contribute to

GCC. This USEPA action does not impose any requirements on industry or other entities. However, the findings are a prerequisite to finalizing the GHG emission standards for light-duty vehicles (Executive Order [EO] S-1-07, Low Carbon Fuel Standards) listed below under state regulations.

4.7.2.2 State

Assembly Bill 32 and Senate Bill 32, California Global Warming Solutions Act

AB 32 requires CARB to reduce statewide GHG emissions to 1990 levels by 2020. As part of this legislation, CARB was required to prepare a “Scoping Plan” that demonstrates how the state will achieve this goal. The Scoping Plan was adopted in 2011, and in it, local governments are described as “essential partners” in meeting the statewide goal, recommending a GHG reduction level 15 percent below 2005–2008 levels (depending on when a full emissions inventory is available) by 2020.

CARB released the 2017 Scoping Plan Update on January 20, 2017. The 2017 Scoping Plan Update provides strategies for achieving the 2030 target established by EO B-30-15 and codified in Senate Bill (SB) 32 (40 percent below 1990 levels by 2030). The 2017 Scoping Plan Update recommends local plan-level GHG emissions reduction goals. CARB recommends that local governments aim to achieve emissions of no more than 6 MT CO_{2e} per capita by 2030 and no more than 2 MT CO_{2e} per capita by 2050.

Assembly Bill 341, Commercial Recycling

AB 341 sets a statewide goal of 75 percent recycling, composting, or source reduction of solid waste by the year 2020. As required by AB 341, the California Department of Resources Recycling and Recovery (CalRecycle) adopted the Mandatory Commercial Recycling Regulation on January 17, 2012. The regulation was approved by the Office of Administrative Law on May 7, 2012. It became effective immediately and clarified the responsibilities in implementing mandatory commercial recycling. The Mandatory Commercial Recycling Regulation focuses on increased commercial waste diversion as a method to reduce GHG emissions. The regulation is designed to achieve a reduction in GHG emissions of 5 million MT CO₂, which equates to roughly an additional 2–3 MT of currently disposed commercial solid waste being recycled by 2020 and thereafter.

Assembly Bill 1493, Clean Car Standards

Also known as “Pavley I,” AB 1493 standards were the nation’s first GHG standards for automobiles. AB 1493 requires CARB to adopt vehicle standards that will lower GHG emissions from new light-duty automobiles to the maximum extent feasible. In January 2012, CARB adopted the Advanced Clean Cars Program to achieve additional GHG emission reductions for passenger vehicles for model years 2017–2025. The program includes low-emission vehicle regulations and zero-emission vehicle regulations. Together, the two standards increase average fuel economy to roughly 43 miles per gallon in 2020 (and more for years beyond 2020).

CALGreen Building Code

California Code of Regulations, Title 24, Part 11 (California's Green Building Standard Code [CALGreen]), was adopted in 2010 and went into effect on January 1, 2011. Further updates to CALGreen went into effect on January 1, 2017, and January 1, 2020. CALGreen is the first statewide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The mandatory provisions in CALGreen will reduce the use of volatile organic compounds emitting materials, strengthen water conservation, and require construction waste recycling. These standards are outlined in greater detail in Section 4.5, Energy.

California Air Resources Board Standards and Programs

CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control and climate change programs within California. In this capacity, CARB conducts research, sets California ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products, and various types of commercial equipment.

California Code of Regulations Title 24, Part 6

California Code of Regulations, Title 24, Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) (Title 24), was established in 1978 to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels and natural gas use result in GHG emissions, and energy-efficient buildings require less electricity and natural gas. Therefore, increased energy efficiency will result in decreased GHG emissions.

The California Energy Commission adopted its 2008 Standards on April 23, 2008, in response to AB 32. The 2008 Standards were adopted to (a) provide California with an adequate, reasonably priced, and environmentally sound supply of energy; (b) pursue California energy policy, which states that energy efficiency is the resource of first choice for meeting California's energy needs; (c) meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes every 3 years; and (d) meet the EO B-18-12 in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards. The latest update of the California Code of Regulations, Title 24, Part 6, which went into effect on January 1, 2020, will significantly increase the energy efficiency of new residential buildings.

Executive Order B-30-15

On April 29, 2015, California Governor Jerry Brown announced through EO B-30-15 the following GHG emissions target:

- By 2030, California shall reduce GHG emissions to 40 percent below 1990 levels.

The emissions reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to make it possible to reach the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050. The order directs CARB to provide a plan with specific regulations to reduce statewide sources of GHG emissions. EO B-30-15 does not include a specific guideline for local governments.

Executive Order S-01-07, Low Carbon Fuel Standard

In 2007, Governor Schwarzenegger signed EO S-01-07, which mandates (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and (2) that an LCFS for transportation fuels be established in California. CARB developed the LCFS regulation pursuant to the state's authority under AB 32 and the federal Clean Air Act and adopted it in 2009.

Executive Order S-3-05

On June 1, 2005, California Governor Arnold Schwarzenegger announced through EO S-3-05, the following GHG emissions targets:

- By 2010, California shall reduce GHG emissions to 2000 levels.
- By 2020, California shall reduce GHG emissions to 1990 levels.
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

EO S-3-05 also laid out responsibilities among the state agencies for implementation and for reporting on progress toward the targets.

Renewable Portfolio Standard

The Renewable Portfolio Standard requires energy providers to derive 33 percent of their electricity from qualified renewable sources by 2020. In September 2018, the State Assembly passed and the Governor approved SB 100, which requires energy providers to derive 60 percent of their electricity from qualified renewable sources by 2030 and 100 percent by 2045. The Renewable Portfolio Standard is anticipated to lower emission factors (i.e., fewer GHG emissions per kilowatt-hour used) from utilities across the state, including San Diego Gas & Electric.

Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. The legislation directed the

California Office of Planning and Research to develop draft CEQA Guidelines “for the mitigation of GHG emissions or the effects of GHG emissions” and directed the resources agency to certify and adopt the CEQA Guidelines. CEQA Guidelines, Section 15183.5, Tiering and Streamlining the Analysis of GHG Emissions, was added as part of the CEQA Guidelines amendments that became effective in 2010 and describes the criteria needed in a GHG reduction plan that would allow for the tiering and streamlining of CEQA analysis for development projects.

Senate Bill 375, Sustainable Communities Strategy

SB 375 was adopted in 2008 and provided for a new planning process that coordinates land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 required regional transportation plans, developed by Metropolitan Planning Organizations to incorporate a Sustainable Communities Strategy in their Regional Transportation Plans. The goal of the Sustainable Communities Strategy is to reduce regional vehicle miles traveled (VMT) through land use planning and consequent transportation patterns. SB 375 also included provisions for streamlined CEQA review for some infill projects such as transit-oriented development.

4.7.2.3 Local

Santee General Plan

The Santee General Plan includes various goals, objectives, and policies that help to reduce GHG emissions, including the following policies from the Land Use Element:

- **Policy 3.2:** The City should encourage the development and use of recycled water for appropriate land uses to encourage the conservation of, and reduce demand for, portable water.
- **Policy 4.3:** The City should locate new neighborhood commercial uses along major roadways in consolidated centers that utilize common access and parking for commercial uses, discourage the introduction of strip commercial uses and require adequate pedestrian links to residential areas.

In addition, the Mobility Element includes policies that enhance smart growth development, improve traffic flow, increase the use of public transit, encourage bicycling and walking, and increase use of alternative modes of travel, which would help to reduce GHG emissions from on-road transportation.

Sustainable Santee Plan: The City’s Roadmap to Greenhouse Gas Reductions

The City developed a Sustainable Santee Plan that provides GHG emissions reduction goals and strategies focused on reducing resource consumption, improving alternative modes of transportation, and reducing overall emissions throughout the City. The Sustainable Santee Plan was adopted in January 2020. The Sustainable Santee Plan presents the City’s community-wide

GHG inventories for the years 2005, 2008, 2012, and 2013 and municipal GHG inventories for the years 2005 and 2013. The BAU and adjusted BAU forecasts are presented for the years 2020, 2030, and 2035. An interim goal consistent with SB 32, which is to reduce emissions to 40 percent below 2005 levels, was created for 2030. A longer-term goal was established for 2035, which is to reduce emissions to 49 percent below 2005 levels. The interim and longer-term goals would put the City on a path toward the state's long-term goal to achieve net carbon neutrality statewide by 2045. The Sustainable Santee Plan also identifies GHG reduction strategies to help the City achieve its GHG reduction targets.

On February 7, 2020, Preserve Wild Santee, Climate Action Campaign, and the Center for Biological Diversity filed a lawsuit challenging the Sustainable Santee Plan (Preserve Wild Santee v. City of Santee, San Diego Superior Court Case No. 37-2020-7331). Although the action remains pending as of the date of this analysis, the filing of a lawsuit does not affect the validity of the Sustainable Santee Plan. As such, the City may continue to rely on the plan for this analysis.

4.7.3 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact associated with GHG emissions if it would:

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

The CEQA Guidelines state that a lead agency may analyze and mitigate the significance of GHG emissions at the project level using a plan for the reduction of GHG emissions (CEQA Guidelines, Section 15183.5[a]). The City's Sustainable Santee Plan was adopted in January 2020 and includes a checklist to determine development projects' consistency with the land use assumptions and GHG reductions used in the Sustainable Santee Plan. The Sustainable Santee Plan is a qualified plan for reduction of GHGs under CEQA Guidelines, Section 15183.5(b). The proposed project is in the City; therefore, determining if the proposed project is consistent with the Sustainable Santee Plan, and the plan is the applicable plan for addressing both Threshold 1 and Threshold 2.

Regarding Threshold 1, because the Sustainable Santee Plan is currently in litigation, the City decided to independently develop a quantitative per capita GHG threshold based on the data accumulated during preparation of the Sustainable Santee Plan to ensure that the proposed project would not generate GHG emissions, either directly or indirectly, that would cause a significant impact on the environment.

To develop the necessary GHG threshold, the City used the GHG reduction targets for community emissions on page 23 of the Sustainable Santee Plan. These reduction targets are 3.80 MT of GHG

emissions per service population (MT/SP) by year 2030 and 3.18 MT/SP by 2035. Service population is the total population plus jobs in the City. The City chose to focus on year 2035 in the development of a per capita threshold because building new development at that level of efficiency will ensure that the City meets its 2035 reduction target. The process is summarized below, and additional detail is provided in Appendix H.

The first step in the development of a per capita threshold was to ensure that the anticipated level of GHG emissions would result in less than significant climate change impacts. The GHG reduction goals of California were compared to the GHG reduction targets of the Sustainable Santee Plan, and while the magnitude of emissions differs (MMT at the state level versus MT at the local level), the overall reduction trends of the Sustainable Santee Plan match the state goals. This is because both have the same percentage of reductions over time. For this reason, basing a per capita GHG threshold on the data collected for the Sustainable Santee Plan is sufficient to demonstrate that emissions at or below the threshold level would result in a less than significant impact.

The next step in developing a per capita threshold was to customize it to fit new development projects in the City. The reduction targets of 3.80 MT/SP by year 2030 and 3.18 MT/SP by 2035 are average levels of GHG emissions, which include both existing and new development, for the entire community. To isolate the per capita level of GHG emissions efficiency needed from new development to meet these targets, the City reviewed the reduction measures allocated to new development, the reduction measures allocated to the existing buildings, and the reduction measures that apply to both new and existing buildings and infrastructure. For reduction measures that applied to both new and existing buildings and infrastructure, the City proportioned the allocation of emissions based on the growth anticipated in 2035 (i.e., the growth of 10.2 percent between 2020 and 2035 would allocate 10.2 percent of the reductions toward new development). The reduction measures in the Sustainable Santee Plan and the allocation between the existing built environment and new development needed to achieve the 2035 reduction target are provided in Appendix H. New development is responsible for 57 percent of the GHG reductions in the Sustainable Santee Plan but represents only 20 percent of the total service population.

The third step in the development of the per capita GHG threshold was to review the remaining community-wide GHG emissions of 171,888 MT CO₂e after implementation of all the reduction measures and proportion the remaining emissions between existing and new development. Table 4.7-4 summarizes the proportioning of the remaining emissions in 2035 between existing and new development and then divides the remaining emissions associated with new development by the service population associated with new development (i.e., growth). As identified in Table 4.7-4, the proposed project would result in less than significant impacts if it would result in annual per capita emissions below 1.77 MT CO₂e/SP.

Table 4.7-4. Per Capita Greenhouse Gas Threshold for New Development

Category	Existing	New Development	2035 Total
Remaining 2035 GHG emissions after implementation of reduction measures in Sustainable Santee Plan	148,788 MT CO ₂ e	23,100 MT CO ₂ e	171,888 MT CO ₂ e
SP in 2035	71,152 SP	13,048 SP	84,200 SP
Per Capita GHG Threshold for New Development		1.77 MT CO₂e/SP	

Source: Appendix H.

Notes: CO₂e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; SP = service population

As previously noted, consistency with the Sustainable Santee Plan is used for determining significance regarding Threshold 2.

4.7.4 Method of Analysis

Construction Emissions

Consistent with CARB and San Diego County Air Pollution Control District guidance, the most recent version of California Emissions Estimator Model (CalEEMod) (Version 2016.3.2.25) was used to calculate construction emissions associated with the proposed project. CalEEMod is designed to model construction emissions for land development projects and allows for the input of project-specific information, such as the number of pieces of equipment, hours of operation, duration of construction activities, and selection of emission control measures. The Air Quality Analysis prepared by LSA Associates, Inc., in 2020 (Appendix C1) includes detailed discussion of the project construction schedule and the summary of construction equipment that would be used during project construction of each phase as estimated by the applicant. Construction activities would be identical for the preferred land use plan with school and the land use plan without school because the activities would occur in the same footprint, require the same equipment, and have the same duration. Construction assumptions, including equipment, hours of operation, duration of construction activities, and truck and vehicle trip volumes, are identical to those outlined in Section 4.2.4, Method of Analysis, in Section 4.2, Air Quality.

Per the South Coast Air Quality Management District guidance (SCAQMD 2009), due to the long-term nature of GHG emissions in the atmosphere, instead of determining significance of construction emissions alone, the total construction emissions are amortized over 30 years (an estimate of the life of the proposed project) and included in the operations analysis.

Operation Emissions

Operational emissions from the preferred land use plan with school and the land use plan without school were calculated using CalEEMod and operational assumptions consistent with those outlined in Section 4.2.4 in Section 4.2. Long-term operation of the proposed project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Mobile-source emissions of GHGs would include

project-generated vehicle trips. Area-source emissions would be associated with activities such as landscaping and maintenance of the proposed project, natural gas for heating, and other sources. Increases in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed project. The following sections summarize the methodology and assumptions used in calculating GHG emissions resulting from long-term operational activities of the proposed project. Additionally, project compliance with state regulations and standards would reduce project-generated GHG emissions, and the proposed project proposes several GHG-reducing project design features. Table 4.7-5 lists the applicable state regulations and associated modeling assumptions, and Table 4.7-6 lists applicable project design features and modeling assumptions. Modeling assumptions are also summarized below by source, and additional calculation details are provided in Appendix H.

Table 4.7-5. Regulations That Reduce Greenhouse Gas Emissions

Reference Number	Regulatory Compliance Measure	Description	Quantification Details
Energy			
REG-GHG-1	Compliance with Title 24 Building Energy Efficiency Standards	Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. The most recent amendments to Title 24, Part 6, referred to as the "2019 Standards," became effective on January 1, 2020. CalEEMod Version 2016.3.2.25 assumes compliance with 2016 Title 24 Standards. In general, single-family residences built to the 2019 Standards are anticipated to use approximately 7 percent less energy for lighting, heating, cooling ventilation, and water heating than those built to the 2016 Standards, and non-residential buildings built to the 2019 Standards will use an estimated 7 percent less energy than those built to the 2016 standards.	CalEEMod default energy values were adjusted to match current Title 24, Part 6, energy efficiency requirements.
REG-GHG-2	Solar-Ready Units	Per CEC's 2016 Residential Compliance Manual, all single-family residences constructed as part of the proposed project would be designed with pre-plumbing for solar water heaters and solar rooftop renewable energy systems.	The proposed project would comply, but no reduction was assumed for this regulation.
REG-GHG-3	Renewable Portfolio Standard (RPS)	Implementation of the 60 percent mandate by 2030 would reduce GHG emissions by 17 percent.	The emissions intensity factors for utility energy use were adjusted in CalEEMod to account for SDG&E's compliance with the RPS for operational year 2035.

Table 4.7-5. Regulations That Reduce Greenhouse Gas Emissions

Reference Number	Regulatory Compliance Measure	Description	Quantification Details
Mobile Sources			
REG-GHG-4	Low Carbon Fuel Standard	The Low Carbon Fuel Standard achieves a 10 percent reduction in emissions from transportation fuels.	Accounted for in EMFAC 2016 vehicle emission factors as part of CalEEMod Version 2016.3.2.25.
REG-GHG-5	State and Federal Mobile Source Reduction Strategies	<ul style="list-style-type: none"> • Advanced Clean Cars (for model years 2016 and beyond). The Advanced Clean Car Standards would result in approximately 3 percent more reductions from passenger vehicles than the Pavley standards by 2030, 12 percent by 2025, 19.5 percent by 2030, and 33 percent by 2050. • Truck and Bus Rule (2014 Amendment) • Heavy-Duty Greenhouse Gas Phase 1 (2013), which includes the 2013 Tractor-Trailer Greenhouse Gas Regulation Amendments and Federal Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles • Pavley I federal standard for model years 2012 through 2016 	Accounted for in EMFAC 2016 vehicle emission factors as part of CalEEMod Version 2016.3.2.25.
REG-GHG-6	Pre-Wiring for Electric Vehicle Charging Equipment	Per CALGreen, the garages of each Low Density Residential unit must be wired to have the circuit and capacity for EV chargers. However, CALGreen does not require the installation of EV chargers.	The proposed project would comply, but no reduction was assumed for this regulation.
REG-GHG--7	Curbside Recycling	Proposed project-wide curbside recycling for residential units, schools, commercial, and retail establishments would be required in accordance with the California Integrated Waste Management Act (AB 939) and AB 341.	The solid waste generation rate developed for the proposed project includes diversion requirements. No additional reductions were assumed.
Water Conservation			
REG-GHG-9	Low-Flow Fixtures	Indoor residential plumbing products would comply with the 2016 CALGreen Code, including future updates to CALGreen as these updates apply to residences in the proposed project built under the updated code.	The analysis used default CalEEMod Version 2016.3.2.25 values for water use.

Table 4.7-5. Regulations That Reduce Greenhouse Gas Emissions

Reference Number	Regulatory Compliance Measure	Description	Quantification Details
REG-GHG-10	Reduction in Outdoor Water Use	<p>The proposed project would comply with the City’s Landscape Ordinance, which calls for 25 percent reduction in total water use below 2013 levels.</p> <p>To achieve this reduction, the proposed project would employ drought-tolerant landscaping and may offer plumbing for gray water systems, if feasible.</p> <p>In addition, through the proposed project’s plan process, and in the case of individual homeowners, the proposed project’s Covenants, Conditions, and Restrictions, it would be required to comply with the City’s Landscape Ordinance and Water Efficient Landscape Design Manual for all outdoor landscapes, including common areas, public spaces, parkways, medians, parking lots, parks, and all builder- and homeowner-installed private front yard and backyard landscaping.</p>	<p>The analysis accounts for reductions associated with the City’s Landscape Ordinance and Water Efficient Landscape Design Manual, which were accounted for in the Fanita Ranch Water Service Study (Appendix O1).</p>

Source: Appendix H.

Notes: AB = Assembly Bill; CalEEMod = California Emissions Estimator Model; CEC = California Energy Commission; City = City of Santee; County = County of San Diego; EV = electric vehicle; GHG = greenhouse gas; RPS = Renewable Portfolio Standards; SDG&E = San Diego Gas & Electric Company

Table 4.7-6. Project Design Features That Reduce GHG Emissions

PDF Number	Strategy to Reduce GHG Emissions	Description	Qualification Details
Energy Efficiency Measures			
PDF-AQ/ GHG-1	Wood-Burning Stoves and Fireplaces	No wood-burning stoves or fireplaces shall be allowed in the proposed project, and no more than six natural gas fire pits/fireplaces may be installed in the village community areas.	The proposed project has been designed to prohibit wood-burning stoves and fireplaces and to allow a total of six natural gas fire pits in the community areas of the villages.
PDF-AQ/ GHG-2	Non-Residential Energy Improvement Standards	All non-residential land uses shall achieve a 14 percent greater building energy efficiency than required by the 2016 state energy efficiency standards in Title 24, Part 6, of the California Code of Regulations.	CalEEMod default energy rates reflect 2016 standards. Accordingly, Title 24, Part 6, energy use was adjusted to reflect the estimated 30 percent increase in efficiency for non-residential buildings, and then adjusted to reflect an additional 14 percent increase on the calculated 2016 energy demand factors.
PDF-AQ/ GHG-3	Energy Star Appliances	All appliances (washer/dryers, refrigerators, and dishwashers) that will be installed by builders in residences and commercial	The following percent improvement in energy efficiency was assumed in CalEEMod based on default values:

Table 4.7-6. Project Design Features That Reduce GHG Emissions

PDF Number	Strategy to Reduce GHG Emissions	Description	Qualification Details
		businesses shall be Energy Star rated or equivalent.	<ul style="list-style-type: none"> • Clothes washers: 30 percent • Dishwashers: 15 percent • Fan: 50 percent • Refrigerator: 15 percent
PDF-AQ/ GHG-5	Efficient Outdoor Lighting	All outdoor lighting shall be LED or other high-efficiency lightbulbs.	Conservatively, no credit was taken.
PDF-AQ/ GHG-6	Cool Roofs	All residential structures shall meet the U.S. Green Building Council standards for cool roofs. This is defined as achieving a 3-year solar reflectance index of 64 for a low-sloped roof and a solar reflectance index of 32 for a high-sloped roof. Prior to the issuance of non-residential building permits, the applicant or its designee shall submit building plans illustrating non-residential structures shall meet the U.S. Green Building Council standards for cool roofs.	The energy efficiency factors for compliance with 2019 Title 24, Part 6 already account for reductions associated with cool roofs. Therefore, no additional reductions were taken for this project design feature.
Water			
PDF-UT-1	Hot Water Pipe Insulation –Residential and No- Residential	All hot water pipes shall be insulated, and hot and cold water piping shall be separated.	Estimated annual water savings of 2,400 gallons per unit. Reduction is included in water-use estimates. No additional reduction was taken.
PDF-UT-2	Pressure Reducing Valves- Residential and Non-Residential	The maximum service pressure shall be set to 60 pounds per square inch to reduce potential leakage and prevent excessive flow of water from all appliances with fixtures.	Estimated annual water savings of 1,800 gallons per unit. Reduction is included in water-use estimates. No additional reduction was taken.
PDF-UT-3	Water Efficient Dishwashers	Water efficient dishwashers that carry the Energy Star label shall be installed in all residential units and commercial uses where appropriate.	Estimated annual water savings of 650 gallons per unit. Reduction is included in water-use estimates. No additional reduction was taken.
PDF-UT-4	Residential Landscaping	All proposed project landscaping shall comply with the City's Landscape Ordinance, and California Code of Regulations Title 23, Division 2, Chapter 2.7 (Section 490 et seq.) By complying with this ordinance, it is estimated that outdoor water use at single-family residences will be reduced by approximately 10 percent. With an estimated total water use of 500 gpd per home and approximately 50 percent of this water used outdoors, the estimated annual water savings is 9,125 gallons per home. Residential water use can vary widely	Estimated that outdoor water use at single-family residences will be reduced by approximately 10 percent. Reduction is included in water-use estimates. No additional reduction was taken.

Table 4.7-6. Project Design Features That Reduce GHG Emissions

PDF Number	Strategy to Reduce GHG Emissions	Description	Qualification Details
		based on the size of lots; however, based on Padre Dam Municipal Water District factors for the proposed project, estimated water use for a typical single-family residence is 435 gpd for densities of 3 to 10 units per acre, 700 gpd for densities of 1 to 3 units per acre, and 1,000 gpd for densities of less than 1 unit per acre. An estimated 50 percent of this water savings is 7,940 gallons per single-family residence where densities are from 1 to 3 units per acre and 18,250 gallons per single-family residence where densities are less than 1 unit per acre based on these assumptions.	
PDF-UT-5	Outdoor Watering	HOA shall appropriately regulate the use of water for cleaning outdoor surfaces and vehicles through the Covenants, Conditions, and Restrictions.	Conservatively, no credit was taken for implementation of reduced outdoor watering.

Source: Appendix H.

Notes: CalEEMod = California Emissions Estimator Model; gpd = gallons per day; HOA = homeowners association; LED = light-emitting diodes; PDMWD = Padre Dam Municipal Water District

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from hearths and landscape maintenance equipment. The proposed project has been designed to prohibit wood-burning stoves and fireplaces and to allow a total of six natural gas fire pits/fireplaces in the community areas of the villages. Emissions associated with use of landscape equipment are estimated based on CalEEMod default values for emission factors (grams per residential dwelling unit per day and grams per square foot of non-residential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days.

Energy

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity emissions were estimated in CalEEMod using the emissions factors for San Diego Gas and Electric Company (SDG&E), which would be the energy source provider for the proposed project. For the operational year 2030, the emission factors for SDG&E were adjusted to reflect SDG&E's compliance with the RPS. A renewable procurement percentage of 60 percent in 2035 was assumed based on the 2030 RPS goal of 60 percent required by SB 100 (2018).

For residential land uses, project-specific energy (electricity and natural gas) use data were used in place of CalEEMod default values. To calculate the total residential building energy input (i.e., electricity and natural gas use from regulated and unregulated loads), project-specific energy use was adjusted to reflect energy use in residential development designed to meet Title 24 standards. For non-residential land uses, CalEEMod default values for energy consumption for each land use were applied. Changes were made to CalEEMod defaults to reflect compliance with 2019 Title 24, Part 6 (which is 7 percent more efficient than CalEEMod default 2016 Title 24).

On-Road Mobile Sources

Mobile sources of GHG associated with the proposed project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the proposed land uses and would primarily include future residents. CalEEMod default assumptions were modified to reflect the anticipated project trip generation, including the trip rates, total trips, and total VMT provided in Appendix N. Implementation of the preferred land use plan with school would result in 243,266 daily VMT, and the land use plan without school would result in 249,124 daily VMT. Those figures were multiplied by 347 to convert to annual VMT based on CARB-recommended methodology, resulting in projected annual VMT of 84,413,302 and 86,446,028 for the preferred land use plan with school and land use plan without school, respectively.

Solid Waste

The proposed project would generate solid waste and result in CO₂e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water for the proposed project would require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the proposed project would require the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. Water consumption estimates for both indoor and outdoor water use and associated electricity consumption from water use and wastewater generation were assumed based on the proposed project's Water Supply Assessment (Appendix O3). Additionally, the GHG emissions associated with agricultural water use were estimated outside of CalEEMod. The assumptions for calculations associated with agriculture are provided in Appendix H.

Project Service Population

The proposed project's service population is the total residents plus jobs anticipated at buildout of the proposed project. Residential populations for both land use plans were calculated using the 2.9 persons per household, with the exception of the Active Adult units. A population of 1.6 persons

per unit was assumed per Active Adult unit. The preferred land use plan with school would include 2,504 Low Density Residential, Medium Density Residential, and Village Center housing units and 445 Active Adult units totaling 7,974 residents plus 450 jobs at buildout, which would result in a total service population of 8,424. The land use plan without school would build a total of 2,563 Low Density Residential, Medium Density Residential, and Village Center housing units and 445 Active Adult units at buildout and result in 8,145 residents and 200 jobs for a total service population of 8,345.

4.7.5 Project Impacts and Mitigation Measures

4.7.5.1 Threshold 1: Generation of Greenhouse Gas Emissions

Would implementation of the proposed project emit a substantial amount of greenhouse gases, either directly or indirectly, that may have a significant impact on the environment?

Impact: Implementation of the proposed project would produce a net increase in greenhouse gas emissions that could have a significant impact on the environment.

Mitigation: Solar Panels (GHG-1), Recycling and Composting Services (GHG-2), Water Conservation (GHG-3), All-Electric Homes (GHG-4), On-Site Tree Planting (GHG-5), Private Electric Vehicles (GHG-6), Use of Electricity During Construction (AIR-5), Transportation Demand Management (AIR-6), On-Site Electric Vehicle Charging Stations (AIR-7), High-Efficiency Equipment and Fixtures (AIR-8), Electric Landscape Equipment (AIR-10).

Significance Before Mitigation: Potentially significant.

Significance After Mitigation: Less than significant.

Impact Analysis

The following analysis includes emissions estimates for project construction, loss of sequestered carbon, and operation of the preferred land use plan with school and the land use plan without school. The inventory of project emissions is based on methods and information available to the City and the applicant at the time this analysis was prepared. Estimation of GHG emissions in the future does not account for all changes in technology that may reduce such emissions; therefore, the estimates are based on past performance and represent a scenario that is worse than that, which is likely to be encountered (after energy-efficient technologies have been implemented). The emissions estimates presented below provide a worst-case scenario. The proposed project would result in a significant impact if calculated project-generated GHG emissions would exceed annual per capita emissions of 1.77 MT CO₂e.

Construction

During project construction, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs (e.g. CO₂, CH₄, and N₂O). Furthermore, CH₄ is emitted during the fueling of heavy equipment. Total project construction emissions and

projected emissions by year are provided in Table 4.7-7. Construction activities would be the same for the preferred land use plan with school and the land use plan without school because the activities would occur in the same footprint, require the same equipment, and have the same duration. Therefore, GHG emissions would be the same for either land use plan. Therefore, construction of either land use plan would result in total GHG emissions of 37,442 MT CO₂e, or approximately 1,248 MT CO₂e per year over the 30-year life of the proposed project.

Table 4.7-7. Construction Greenhouse Gas Emissions

Year	Total Greenhouse Gas Emissions (MT/Year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
2021–2022	530.68	0.15	0	534.50
2022–2023	1,565.80	0.44	0	1,576.92
2023–2024	1,520.81	0.27	0	1,527.60
2024–2025	4,188.48	0.75	0	4,207.33
2025–2026	6,349.42	1.47	0	6,386.15
2026–2027	4,361.79	0.73	0	4,380.12
2027–2028	3,564.38	0.69	0	3,581.73
2028–2029	3,064.87	0.64	0	3,080.77
2029–2030	3,711.56	0.76	0	3,730.51
2030–2031	3,072.10	0.12	0	3,075.18
2031–2032	2,634.12	0.11	0	2,636.98
2032–2033	1,822.45	0.08	0	1,824.45
2033–2035	898.93	0.04	0	899.91
Total Construction Emissions	37,285.39	6.27	0	37,442.16
Amortized Construction Emissions¹	1,242.85	0.21	0	1,248.07

Source: Appendix H.

Notes: CH₄ = methane; CO₂ = carbon dioxide; CO₂e = carbon dioxide equivalent; MT= metric tons; N₂O = nitrous oxide

¹ Total construction emissions amortized over 30 years. These emissions are not additive to the total construction emissions listed on the line above.

Operation

Long-term operation of the proposed project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Mobile-source emissions of GHGs would include project-generated vehicle trips. Area-source emissions would be associated with activities such as landscaping and maintenance of the proposed project, natural gas for heating, and other sources. Increases in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed project. Estimated GHG emissions for the preferred land use plan and the land use plan without school are provided below.

Preferred Land Use Plan With School

Table 4.7-8 provides the long-term operational emissions associated with the preferred land use plan that includes development of a school. Implementation of the preferred land use plan with school would result in GHG emissions of approximately 36,105 MT CO_{2e} per year, including amortized construction emissions. Per capita emissions would be 4.29 MT CO_{2e} and would exceed the threshold of 1.77 MT CO_{2e}. This impact would be potentially significant.

Table 4.7-8. Operational Greenhouse Gas Emissions – Preferred Land Use Plan With School

Category	Metric Tons per Year						Percent of Total
	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO _{2e}	
Area	—	983.36	983.36	0.05	0.02	989.84	2.7
Energy	—	7,173.53	7,173.53	0.08	0.06	7,193.42	19.9
Mobile	—	22,612.41	22,612.41	1.43	—	22,648.20	62.7
Waste	850.39	—	850.39	50.26	—	2,106.80	5.8
Water	165.08	1,210.67	1,375.75	16.96	0.40	1,919.04	5.3
Construction (Amortized over 30 years)	—	1,242.85	1,242.85	0.21	—	1,248.07	3.5
Total	1,015.47	33,222.46	34,238.34	68.99	0.48	36,105.37	100.0
Project's Service Population						8,424	
MT CO_{2e}/SP						4.29	
Per Capita GHG Significance Threshold						1.77	
Will the Project Generate Significant Levels of GHG Emissions?						Yes	

Source: Appendix H.

Notes: Bio-CO₂ = biological carbon dioxide; CH₄ = methane; CO₂ = carbon dioxide; CO_{2e} = carbon dioxide equivalent; NBio-CO₂ = non-biological carbon dioxide; N₂O = nitrous oxide

Numbers in table may not appear to add up correctly due to rounding of all numbers.

Land Use Plan Without School

Table 4.7-9 shows the long-term operational emissions associated with the land use plan without school. As shown in Table 4.7-9, implementation of the land use plan without school would result in GHG emissions of approximately 36,690 MT CO_{2e} per year, including amortized construction emissions. Per capita emissions would be 4.40 MT CO_{2e} and would exceed the threshold of 1.77 MT CO_{2e}. This impact would be potentially significant.

Table 4.7-9. Operational Greenhouse Gas Emissions – Land Use Plan Without School

Category	Metric Tons per Year						Percent of Total
	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e	
Area	—	1,030.52	1,030.52	0.05	0.02	1,037.30	2.8
Energy	—	7,224.38	7,224.38	0.08	0.06	7,224.54	19.8
Mobile	—	23,156.39	23,156.39	1.46	—	23,192.99	63.3
Waste	827.32	—	827.32	48.89	—	2,049.66	5.6
Water	165.53	1,207.55	1,373.08	17.01	0.40	1,917.86	5.5
Construction (Amortized over 30 years)	—	1,242.85	1,242.85	0.21	—	1,248.07	3.4
Total	992.85	33,861.69	34,854.54	67.70	0.48	36,690.42	100.0
Project's Service Population						8,345	
MT CO₂e/SP						4.40	
Per Capita GHG Significance Threshold						1.77	
Will the Project Generate Significant Levels of GHG Emissions?						Yes	

Source: Appendix H.

Notes: Bio-CO₂ = biological carbon dioxide; CH₄ = methane; CO₂ = carbon dioxide; CO₂e = carbon dioxide equivalent; NBio-CO₂ = non-biological carbon dioxide; N₂O = nitrous oxide

Numbers in table may not appear to add up correctly due to rounding of all numbers.

Summary

As shown in Tables 4.7-8 and 4.7-9, implementation of the preferred land use plan with school or the land use plan without school would result in direct and indirect GHG emissions that would cause a net increase in annual GHG emissions that would exceed the per capita threshold of 1.77 MT CO₂e. Therefore, a potentially significant impact would occur.

Mitigation Measures

Mitigation Measures GHG-1 through GHG-6, as well as Mitigation Measures AIR-5 through AIR-8 and AIR-10 from Section 4.2.5.1 in Section 4.2, would reduce GHG emissions from construction and operation of the proposed project. The development of mitigation measures to reduce GHG emissions focused on mobile sources, which compose over 60 percent of project emissions, as well as energy, waste diversion, and review of the sequestration potential of additional trees and drought-tolerant landscaping practices. Appendix H provides detailed descriptions of how project mitigation was developed and calculated. As described below, the proposed project would be mitigated to below a level of significance.

GHG-1: Solar Panels. Prior to the issuance of building permits, the applicant or its designee shall provide evidence to the City of Santee that the project shall include both fixed-position rooftop photovoltaic (PV) solar energy panels on residential structures and commercial buildings, and in the Special Use area PV panels mounted on racks that have motorized

tilt positions that follow the sun unless the installation is infeasible due to poor solar resources established in a solar feasibility study prepared by a qualified solar consultant submitted to City. The proposed project shall provide on-site PV renewable energy generation with a total design capacity of at least 12.147 megawatts (MW) for the Preferred Land Use Plan with School, or 12.083 MW capacity for the Land Use Plan without School at full buildout.

GHG-2: Recycling and Composting Services. Prior to issuance of building permits, the applicant or its designee shall provide the following evidence to the City of Santee:

- Between 2020 and 2030, at least 70 percent of construction and demolition waste is diverted, and
- Starting in 2030, at least 80 percent of construction and demolition waste is diverted.

Long term, at least 90 percent of the waste generated at the proposed project shall be diverted. To achieve this mandate, the proposed project shall include but not be limited to the following:

- Recycling containers in all multi-family residential communities and non-residential buildings, and
- Composting containers and compost collection services in commercial and office facilities.

GHG-3: Water Conservation. Prior to issuance of building permits, the applicant or its designee shall provide evidence to the City of Santee that the proposed project will implement water conservation strategies that are designed to be as efficient as possible with potable water supplies and will achieve at least 20 percent indoor and outdoor water reduction compared to the average water consumption rate in the City of Santee at the time of project approval.

GHG-4: All-Electric Homes. Prior to the issuance of building permits, the applicant or its designee shall provide evidence to the City of Santee that the proposed project will include all-electric homes. No natural gas shall be provided to the residential portion of the proposed project.

GHG-5: On-Site Tree Planting. Prior to the issuance of the precise grading permit for each phase, landscape and irrigation plans shall show evidence of tree planting in support of the overall master tree planting plan that requires at least 26,705 trees and at least 237.4 acres of bushes and hedges on site.

GHG-6: Private Electric Vehicles. Prior to the issuance of the certificate of occupancy for the 500th low-density residential (LDR) unit, the applicant or its designee shall provide

evidence to the City of Santee that one electric vehicle has been provided with the purchase of a LDR unit until a total of 100 electric vehicles have been delivered.

Tables 4.7-10 and 4.7-11 show the mitigated operational emissions under the preferred land use plan with school and the land use plan without school, respectively. After applying Mitigation Measures GHG-1 through GHG-6, AIR-5 through AIR-8, and AIR-10, there would be a reduction in GHG emissions of 37 percent compared to unmitigated emissions (unmitigated emissions include reductions from project design features and state regulations) for the preferred land use plan with school and a 36 percent reduction compared to unmitigated emissions for the land use plan without school. Per capita emissions from the preferred land use plan with school would be 1.50 MT CO_{2e} after mitigation, and per capita emissions from the land use plan without school would be 1.61 MT CO_{2e}. Therefore, per capita emissions would be reduced to below the 1.77 MT CO_{2e} threshold for either land use plan, and impacts would be mitigated to a less than significant level.

Table 4.7-10. GHG Emissions with On-Site Mitigation, Preferred Land Use Plan with School

Category	Metric Tons per Year						Percent of Total
	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO _{2e}	
Area (MM AIR-10, GHG-4)	—	25.05	25.05	0.02	—	25.50	0.1
Energy (MM AIR-8, GHG-4)	—	1,253.21	1,253.21	0.07	0.03	1,263.56	6.2
Mobile (MM AIR-6, AIR-7)	—	16,809.36	16,809.36	1.06	—	16,835.96	83.1
Waste (MM GHG-2)	85.04	—	85.04	5.03	—	210.68	1.0
Water (MM GHG-3)	132.06	99.48	231.55	13.58	0.32	667.44	3.3
Construction (Amortized over 30 years) (MM AIR-5)	—	1,242.85	1,242.85	0.21	—	1,248.07	6.2
Total	217.10	19,429.95	19,562.01	19.97	0.35	20,251.21	100.0
100 Electric Vehicles (MM GHG-6)						-400.00	
PV Solar Generation (MM GHG-1)						-6,714.00	
Net Sequestration (MM GHG-5)						-530.70	
Net Remaining Emissions						12,606.51	
Project's Service Population						8,424	
MT CO_{2e}/SP						1.50	
Per Capita GHG Significance Threshold						1.77	
Will the Project Generate Significant Levels of GHG Emissions?						No	

Source: Appendix H.

Notes: Bio-CO₂ = biological carbon dioxide; CH₄ = methane; CO₂ = carbon dioxide; CO_{2e} = carbon dioxide equivalent; MT = metric ton; NBio-CO₂ = non-biological carbon dioxide; N₂O = nitrous oxide; SP = service population
Numbers in table may not appear to add up correctly due to rounding of all numbers.

Table 4.7-11. GHG Emissions with On-Site Mitigation, Land Use Plan Without School

Category	Metric Tons per Year						Percent of Total
	Bio-CO ₂	NBio-CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e	
Area (MM AIR-10, GHG-4)	—	25.54	25.54	0.02	—	26.00	0.1
Energy (MM AIR-8, GHG-4)	—	1,229.89	1,229.89	0.07	0.03	1,240.11	5.9
Mobile (MM AIR-6, AIR-7)	—	17,609.31	17,609.31	1.11	—	17,637.15	83.9
Waste (MM GHG-2)	82.73	—	82.73	4.89	—	204.97	1.0
Water (MM GHG-3)	132.43	99.21	231.64	13.61	0.32	668.72	3.2
Construction (Amortized over 30 years) (MM AIR-5)	—	1,242.85	1,242.85	0.21	—	1,248.07	5.9
Total	215.16	20,206.80	20,421.96	19.91	0.35	21,025.02	100.0
100 Electric Vehicles (MM GHG-6)						-400.00	
PV Solar Generation (MM GHG-1)						-6,661.00	
Net Sequestration (MM GHG-5)						-530.70	
Net Remaining Emissions						13,433.32	
Project's Service Population						8,345	
MT CO₂e/SP						1.61	
Per Capita GHG Significance Threshold						1.77	
Will the Project Generate Significant Levels of GHG Emissions?						No	

Source: Appendix H.

Notes: Bio-CO₂ = biological carbon dioxide; CH₄ = methane; CO₂ = carbon dioxide; CO₂e = carbon dioxide equivalent; MT = metric ton; NBio-CO₂ = non-biological carbon dioxide; N₂O = nitrous oxide; SP = service population
 Numbers in table may not appear to add up correctly due to rounding of all numbers.

4.7.5.2 Threshold 2: Consistency with Applicable Plan

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

Impact: The proposed project would result in an increase in GHG emissions that would have the potential to conflict with the City's GHG reduction goals identified in the Sustainable Santee Plan.

Mitigation: Solar Panels (GHG-1), Recycling and Composting Services (GHG-2), Private Electric Vehicles (GHG-6), Transportation Demand Management (AIR-6), On-Site Electric Vehicle Charging Stations (AIR-7), High-Efficiency Equipment and Fixtures (AIR-8), Mission Gorge Road/Carlton Hills Boulevard Intersection (TRA-16).

Significance Before Mitigation: Potentially Significant

Significance After Mitigation: Less than Significant

Impact Analysis

The proposed project would result in a significant impact if it would conflict with the Sustainable Santee Plan, which is the applicable plan for demonstrating local consistency with statewide emissions reduction goals. To be consistent with the Sustainable Santee Plan, the proposed project should fall within with the growth assumptions of the Sustainable Santee Plan, the GHG emissions associated with the proposed project should be consistent with the City's GHG reduction targets,

and the proposed project should implement the applicable GHG reduction strategies identified in Chapter 3, GHG Reduction Measures, of the Sustainable Santee Plan.

The proposed project was reviewed for consistency with the Sustainable Santee Plan's growth assumptions, GHG reduction targets, and GHG reduction strategies (Appendix H). The growth assumptions in the Sustainable Santee Plan are based on demographic and land use forecasts in the Santee General Plan. In addition, to account for approved and pending residential development applications, a 2,000-residential dwelling unit buffer was added into the growth assumptions of the Sustainable Santee Plan. The Fanita Ranch Specific Plan is included in the pending project list that was considered in the growth buffer.⁶ Therefore, the proposed project would fall within the growth assumptions of the Sustainable Santee Plan.

The Sustainable Santee Plan's emissions reduction goals include a 2030 goal that demonstrates consistency with SB 32 (reduce emissions to 40 percent below 2005 levels), and a 2035 goal to reduce emissions to 49 percent below 2005 levels. These goals put the City on a path toward the state's long-term goal to achieve net carbon neutrality statewide by 2045. Achievement of the per capita GHG threshold derived from the Sustainable Santee Plan would quantitatively demonstrate that the proposed project would conform to the GHG reduction targets identified in the Sustainable Santee Plan and would help the City meet its GHG reduction commitments. The proposed project's GHG emissions are calculated in Section 4.7.5.1. As identified in this section, implementation of the preferred land use plan with school or land use plan without school would, prior to mitigation, result in annual GHG emissions that would exceed the applicable per capita threshold of 1.77 MT CO_{2e} for plan compliance. The projected increase in GHG emissions prior to mitigation would potentially conflict with the City's GHG reduction goals identified in the Sustainable Santee Plan.

Table 4.7-12 summarizes project consistency with the GHG reduction strategies from the Sustainable Santee Plan. As shown in Table 4.7-12, the proposed project would be inconsistent with some applicable GHG reduction strategies identified in the Sustainable Santee Plan prior to mitigation. The proposed project would result in potential conflicts with Goals 2, 4, 6, 7, 8, 9, and 10 of the Sustainable Santee Plan related to GHG emissions reduction goals and GHG reduction strategies. This impact would be potentially significant.

⁶ See Table 11 of Appendix A to the Sustainable Santee Plan.

**Table 4.7-12. Sustainable Santee Plan Community GHG Reduction Strategies
(Before Mitigation)**

Sustainable Santee Plan Goals and Implementing Measures	Project Consistency Analysis (Preferred Land Use Plan With School and Land Use Plan Without School)
<p>Goal 1: Increase Energy Efficiency in Existing Residential Units</p> <p>Measure 1.2. For existing Residential Unit Permit for Major Modifications (more than 30 percent of dwelling unit size, including bathroom and kitchen) that is considered a project under CEQA must implement energy efficiency retrofits recommended from City Energy Audit and explain the energy efficiency retrofits implemented.</p>	<p>Not Applicable. There are no existing residential units on the project site.</p>
<p>Goal 2: Increase Energy Efficiency in New Residential Units</p> <p>Measure 2.1. New residential construction meet or exceed California Green Building Standards Tier 2 Voluntary Measures, such as obtaining green building ratings including LEED, Build it Green, or Energy Star Certified building certifications in scoring development and explain the measures implemented.</p>	<p>Applicable. The performance metric for Goal 2 within the Sustainable Santee Plan is to reduce energy use by 14 percent within an estimated 2,000 new residential units by 2035. The proposed project would comply with 2019 Title 24 Standards but does not propose to exceed Title 24 without mitigation. Therefore, the proposed project would be potentially inconsistent with Goal 2.</p>
<p>Goal 3: Increase Energy Efficiency in Existing Commercial Units</p> <p>Measure 3.2. For existing commercial units of 10,000 square feet or more seeking building permits for modifications representing 30 percent or more square feet and considered a project under CEQA must implement energy efficiency retrofits recommended by the City to meet California Green Building Standards Tier 1 Voluntary Measures and explain the retrofits implemented.</p>	<p>Not Applicable. There are no existing commercial units on the project site.</p>
<p>Goal 4: Increase Energy Efficiency in New Commercial Units</p> <p>Measure 4.1. New commercial units meet or exceed California Green Building Standards Tier 2 Voluntary Measures such as obtain green building ratings including: LEED, Build it Green, or Energy Star Certified buildings certifications in scoring development and explain the measures implemented.</p>	<p>Applicable. The performance metric for Goal 4 within the Sustainable Santee Plan is to reduce energy use by 14 percent within 165 new commercial businesses. The proposed project would comply with 2019 Title 24 Standards but does not propose to exceed Title 24 without mitigation. Therefore, the proposed project would be potentially inconsistent with Goal 4.</p>
<p>Goal 5: Decrease Energy Demand through Reducing Urban Heat Island Effect</p> <p>Measure 5.1. Project utilizes tree planting for shade and energy efficiency such as tree planting in parking lots and streetscapes.</p> <p>Measure 5.2. Project uses light-reflecting surfaces such as enhanced cool roofs on commercial buildings.</p>	<p>Applicable. The proposed project would include parks, trails, and a Habitat Preserve that would contribute to reducing urban heat island effect and encourage the use of light-colored, semi-reflective, or cool-roof technology for all roofing within the proposed project, including at least 60,000 square feet of commercial rooftops. The proposed project would also result in new vegetation planting. Therefore, the proposed project would be consistent with Goal 5. Additionally, Mitigation Measure GHG-5 would require the on-site planting of 26,705 trees and at least 237.4 acres of bushes/hedges; however, the proposed project would comply with this goal even without implementation of this mitigation measure.</p>

**Table 4.7-12. Sustainable Santee Plan Community GHG Reduction Strategies
(Before Mitigation)**

Sustainable Santee Plan Goals and Implementing Measures	Project Consistency Analysis (Preferred Land Use Plan With School and Land Use Plan Without School)
<p>Goal 6: Decrease Greenhouse Gas emissions through Reducing Vehicle Miles Traveled</p> <p>Measure 6.1. Proposed project streets include sidewalks, crosswalks, and other infrastructure that promotes non-motorized transportation options.</p> <p>Measure 6.2. Proposed project installs bike paths to improve bike transit.</p>	<p>Applicable. The applicable performance metric for Goal 6 within the Sustainable Santee Plan is to construct additional bike lanes as delineated in the City of Santee Bicycle Master Plan. The proposed project includes 9.14 miles of Class 1 and Class 2 bicycle paths. However, the proposed project would not implement Transportation Demand Management measures without mitigation. Therefore, the proposed project would be potentially inconsistent with Goal 6.</p>
<p>Goal 7: Increase Use of Electric Vehicles</p> <p>Measure 7.1. Install electric vehicle chargers in all new residential and commercial developments:</p> <ul style="list-style-type: none"> • For new Single-Family Residential, install complete 40 Amp electrical service and one e-charger. • For new Multifamily Residential, install e-chargers for 13 percent of total parking. • For new Office Space, Regional Shopping Centers, and Movie Theaters, install e-chargers for 5 percent of total parking spaces. • For new Industrial and other land uses employing 200 or more employees, install e-chargers for 5 percent of total parking spaces. 	<p>Applicable. The performance metric for Goal 7 within the Sustainable Santee Plan is to install 4,500 electric vehicle charging equipment (EVSE) by 2035. The proposed project would not include a commitment to implement electric vehicle infrastructure without mitigation. Therefore, the proposed project would be potentially inconsistent with Goal 7.</p>
<p>Goal 8: Improve Traffic Flow</p> <p>Measure 8.1. Implement traffic flow improvement program.</p> <p>Install smart traffic signals at intersections warranting a traffic signal, or Install roundabout.</p>	<p>Applicable. The proposed project would include roundabouts at key intersections within the project site but would not include smart signals at any intersections without mitigation. Therefore, the proposed project would be potentially inconsistent with Goal 8.</p>
<p>Goal 9: Decrease Greenhouse Gas Emissions through Reducing Solid Waste Generation</p> <p>Measure 9.1. Reduce waste at landfills.</p> <ol style="list-style-type: none"> a. Divert at least 80 percent of waste b. All development during construction and demolition activities to recycle construction and demolition waste. 	<p>Applicable. The performance metric for Goal 9 within the Sustainable Santee Plan is to divert at least 80 percent of solid waste by 2035. The proposed project would include a minimal goal of 65 percent construction waste recycling or reuse by weight or volume and 100 percent soil and debris recycling or reuse because cut and fill would be balanced on the project site. However, the proposed project would not reduce solid waste generation beyond business as usual without mitigation during operation. Therefore, operation of the proposed project would be potentially inconsistent with Goal 9.</p>
<p>Goal 10: Decrease Greenhouse Gas Emissions through Increasing Clean Energy Use</p> <p>Measure 10.1. Increase distributed energy generation within City of Santee by implementing the following applicable photovoltaic (PV) solar systems:</p> <ol style="list-style-type: none"> a. Single-family residential to install at least 2kW per unit of PV solar systems, unless the installation is infeasible due to poor solar resources established in a solar 	<p>Applicable. The performance metric for Goal 10 within the Sustainable Santee Plan is to install a total of 4.7 megawatts of PV solar by 2035. The proposed project would not include a commitment to solar panel installation without mitigation. Therefore, the proposed project would be potentially inconsistent with Goal 10.</p>

**Table 4.7-12. Sustainable Santee Plan Community GHG Reduction Strategies
(Before Mitigation)**

Sustainable Santee Plan Goals and Implementing Measures	Project Consistency Analysis (Preferred Land Use Plan With School and Land Use Plan Without School)
feasibility study prepared by a qualified solar consultant submitted with an application b. Multifamily residential to install at least 1kW per unit of PV solar systems, unless the installation is infeasible due to poor solar resources established in a solar feasibility study prepared by a qualified solar consultant submitted with an applicant's formal project submittal to City. On commercial buildings, install at least 2 kW per square foot of building area (e.g., 2,000 square feet = 3 kW) unless the installation is infeasible due to poor solar resources.	

Source: Appendix H.

Notes: BAU = business-as-usual; LEED = Leadership in Energy and Environmental Design; PV = photovoltaic

Mitigation Measures

Table 4.7-13 demonstrates consistency with the GHG reduction strategies from the Sustainable Santee Plan with implementation of Mitigation Measures GHG-1, GHG-2, GHG-6, AIR-6 through AIR-8, and TRA-16. As shown in Table 4.7-13, with implementation of these mitigation measures, the proposed project would be consistent with the applicable GHG reduction strategies in the Sustainable Santee Plan, and this impact would be mitigated to a less than significant level.

**Table 4.7-13. Sustainable Santee Plan Community GHG Reduction Strategies
(After Mitigation)**

Sustainable Santee Plan Goals and Implementing Measures	Proposed Project Mitigated Consistency Analysis (Preferred Land Use Plan With School and Land Use Plan Without School)
Goal 2: Increase Energy Efficiency in New Residential Units	Applicable. The proposed project would comply with 2019 Title 24, Part 6, Standards and implement Mitigation Measure AIR-8, which requires the use of high-efficiency equipment and fixtures that exceed 2016 California Green Building Standards Code and 2019 Title 24 standards by 14 percent. Mitigation Measure AIR-8 would apply to the entire residential portion of the proposed project, which would have a minimum of 2,949 residential units. Therefore, after mitigation, the proposed project would be consistent with Goal 2.
Goal 4: Increase Energy Efficiency in New Commercial Units	Applicable. The proposed project would comply with 2019 Title 24, Part 6, Standards and implement Mitigation Measure AIR-8. Implementation of this goal would result in the proposed project increasing the energy efficiency of commercial buildings by an additional 14 percent, consistent with the City's performance metric. Therefore, after mitigation, the proposed project would be consistent with Goal 4.
Goal 6: Decrease Greenhouse Gas emissions through Reducing Vehicle Miles Traveled	Applicable. The proposed project would implement Transportation Demand Management measures (Mitigation Measure AIR-6) that would reduce vehicle miles traveled. The proposed project would include pedestrian paths and bike lanes that connect the residential and commercial portions of the project. In addition, the project would include neighborhood electric vehicle routes connecting the land uses of the proposed project together. Therefore, after mitigation, the proposed project would be consistent with Goal 6.
Goal 7: Increase Use of Electric Vehicles	Applicable. Mitigation Measure AIR-7 requires the proposed project to include electric vehicle chargers, consistent with the City's goal to install 4,500 EVSE by 2035. The proposed project would install a total of 1,572 electric vehicle chargers (e-chargers) as follows: the proposed project would install 1,203 240-volt Level 2 EVSE in each low density residential garage; a total of 354 EVSE within the parking areas of Medium Density Residential, Village Center, and Active Adult residential uses; and 15 EVSE within the proposed project's commercial parking lots. Additionally, Mitigation Measure GHG-6 would provide 100 electric vehicles to project residents. Therefore, after mitigation, the proposed project would be consistent with Goal 7.
Goal 8: Improve Traffic Flow	Applicable. Mitigation Measure TRA-16 requires installation of Adaptive Traffic Signal Control (e.g., smart signals) along Mission Gorge Road between Fanita Drive and Town Center Parkway to improve traffic flow and reduce project transportation impacts along that roadway. Therefore, after mitigation, the proposed project would be consistent with Goal 8.
Goal 9: Decrease Greenhouse Gas Emissions through Reducing Solid Waste Generation by 80 Percent City-wide.	Applicable. Mitigation Measure GHG-2 requires the applicant to institute recycling and composting services to divert at least 90 percent of the proposed project's operational waste, consistent with the City's performance metric. The proposed project would also recycle or reuse at least 70 percent of the construction waste, soil, and debris by 2030 and 80 percent starting in 2030. Therefore, after mitigation, the proposed project would be consistent with Goal 9.
Goal 10: Decrease Greenhouse Gas Emissions through Increasing Clean Energy Use	Applicable. The proposed project would implement Mitigation Measure GHG-1 and supply at least 12.147 megawatts for the preferred land use plan with school or 12.083-megawatt capacity for the land use plan without school by buildout, consistent with the City's performance metric. Therefore, after mitigation, the proposed project would be consistent with Goal 10.

Source: Appendix H.

Notes: EVSE = Electric Vehicle Supply Equipment; LEED = Leadership in Energy and Environmental Design

4.7.6 Cumulative Impacts and Mitigation Measures

Would implementation of the proposed project have a cumulatively considerable contribution to greenhouse gases considering past, present, and probable future projects?

Cumulative Impact	Significance	Proposed Project Contribution
Threshold 1: Incremental contribution by the proposed project to climate change from GHG emission	Potentially significant	Not cumulatively considerable
Threshold 2: Incremental inconsistency with Sustainable Santee Plan	Potentially significant	Not cumulatively considerable

4.7.6.1 Cumulative Threshold 1: Generation of Greenhouse Gas Emissions

The geographic scope of consideration for GHG emissions is on a global scale as such emissions contribute, on a cumulative basis, to GCC. Given the nature of environmental consequences from GHGs and GCC, CEQA requires that lead agencies evaluate the cumulative impacts of GHGs, even relatively small additions, on a global basis. By nature, GHG evaluations are a cumulative study. As described in Section 4.7.5.1, implementation of the proposed project would result in potentially significant GHG emissions. Therefore, the proposed project would result in a cumulatively considerable impact. However, with implementation of Mitigation Measures GHG-1 through GHG-6, AIR-5 through AIR-8, and AIR-10, the proposed project would achieve the per capita emissions threshold for consistency with the Sustainable Santee Plan. As such, implementation of the proposed project would not be cumulatively considerable with mitigation.

4.7.6.2 Cumulative Threshold 2: Consistency with Applicable Plan

The plans and policies applicable to the proposed project and cumulative projects for reducing GHG emissions include the Sustainable Santee Plan and statewide emissions reductions targets. The Sustainable Santee Plan establishes targets for meeting statewide emissions reduction targets, considering local projects that may contribute to GHG emission impacts. The Sustainable Santee Plan is designed to cumulatively consider GHG emissions in the City. As such, the analysis in Section 4.7.5.2 considers the potential cumulative impacts of the proposed project related to plan consistency. Prior to mitigation, the proposed project would result in a cumulatively considerable impact related to plan consistency because it would result in potentially significant GHG emissions and would not implement all applicable GHG reduction strategies. However, with implementation of Mitigation Measures GHG-1, GHG-2, GHG-6, AIR-6, AIR-7, AIR-8, and TRA-16, the proposed project would not conflict with the applicable plan adopted for the purpose of reducing GHG emissions. As such, implementation of the proposed project would not be cumulatively considerable with mitigation.

4.7.7 References

CARB (California Air Resources Board). 2017. Climate Change Scoping Plan. November 2017. Accessed May 2020. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

City of Santee. 2020. Sustainable Santee Plan. Final. December 2019. Adopted January 8.

IPCC (Intergovernmental Panel on Climate Change). 2013. Climate Change 2013: The Physical Science Basis. IPCC Working Group I Contribution to the Fifth Assessment Report. Accessed May 2020. <http://www.climatechange2013.org>.

SCAQMD (South Coast Air Quality Management District). 2009. GHG Meeting 14 Main Presentation, November 19. Accessed May 2020. [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf).