

4.8 Greenhouse Gas Emissions

This section describes the existing conditions of the project site and vicinity pertaining to greenhouse gas (GHG) emissions, identifies associated regulatory requirements, evaluates potential project and cumulative impacts, and identifies mitigation measures for any significant impacts related to implementation of the Laguna Creek Diversion Retrofit Project (Proposed Project). The analysis is based on GHG modeling conducted for the Proposed Project as part of the preparation of this environmental impact report (EIR). The results of the GHG modeling are summarized in this section and are included in Appendix B.

A summary of the comments received during the scoping period for this EIR is provided in Table 2-1 in Chapter 2, Introduction, and a complete list of comments is provided in Appendix A. There were no comments related to GHG emissions.

4.8.1 Existing Conditions

4.8.1.1 Climate Change Overview

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

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

4.8.1.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the State’s primary GHG emissions reduction programs, GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (see also 14 California Code of Regulations [CCR] Section 15364.5).¹ Some GHGs, such as CO₂, CH₄, and

¹ Climate-forcing substances include GHGs and other substances such as black carbon and aerosols.

N₂O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO₂ and CH₄ are the predominant GHGs emitted from human activities. The following paragraphs provide a summary of the GHGs associated with the Proposed Project and their sources.²

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

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

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

Black Carbon. Black carbon is a component of fine particulate matter (PM_{2.5}), which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation; influences cloud formation; and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived substance that varies spatially, which makes it difficult to quantify its global warming potential (GWP). Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter as a result of the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have decreased by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

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

4.8.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo; EPA

² The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (2007), CARB's "Glossary of Terms Used in GHG Inventories" (2018a), and EPA's "Climate Change" (2017).

2017). The Intergovernmental Panel on Climate Change (IPCC) developed the GWP concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO₂; therefore, GWP-weighted emissions are measured in metric tons of CO₂ equivalent (MT CO₂e).

Notably, for purposes of this analysis, the GWP for CH₄ is 25 (so emissions of 1 MT of CH₄ are equivalent to emissions of 25 MT of CO₂) and the GWP for N₂O is 298, based on the IPCC's Fourth Assessment Report (IPCC 2007).

4.8.1.4 Greenhouse Gas Inventories and Climate Change Conditions

National and State Inventories. Per the 2020 U.S. Environmental Protection Agency (EPA) Inventory of U.S. GHG Emissions and Sinks: 1990 to 2018, total U.S. GHG emissions were approximately 6,676.6 MMT CO₂e in 2018 (EPA 2020). The primary GHG emitted by human activities in the United States was CO₂, which represented approximately 81.6% of total GHG emissions (6,457 MMT CO₂e). The largest source of CO₂, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.2% of CO₂ emissions in 2018 (4,912.0 MMT CO₂e). Relative to the 1990 emissions level, gross U.S. GHG emissions in 2018 were 3.7% higher; however, the gross emissions were down from a high of 15.2% above the 1990 level that occurred in 2007. GHG emissions increased from 2017 to 2018 by 2.9% (188.4 MMT CO₂e) and, overall, net emissions in 2018 were 10.2% below 2005 levels (EPA 2020).

According to California's 2000 to 2017 GHG emissions inventory (2019 edition), California emitted 424.1 MMT CO₂e in 2017, including emissions resulting from out-of-state electrical generation (CARB 2019). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high-GWP substances, and recycling and waste. Table 4.8-1 presents California GHG emission source categories (as defined in CARB's 2008 Scoping Plan) and their relative contributions to the emissions inventory in 2017.

Table 4.8-1. Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO ₂ e)	Percent of Total ^a
Transportation	169.86	40%
Industrial uses	89.40	21%
Electricity generation ^b	62.39	15%
Residential	26.00	6%
Commercial	15.14	4%
Agriculture	32.42	8%
High-GWP substances	19.99	5%
Recycling and waste	8.89	2%
Totals	424.10	100%

Source: CARB 2019.

Notes: GHG = greenhouse gas; MMT CO₂e = million metric tons of carbon dioxide equivalent; GWP = global warming potential. Emissions reflect 2017 California GHG inventory.

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

^b Includes emissions associated with imported electricity, which account for 23.94 MMT CO₂e.

Between 2000 and 2017, per-capita GHG emissions in California dropped from a peak of 14.0 MT per person in 2001 to 10.8 MT per person in 2016, representing a 23% decrease. In addition, total GHG emissions in 2017 were approximately 12 MMT CO₂e less than 2016 emissions. The declining trend in GHG emissions, coupled with programs that will continue to provide additional GHG reductions going forward, demonstrates that California will continue to reduce emissions below the 2020 target of 431 MT CO₂e and is headed toward the 2030 target of 260 MT CO₂e (CARB 2019).

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. Although climate change is driven by global atmospheric conditions, climate change impacts are experienced locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights. Shifts in the water cycle have been observed, with less winter precipitation falling as snow and earlier spring runoff. Sea levels have risen, and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra Nevada snowpack, which accounts for approximately 1/2 of the surface water storage in California, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late twenty-first century in central and southern California. By the late century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CCCC 2012).

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

Agriculture. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availability and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests, and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production.

Biodiversity and Habitat. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift and novel combinations of species; pathogens, parasites, and disease;

invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a “tipping point” beyond which irreversible damage or loss has occurred).

Energy. Specific climate change challenges for the energy sector include increasing temperatures, fluctuating precipitation patterns, increasing extreme weather events, and sea-level rise.

Forestry. The most significant risk to forests related to climate change is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities and, combined with increasing temperatures, have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, and vegetation conversions.

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

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health, primarily through the potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves are likely to increase the risk of mortality due to heat-related illness, as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies.

Transportation. While the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of people and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Climate change could seriously impact the timing, form, and amount of precipitation; runoff patterns; and the frequency and severity of precipitation events. Higher temperatures reduce the proportion of precipitation falling as snow relative to rain and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively impact groundwater reserves and result in increased overdraft and subsidence. More frequent or severe wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality.

In March 2016, the California Natural Resources Agency (CNRA) released *Safeguarding California: Implementation Action Plans*, a document that shows how California is acting to convert the recommendations contained in the 2014 *Safeguarding California* plan into action (CNRA 2016). Additionally, in January 2018, the CNRA released *Safeguarding California Plan: 2018 Update*, which provides a roadmap for state agencies to protect communities, infrastructure, services, and the natural environment from climate change impacts. The 2018 Update includes 69 recommendations across 11 sectors and more than 1,000 ongoing actions and next steps developed by scientific and policy experts across 38 state agencies (CNRA 2018). As with previous state adaptation plans, the 2018 Update addresses the following: acceleration of warming across the state; more intense and frequent heat waves; greater riverine flows; accelerating sea-level rise; more intense and frequent drought; more severe and frequent wildfires; more severe storms and extreme weather events; shrinking snowpack and less overall precipitation; and ocean acidification, hypoxia, and warming.

4.8.2 Regulatory Framework

4.8.2.1 Federal

Energy Independence and Security Act

To aid in the reduction of national GHG emissions, the Energy Independence and Security Act of 2007 (Public Law 110-140), among other key measures, would do the following:

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

Federal Vehicle Standards

In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under section 202(a) of the federal Clean Air Act:

- The administrator found that elevated concentrations of GHGs—CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations. This is the “endangerment finding.”
- The administrator further found that the combined emissions of GHGs—CO₂, CH₄, N₂O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the “cause or contribute finding.”

These two findings were necessary to establish the foundation for federal regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act (42 United States Code Section 7401).

In 2007, in response to the *Massachusetts v. EPA* U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012 through 2016 (75 Federal Register [FR] 25324–25728).

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

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

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

On April 2, 2018, the EPA, under administrator Scott Pruitt, reconsidered the final determination for light-duty vehicles and withdrew its previous 2017 determination, stating that the current standards may be too stringent and therefore should be revised as appropriate (EPA 2019).

In August 2018, EPA and NHTSA proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. The proposed standards are 43.7 miles-per gallon (mpg) for passenger cars and 31.3 mpg for light trucks, projecting an overall industry average of 37 mpg in model years 2021 through 2026, as compared to a 46.7-mpg requirement in model year 2025 under the standards issued in 2012. The SAFE Vehicles Rule would also exclude CO₂-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for N₂O and CH₄ emissions) after model year 2020. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2% to 3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of 1°C by 2100 (EPA and NHTSA 2018). California and other states have stated

their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives.

On September 27, 2019, the EPA and NHTSA published the SAFE Vehicles Rule Part One: One National Program (84 FR 51310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the EPA and NHTSA issued the Part Two Rule, which will go into effect 60 days after being published in the Federal Register. The Part Two Rule sets CO₂ emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. This issue is evolving as California and 22 other states, as well as the District of Columbia and four cities, filed suit against the EPA and a petition for reconsideration of the rule on November 26, 2019. As of June 2020, the litigation is pending resolution.

4.8.2.2 State

The statewide GHG emissions regulatory framework is summarized in this subsection by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, water, solid waste, and other state actions. The following text describes EOs, Assembly Bills (ABs), Senate Bills (SBs), and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

The state has taken a number of actions to address climate change. These actions are summarized below, and include EOs, legislation, and CARB plans and requirements.

EO S-3-05. EO S-3-05 (June 2005) established California's GHG emissions-reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed in response to EO S-3-05, which subsequently issued reports to the Governor and California State Legislature (Legislature) from 2006 to 2010 (CAT 2016).

AB 32. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006 (California Health and Safety Code Sections 38500-38599 et seq.). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020, and initiate the transformations required to achieve the state's long-range climate objectives.

In 2007, and in accordance their AB 32 responsibilities, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO₂e), in accordance with California Health and Safety Code Section 38550.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions-reduction goal of EO B-30-15 (discussed further below) by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state’s climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emission-reduction measures when updating the scoping plan.

CARB’s Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a “scoping plan” for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (California Health and Safety Code Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan: *Climate Change Scoping Plan: A Framework for Change* (2008 Scoping Plan). The 2008 Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission-reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state’s long-range climate objectives. The key elements of the 2008 Scoping Plan include the following (CARB 2008):

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
- Achieving a statewide renewable energy mix of 33%
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California’s GHG emissions
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
- Adopting and implementing measures pursuant to existing state laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard (17 CCR Section 95480 et seq.)
- Creating targeted fees, including a public goods charge on water use, fees on high-GWP gases, and a fee to fund the administrative costs of the State of California’s long-term commitment to AB 32 implementation

In December 2017, CARB adopted *California’s 2017 Climate Change Scoping Plan Update* (2017 Scoping Plan) (CARB 2017a). The 2017 Scoping Plan builds on the successful framework established in the 2008 Scoping Plan and First Update, while identifying new technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state’s climate change priorities to 2030 and beyond. The strategies’ “known commitments” include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, the 2017 Scoping Plan also recommends continuing the Cap-and-Trade Program.

For local governments, the 2017 Scoping Plan replaced the 2008 Scoping Plan’s 15% reduction goal with a recommendation to aim for a community-wide goal of no more than 6 MT CO₂e per capita by 2030 and no more than 2 MT CO₂e per capita by 2050, which are developed around the scientifically based levels necessary to limit global

warming below 2°C. The 2017 Scoping Plan Update recognized the benefits of local government GHG planning (e.g., through climate action plans [CAPs]) and provide more information regarding tools CARB is working on to support those efforts. It also recognizes the CEQA streamlining provisions for project-level review where there is a legally adequate CAP. The 2017 Scoping Plan was approved by CARB's Governing Board on December 14, 2017.

The 2017 Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the EOs; it also establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and EOs if it would meet the general policies in reducing GHG emissions in order to facilitate the achievement of the state's goals and would not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect conformity with each and every planning policy or goal to be consistent. A project would be consistent if it would further the objectives and not obstruct their attainment.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG-reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050, as set forth in S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO₂e. The EO also called for state agencies to continue to develop and implement GHG emission-reduction programs in support of the reduction targets. See the discussion of “SB 32 and AB 197” above for related information.

Building Energy

California Code of Regulations, Title 24, Part 6. The California Building Standards Code was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure that new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC), and revised if necessary (PRC Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, in order to “reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy” (PRC Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Section 25402[b][2–3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment. The current Title 24 standards are the 2019 Title 24 building energy standards which became effective January 1, 2020.

California Code of Regulations, Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The 2019 CALGreen standards are the current applicable standards. For nonresidential projects, some of the key mandatory CALGreen 2019 standards involve requirements related to bicycle parking, designated parking for clean air vehicles, electric vehicle (EV) charging stations, shade trees, water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR Part 11).

Mobile Sources

AB 1493. AB 1493 (2002) was enacted in response to the transportation sector accounting for more than half of California's CO₂ emissions (California Health and Safety Code Sections 43018.5 and 42823 amendments). AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards were projected to result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

Heavy-Duty Diesel. CARB adopted the final Heavy-Duty Truck and Bus Regulation on December 31, 2014 to reduce diesel particulate matter, a major source of black carbon, and oxides of nitrogen emissions from heavy-duty diesel vehicles (13 CCR Section 2025). The rule requires diesel particulate matter filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule requires nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR Section 2485).

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_{2e} grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR Section 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel—including extraction/feedstock production, processing, transportation, and final consumption—per unit of energy delivered.

SB 375. SB 375 (California Government Code Section 65080) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG-reduction targets for the automobile and light-truck sector for 2020 and 2035, and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan that will achieve the GHG-reduction targets set by CARB. If an MPO is unable to devise an SCS to achieve the GHG-reduction target, the MPO must prepare an Alternative Planning Strategy demonstrating how the GHG-reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

A SCS does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it (California Government Code Section 65080[b][2][K]). Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process. The implementation of SB 375 in the Monterey Bay Area is discussed below.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars program (January 2012) is an emission-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for

clean cars (CARB 2012). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025, cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The zero-emission vehicle program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emission vehicles and plug-in hybrid EVs in the 2018 to 2025 model years. However, as detailed previously, EPA and NHTSA published the SAFE Vehicles Rule, which revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. Since California and 22 other states, as well as the District of Columbia and four cities, filed suit against the EPA and a petition for reconsideration of the rule, the effect of the SAFE Rule on the Advanced Clean Cars program is still to be determined pending the ruling of ongoing litigation.

EO B-16-12. EO B-16-12 (March 2012) required that state entities under the Governor's direction and control support and facilitate the rapid commercialization of zero-emission vehicles. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

Water

SB X7-7. SB X7-7, or the Water Conservation Act of 2009, requires that all water suppliers increase their water use efficiency with an overall goal of reducing per capita urban water use by 20% by December 31, 2020. Each urban water supplier shall develop water use targets to meet this goal.

Solid Waste

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required CalRecycle to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that it believes would assist the state in reaching the 75% goal by 2020.

Other State Actions

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

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR Section 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR Section 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

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

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final *2009 California Climate Adaptation Strategy* report was issued in December 2009 (CNRA 2009b), and an update, *Safeguarding California: Reducing Climate Risk*, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the *Safeguarding California: Implementation Action Plans* followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the *Safeguarding California Plan: 2018 Update*, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018).

4.8.2.3 Regional

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments (AMBAG) is the designated MPO for the Monterey Bay region. The AMBAG region includes Monterey, San Benito, and Santa Cruz counties. As of 2009, many of the cities and counties in the AMBAG jurisdiction had not quantified their baseline GHG inventories, due to lack of staff and funding. The AMBAG Energy Watch designed a program to assist member jurisdictions in a variety of climate action planning support services. Additionally, in 2008, AMBAG adopted the *Monterey Bay Regional Energy Plan* (Regional Energy Plan; AMBAG 2008). The Regional Energy Plan provides a framework that local cities and counties can adopt or use as guidelines to reduce energy use.

Additionally, CARB set SB 375 GHG-reduction targets for the Monterey Bay Area at 0% increase from 2005 per capita emissions by 2020, and 5% below 2005 per capita emissions by 2035. In June 2014, AMBAG adopted the *Moving Forward 2035 Monterey Bay – Metropolitan Transportation Plan/Sustainable Communities Strategy* (2035 MTP/SCS) (AMBAG 2014). The 2035 MTP/SCS demonstrates that, if implemented, the region will achieve over a 3%-per-capita GHG reduction in passenger vehicle emissions in 2020, and an approximately 6% reduction in 2035. These reductions meet the GHG targets for AMBAG, as discussed above.

In March 2018, CARB updated the GHG reduction targets for the Monterey Bay Area for 2020 and 2035 at 3% and 6% below 2005 per capita emissions, respectively. In June 2018, AMBAG adopted an update to the 2035 MTP/SCS, *Moving Forward Monterey Bay 2040* (2040 MTP/SCS), the implementation of which is anticipated to achieve a 4%-per-capita reduction and nearly 7%-per-capita reduction in GHG emissions from passenger vehicles by 2020 and 2035, respectively (AMBAG 2018). The 2040 MTP/SCS outlines the region's proposed transportation network, emphasizing multimodal system enhancements, system preservation, and improved access to high quality transit, as well as land use development that complements this transportation network (AMBAG 2018).

Monterey Bay Air Resources District

California has 35 Air Pollution Control Districts and Air Quality Management Districts, many of which are currently addressing climate change issues by developing significance thresholds, performance standards, and mitigation measures. The Monterey Bay Air Resources District (MBARD) is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the North Central Coast Air Basin. In February 2016, the MBARD adopted the staff-recommended significance threshold of 10,000 MT of CO₂e for stationary source projects (MBARD 2016). MBARD has not adopted GHG significance thresholds for land use projects or non-stationary projects. For land use projects, MBARD has recommended using the adopted San Luis Obispo Air Pollution Control District (SLOAPCD) thresholds. The SLOAPCD has adopted a quantitative GHG threshold of 1,150 MT CO₂e per year (SLOAPCD 2012).

4.8.2.4 Local

City of Santa Cruz

In October 2012, the City adopted a CAP that outlines the actions the City will take over the next 10 years to reduce GHGs by 30% and to implement the policies and actions identified in the *General Plan 2030*. The CAP addresses citywide GHG reduction strategies. The CAP provides City emissions inventories, identifies an emissions reduction target for the year 2020, and includes measures to reduce energy use, reduce vehicle trips, implement water conservation programs, reduce emissions from waste collection, increase use of solar systems, and develop public partnerships to aide sustainable practices. Measures are outlined for the following sectors: municipal, residential, commercial, and community programs. None of the recommended measures are applicable to the Proposed Project.

County of Santa Cruz

The County of Santa Cruz Board of Supervisors approved the Climate Action Strategy (CAS) on February 26, 2013. The CAS reports the results of the GHG emissions inventory for Santa Cruz County, proposes targets for GHG reduction, outlines strategies and implementing actions to achieve the targets, and provides a vulnerability assessment and strategies for adapting to the types of impacts that are likely to occur in Santa Cruz County. Eight “climate adaptation goals” are articulated as a guide for evaluating adaptation strategies. Specific adaptation strategies are proposed that include new actions as well as acknowledgement of existing plans and programs,

which, while not explicitly about climate change, address the salient issues. There are no goals, strategies or recommendations applicable to the Proposed Project.

4.8.3 Impacts and Mitigation Measures

This section contains the evaluation of potential environmental impacts associated with the Proposed Project related to GHG emissions. The section identifies the standards of significance used in evaluating the impacts, describes the methods used in conducting the analysis, and evaluates the Proposed Project's impacts and contribution to significant cumulative impacts, if any are identified.

4.8.3.1 Thresholds of Significance

The standards of significance used to evaluate the impacts of the Proposed Project related to GHG emissions are based on Appendix G of the CEQA Guidelines, as listed below. A significant impact would occur if the Proposed Project would:

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

As described in Section 4.3, Air Quality, the project site is located within the North Central Coast Air Basin under the jurisdiction of the MBARD, which, to date, has not adopted significance criteria or thresholds for land use projects. The MBARD-adopted significance threshold of 10,000 MT of CO₂e for stationary source projects (MBARD 2016), does not apply to the Proposed Project, as no new stationary sources of GHG emissions are proposed. Since the MBARD has not adopted GHG significance thresholds for land use projects or non-stationary projects, MBARD has recommended using the adopted SLOAPCD thresholds. The SLOAPCD has adopted a quantitative GHG threshold of 1,150 MT CO₂e per year (SLOAPCD 2012). This impact analysis adds amortized construction emissions over the life of the Project (50 years as recommended by the SLOAPCD) then compares GHG emissions to the recommended threshold of 1,150 MT CO₂e per year (SLOAPCD 2012).

4.8.3.2 Analytical Methods

Construction

Emissions from the construction phase of the Proposed Project were estimated using California Emissions Estimator Model (CalEEMod) Version 2016.3.2. Construction of the Proposed Project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. The analysis of GHG emissions used the same methodology and modeling inputs assumptions used for the analysis of air quality impacts; see Section 4.3.3.2, Analytical Methods, for air quality.

Operation

Operational activities would be limited to scheduled maintenance and repair. Maintenance activities would be minimal and would be generally similar to those that occur under existing conditions. Maintenance includes exercising valves and replacing or repairing worn appurtenances to ensure proper performance over the life of the facilities. No permanent workers would be required to operate or maintain the Proposed Project. Activities associated with long-term operations and maintenance would, therefore, be minimal (no routine daily equipment operation or vehicle trips would be required beyond existing conditions).

4.8.3.3 Project Impact Analysis

This section provides a detailed evaluation of GHG impacts associated with the Proposed Project.

Impact GHG-1: GHG Emissions (Significance Standard A). The Proposed Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. *(Less than Significant)*

Construction of the Proposed Project is estimated to last a total of approximately 3 months, planned to occur during the timeframe of June to October. On-site sources of GHG emissions would include off-road equipment and off-site sources would include haul trucks, vendor trucks, and worker vehicles. Table 4.8-2 presents construction emissions for the Proposed Project from on-site and off-site emission sources.

Table 4.8-2. Estimated Annual Construction GHG Emissions

	CO ₂	CH ₄	N ₂ O	CO ₂ e
Year	<i>Metric Tons per Year</i>			
2021	91.80	0.02	0.00	92.23
	Total Amortized			1.84

Source: Appendix B.

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

As shown in Table 4.8-2, Over the 3-month construction period, it is estimated that Proposed Project construction would result in approximately 92 MT CO₂e. Estimated project-generated construction emissions amortized over 50 years would be approximately 2 MT CO₂e per year.

With regard to long-term operations, as discussed in Section 4.8.3.2, Analytical Methods, once Proposed Project construction is complete, no operational activities associated with the Proposed Project would occur (no routine daily equipment operation or vehicle trips would be required beyond existing conditions). Because the Proposed Project would not result in an increase in long-term operational activities over existing conditions, there would be no potential GHG emissions impacts associated with operational GHG emissions. As such, only amortized project-generated construction emissions are compared to the GHG threshold. The 2 MT CO₂e per year of amortized construction GHGs would not exceed the 1,150 MT CO₂e threshold. Therefore, GHG emissions impacts would be less than significant.

Impact GHG-2: Conflict with an Applicable GHG Reduction Plan (Significance Standard B). The Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. (*Less than Significant*)

Consistency with the Association of Monterey Bay Area Governments' Metropolitan Transportation Plan/Sustainable Communities Strategy

AMBAG's 2040 MTP/SCS is a regional growth-management strategy that targets per-capita GHG reduction from passenger vehicles and light-duty trucks within the Monterey Bay Area, including Santa Cruz County. The 2040 MTP/SCS incorporates local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with the MTP/SCS if the project does not exceed the underlying growth parameters within the MTP/SCS. As discussed in Section 4.2.4, Population and Housing, the Proposed Project would generate a limited number of temporary construction jobs that could be accommodated within the regional workforce and it would not result in population growth. Therefore, the Proposed Project would not result in substantial population or employment growth that would exceed AMBAG growth projections for the County. Furthermore, as described in Table 4.8-3, the Proposed Project would not conflict with the major goals of the 2040 MTP/SCS.

Table 4.8-3. Review of Association of Monterey Bay Area Governments' 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy Goals and Proposed Project

MTP/SCS Goal	Potential for Proposed Project to Conflict
Provide convenient, accessible, and reliable travel options while maximizing productivity for all people and goods in the region.	<i>No conflict.</i> The Proposed Project would not inhibit AMBAG from strengthening the regional transportation network for goods movement.
Raise the region's standard of living by enhancing the performance of the transportation system.	<i>No conflict.</i> The Proposed Project would not inhibit AMBAG from enhancing the performance of the transportation system.
Promote environmental sustainability and protect the natural environment.	<i>No conflict.</i> The Proposed Project would not inhibit AMBAG from promoting sustainability within the Monterey Bay Area region.
Protect the health of our residents; foster efficient development patterns that optimize travel, housing, and employment choices and encourage active transportation.	<i>No conflict.</i> The Proposed Project would not inhibit AMBAG from protecting the health of residents, fostering efficient development patterns, and encouraging active transportation.
Provide an equitable level of transportation services to all segments of the population.	<i>No conflict.</i> The Proposed Project would not inhibit AMBAG from strengthening the regional transportation network for all segments of the population.
Preserve and ensure a sustainable and safe regional transportation system.	<i>No conflict.</i> The Proposed Project would not inhibit AMBAG from providing a sustainable and safe transportation system.

Source: AMBAG 2018.

Notes: AMBAG = Association of Monterey Bay Area Governments.

Consistency with the California Air Resources Board's Scoping Plan

The Scoping Plan, approved by CARB on December 12, 2008 and updated in 2014 and 2017, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. Since the Scoping Plan is a statewide implementation plan not all goals, regulations and reduction measures outlined in the Plan are directly applicable to specific projects. Relatedly, in the Final Statement of Reasons for the Amendments to the State CEQA Guidelines, the CNRA

observed that “[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan” (CNRA 2009a). However, under the Scoping Plan, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. To the extent that these regulations are applicable to the Proposed Project, the Proposed Project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law.

Regarding consistency with SB 32, which has a goal of reducing GHG emissions to 40% below 1990 levels by 2030, and EO S-3-05 which has a goal of reducing GHG emissions to 80% below 1990 levels by 2050, there are no established protocols or thresholds of significance for those future-year analyses. However, CARB anticipates meeting both the 2030 and 2050 goals. CARB announced in 2018 that the state had met near-term 2020 GHG emissions reduction goals (CARB 2018b). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the *First Update to the Climate Change Scoping Plan* states the following (CARB 2014):

This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under Assembly Bill 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80 [percent] below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that California is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and EO S-3-05. This is confirmed in the 2017 Scoping Plan, which states, “This Plan draws from the experiences in developing and implementing previous plans to present a path to reaching California’s 2030 GHG reduction target. The Plan is a package of economically viable and technologically feasible actions to not just keep California on track to achieve its 2030 target, but stay on track for a low- to zero-carbon economy by involving every part of the state” (CARB 2017a). The 2017 Scoping Plan also states that although “the Scoping Plan charts the path to achieving the 2030 GHG emissions reduction target, we also need momentum to propel us to the 2050 statewide GHG target (80 [percent] below 1990 levels). In developing this Scoping Plan, we considered what policies are needed to meet our mid-term and long-term goals” (CARB 2017a).

With regard to EO B-55-18 (statewide goal of carbon neutrality by no later than 2045), which is a more aggressive statewide goal than EO S-3-05, the EO notes that CARB will work with relevant state agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. With respect to future GHG targets under SB 32 and EO B-55-18, CARB has made clear its legal interpretation that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet the long-term statewide goals; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets.

As described in Impact GHG-1, the Proposed Project would result in minimal GHG emissions during construction and would not exceed the SLOAPCD threshold of 1,150 MT CO₂e per year, which was established based on the goal of AB 32 to reduce statewide emissions to 1990 levels by 2020. Therefore, the Project would also be considered consistent with implementation of any of the above-described GHG-reduction goals for 2030 and beyond.

Based on the above considerations, the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This impact would be less than significant.

4.8.3.4 Cumulative Impacts Analysis

This section provides an evaluation of cumulative GHG impacts associated with the Proposed Project and past, present, and reasonably foreseeable future projects, as identified in Table 4.1-1 in Section 4.1, Introduction to Analysis, and as relevant to this topic. The geographic area for the analysis of cumulative impacts resulting from GHG emissions is the Earth as GHG emissions are a global concern.

Impact GHG-3: Cumulative GHG Impacts (Significance Standards A and B). The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would result in a significant cumulative impact related to GHG emissions. However, the Proposed Project's contribution would not be cumulatively considerable. (*Less than Significant*)

Cumulative development throughout the North Central Coast Air Basin and beyond would generate GHG emissions that could have a significant cumulative impact on the environment. Accordingly, the analysis above takes into account the potential for the Proposed Project to contribute to a cumulative impact of global climate change. As shown in Table 4.8-2, the Proposed Project would result in minimal GHG emissions and would not exceed the threshold of 1,150 MT CO₂e per year, adopted by the SLOAPCD and recommended by MBARD. In addition, as described in Impact GHG-2 above, the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted in order to reduce GHG emissions. Therefore, the Proposed Project's contribution to significant cumulative GHG impacts would not be cumulatively considerable and would be less than significant.

4.8.3.5 Mitigation Measures

As described above, the Proposed Project would not result in significant impacts related to GHG emissions, and therefore, no mitigation measures are required.

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