

4.6 GREENHOUSE GAS EMISSIONS

This section describes the existing setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Villa Storia Development (PD) Plan (proposed project). The following analysis is based upon the Greenhouse Gas Emissions Analysis (GHG report) that was prepared for the proposed project by Dudek in ~~February~~ June 2015 and is incorporated by reference herein (Dudek 2015). The GHG report is included in Appendix F of this EIR.

4.6.1 Background and Existing Conditions

The Greenhouse Effect and Greenhouse Gases

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind, lasting for an extended period (decades or longer).

Gases that trap heat in the atmosphere are often called “greenhouse gases” (GHGs). The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. This “trapping” of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect. Principal GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), and water vapor (H₂O). Some GHGs, such as CO₂, CH₄, and N₂O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely byproducts of fossil fuel combustion, whereas CH₄ results mostly from off-gassing associated with agricultural practices and landfills. Man-made GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃), which are associated with certain industrial products and processes.

The greenhouse effect is a natural process that contributes to regulating the earth’s temperature. Without it, the average temperature of the Earth would be about 0°F (–18°C) instead of its present 57°F (14°C). Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect.

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its “global warming potential” (GWP). GWP varies between GHGs; for example, the GWP of CH₄ is 21, and the GWP of N₂O is 310. Total GHG emissions are expressed as a function of how

much warming would be caused by the same mass of CO₂. Thus, GHG gas emissions are typically measured in terms of pounds or tons of “CO₂ equivalent” (CO₂E).¹

Contributions to Greenhouse Gas Emissions

In 2012, the United States produced 6,525 million metric tons (MMT) of CO₂E. The primary GHG emitted by human activities in the United States was CO₂, representing approximately 82.5% of total GHG emissions. The largest source of CO₂, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 94.2% of the CO₂ emissions.

According to the 2012 GHG inventory data compiled by the California Air Resources Board (CARB) for the California Greenhouse Gas Inventory for 2000–2012, California emitted 459 MMT CO₂E of GHGs, including emissions resulting from out-of-state electrical generation (CARB 2014). The primary contributors to GHG emissions in California are transportation, industry, electric power production from both in-state and out-of-state sources, agriculture, and other sources, which include commercial and residential activities. These primary contributors to California’s GHG emissions and their relative contributions in 2012 are presented in Table 4.6-1.

**Table 4.6-1
GHG Sources in California**

Source Category	Annual GHG Emissions (MMT CO ₂ E)	% of Total ^a
Agriculture	37.86	8.3%
Commercial uses	14.20	3.1%
Electricity generation	95.09 ^b	20.7%
Industrial uses	89.16	19.4%
Recycling and waste	8.49	1.9%
Residential uses	28.09	6.1%
Transportation	167.38	36.5%
High GWP substances	18.41	4.0%
Totals^c	458.68	100%

Source: Dudek 2015.

^a Percentage of total has been rounded.

^b Includes emissions associated with imported electricity, which account for 46.86 MMT CO₂E annually.

^c Totals may not sum due to rounding.

Potential Effects of Human Activity on Climate Change

According to CARB, some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high O₃ days, more

¹ The CO₂ equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, such that MTCO₂E = (metric tons of a GHG) × (GWP of the GHG). For example, the GWP for CH₄ is 21. This means that emissions of 1 metric ton of methane are equivalent to emissions of 21 metric tons of CO₂.

large forest fires, and more drought years. Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists' understanding of the complex global climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale. Substantial work has been done at the international and national level to evaluate climatic impacts, but far less information is available on regional and local impacts.

The primary effect of global climate change has been a rise in average global tropospheric temperature of 0.2°C per decade, determined from meteorological measurements worldwide between 1990 and 2005.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. Climate change is already affecting California: Average temperatures 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 in the form of snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later. Climate change modeling using 2000 emission rates shows that further warming would occur, which would induce further changes in the global climate system during the current century. Changes to the global climate system and ecosystems and to California would include, but would not be limited to:

- The loss of sea ice and mountain snowpack resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures
- A rise in global average sea level primarily due to thermal expansion and melting of glaciers and ice caps and the Greenland and Antarctic ice sheets
- Changes in weather that includes widespread changes in precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones
- A decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California, by 70% to as much as 90% over the next 100 years
- An increase in the number of days conducive to O₃ formation by 25% to 85% (depending on the future temperature scenario) in high O₃ areas of Los Angeles and the San Joaquin Valley by the end of the 21st century
- High potential for erosion of California's coastlines and sea water intrusion into the Delta and levee systems due to the rise in sea level

Project Baseline and Existing Conditions

The project site consists of vacant land (existing condition) which is considered the California Environmental Quality Act (CEQA) CEQA baseline and the starting point for environmental analysis. The GHG emissions from vacant land is—are zero (0) metric tons CO₂E, which is the project’s environmental baseline, according to GHG models.

4.6.2 Relevant Plans, Policies, and Ordinances

Federal

Massachusetts vs. EPA

On April 2, 2007, in *Massachusetts v. EPA*, the 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 making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the federal Clean Air Act (CAA). On December 7, 2009, the Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the CAA:

- 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 referred to as the “endangerment finding.”
- The Administrator further found 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 referred to as the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

Energy Independence and Security Act

On December 19, 2007, President Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the Act would do the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022

- Set a target of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020 and directs 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.

EPA and NHTSA Joint Final Rule for Vehicle Standards

On April 1, 2010, the EPA and NHTSA announced a joint final rule to establish a national program consisting of new standards for light-duty vehicles model years 2012 through 2016. The joint rule is intended to reduce GHG emissions and improve fuel economy. The EPA is finalizing the first-ever national GHG emissions standards under the Clean Air Act, and NHTSA is finalizing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. This final rule follows the EPA and Department of Transportation's joint proposal on September 15, 2009, and is the result of the President Obama's May 2009 announcement of a national program to reduce greenhouse gases and improve fuel economy. The final rule became effective on July 6, 2010.

The EPA GHG standards require new passenger cars, light-duty trucks, and medium-duty passenger vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile in model year 2016, equivalent to 35.5 miles per gallon (mpg) if the automotive industry were to meet this CO₂ level through fuel economy improvements alone. The CAFE standards for passenger cars and light trucks will be phased in between 2012 and 2016, with the final standards equivalent to 37.8 mpg for passenger cars and 28.8 mpg for light trucks, resulting in an estimated combined average of 34.1 mpg. Together, these standards will cut GHG emissions by an estimated 960 MMT and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program. The rules will simultaneously reduce GHG emissions, improve energy security, increase fuel savings, and provide clarity and predictability for manufacturers.

In August 2012, the EPA and NHTSA approved a second round of GHG and CAFE standards for model years 2017 and beyond-. These standards will reduce motor vehicle GHG emissions to 163 grams of CO₂ per mile, which is equivalent to 54.5 mpg if this level were achieved solely through improvements in fuel efficiency, for cars and light-duty trucks by model year 2025. A portion of these improvements, however, will likely be made through improvements in air conditioning leakage and through use of alternative refrigerants, which would not contribute to fuel economy. The first phase of the CAFE standards, for model year 2017 to 2021, are projected to require, on an average industry fleet-wide basis, a range from 40.3 to 41.0 mpg in model year

2021. The second phase of the CAFE program, for model years 2022 to 2025, are projected to require, on an average industry fleet-wide basis, a range from 48.7 to 49.7 mpg in model year 2025. The second phase of standards have not been finalized due to the statutory requirement that NHTSA set average fuel economy standards not more than five model years at a time. The regulations also include targeted incentives to encourage early adoption and introduction into the marketplace of advanced technologies to dramatically improve vehicle performance, including:

- Incentives for electric vehicles, plug-in hybrid electric vehicles, and fuel cells vehicles
- Incentives for hybrid technologies for large pickups and for other technologies that achieve high fuel economy levels on large pickups
- Incentives for natural gas vehicles
- Credits for technologies with potential to achieve real-world greenhouse gas reductions and fuel economy improvements that are not captured by the standards test procedures.

State

Title 24

Title 24 of the California Code of Regulations 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 establishes energy efficiency standards for residential and non-residential buildings constructed in the State of California in order to reduce energy demand and consumption. Part 6 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. The most recent amendments, referred to as the 2013 standards, became effective on July 1, 2014. Buildings constructed in accordance with the 2013 standards will use 25% less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 standards. Additionally, the standards will save 200 million gallons of water per year and avoid 170,500 tons of GHG emissions per year.

Title 24 also includes Part 11, known as California's Green Building Standards (CALGreen). The CALGreen standards took effect in January 2011, and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings, as well as schools and hospitals. The mandatory standards require:

- 20% mandatory reduction in indoor water use.
- 50% of construction and demolition waste must be diverted from landfills.
- Mandatory inspections of energy systems to ensure optimal working efficiency.

- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented per the discretion of local agencies and applicants. CALGreen’s Tier 1 standards call for a 15% improvement in energy requirements; more strict water conservation; 65% diversion of construction and demolition waste; 10% recycled content in building materials; 20% permeable paving; 20% cement reduction; and, cool/solar reflective roofs. CALGreen’s more rigorous Tier 2 standards call for a 30% improvement in energy requirements; more strict water conservation; 75% diversion of construction and demolition waste; 15% recycled content in building materials; 30% permeable paving; 30% cement reduction; and, cool/solar reflective roofs. The City of Oceanside Municipal Code, Chapter 6, Article XIII – Green Building Code, Sec. 6.80 delineates that the City has adopted by reference the mandatory standards of CalGreen. The City has not adopted Tier 1 or Tier 2 voluntary standards.

Assembly Bill (AB) 1493

In a response to the transportation sector accounting for more than half of California’s CO₂ emissions, AB 1493 (Pavley) was enacted on July 22, 2002. 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 whose primary use is 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 will 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%.

Before these regulations could go into effect, the EPA had to grant California a waiver under the federal CAA, which ordinarily preempts state regulation of motor vehicle emission standards. The waiver was granted by Lisa Jackson, the EPA Administrator, on June 30, 2009. On March 29, 2010, the CARB Executive Officer approved revisions to the motor vehicle GHG standards to harmonize the state program with the national program for 2012–2016 model years (see “EPA and NHTSA Joint Final Rule for Vehicle Standards” above). The revised regulations became effective on April 1, 2010.

Executive Order S-3-05

In June 2005, Governor Schwarzenegger established California’s GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80% below 1990 levels by 2050. The

California EPA secretary is required to coordinate efforts of various agencies to collectively and efficiently reduce GHGs. The Climate Action Team is responsible for implementing global warming emissions reduction programs. Representatives from several state agencies comprise the Climate Action Team. The Climate Action Team fulfilled its report requirements through the March 2006 Climate Action Team Report to the governor and the legislature.

The 2009 Climate Action Team Biennial Report, published in April 2010, expands on the policy outlined in the 2006 assessment. The 2009 report provides new information and scientific findings regarding the development of new climate and sea level projections using new information and tools that have recently become available and evaluates climate change within the context of broader social changes, such as land use changes and demographics. The 2009 report also identifies the need for additional research in several different aspects that affect climate change in order to support effective climate change strategies. The aspects of climate change determined to require future research include vehicle and fuel technologies, land use and smart growth, electricity and natural gas, energy efficiency, renewable energy and reduced carbon energy sources, low GHG technologies for other sectors, carbon sequestration, terrestrial sequestration, geologic sequestration, economic impacts and considerations, social science, and environmental justice.

Subsequently, the 2010 Climate Action Team Report to Governor Schwarzenegger and the California Legislature reviews past climate action milestones including voluntary reporting programs, GHG standards for passenger vehicles, the Low Carbon Fuel Standard (LCFS), a statewide renewable energy standard, and the cap-and-trade program. Additionally, the 2010 report includes a cataloging of recent research and ongoing projects; mitigation and adaptation strategies identified by sector (e.g., agriculture, biodiversity, electricity, and natural gas); actions that can be taken at the regional, national, and international levels to mitigate the adverse effects of climate change; and today's outlook on future conditions.

AB 32

In furtherance of the goals established in Executive Order S-3-05, the legislature enacted AB 32 (Núñez and Pavley) also known as the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. The GHG emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020.

CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

The first action under AB 32 resulted in the adoption of a report listing early action GHG emission reduction measures on June 21, 2007. The early actions include three specific GHG control rules. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32. The three original early-action regulations meeting the narrow legal definition of “discrete early action GHG reduction measures” include:

1. A low-carbon fuel standard to reduce the “carbon intensity” of California fuels
2. Reduction of refrigerant losses from motor vehicle air conditioning system maintenance to restrict the sale of “do-it-yourself” automotive refrigerants
3. Increased methane capture from landfills to require broader use of state-of-the-art methane capture technologies.

The additional six early-action regulations, which were also considered “discrete early action GHG reduction measures,” consist of:

1. Reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology
2. Reduction of auxiliary engine emissions of docked ships by requiring port electrification
3. Reduction of PFCs from the semiconductor industry
4. Reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products)
5. Requirements that all tune-up, smog check, and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency
6. Restriction on the use of SF₆ from non-electricity sectors if viable alternatives are available.

As required under AB 32, on December 6, 2007, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 MMT CO₂E. In addition to the 1990 emissions inventory, CARB also adopted regulations requiring mandatory reporting of GHGs for large facilities that account for 94% of GHG emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and other industrial sources that emit CO₂ in excess of specified thresholds.

On December 11, 2008, CARB approved the Climate Change Proposed Scoping Plan: A Framework for Change to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program.

The key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
- Achieving a statewide renewables energy mix of 33%
- 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
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State of California's long term commitment to AB 32 implementation.

An update to the Scoping Plan was ~~recently~~ adopted in May 2014 (CARB 2014). Based on updated information, the Scoping Plan Update revises the 2020 emissions limit to 431 MMT CO₂e and also builds upon the initial Scoping Plan with new strategies and recommendations. The Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The Update defines ARB's climate change priorities for the next five years and sets the groundwork to reach California's long-term climate goals set forth in Executive Orders S-3-05 and B-16-2012. B-16-2012 directed state entities under the governor's direction and control support and facilitate development and distribution of zero-emission vehicles (ZEVs). The Governor's Executive Order sets a long-term target of reaching 1.5 million ZEVs on California's roadways by 2025. On a statewide basis, the Executive Order also establishes a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. The Update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. These efforts were pursued to achieve the near-term 2020 goal, and

have created a framework for ongoing climate action that can be built upon to maintain and continue economic sector-specific reductions beyond 2020, as required by AB 32. The Scoping Plan Update identified nine key focus areas (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the cap-and-trade program.

Executive Order B-30-15

On April 29, 2015, Governor Jerry Brown issued an executive order which identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. Executive Order B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 as one way to keep California on a 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 achievement of this goal, B-30-15 calls for an update to CARB’s Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. The Executive Order also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water and forestry will be required to prepare GHG reduction plans by September 2015, followed by a report on actions taken in relation to these plans in June 2016. The Executive Order does not require local agencies to take any action to meet the new interim GHG reduction threshold. It is important to note that Executive Order B-30-15 was not adopted by a public agency through a public review process that requires analysis pursuant to CEQA Guidelines section 15064.4 and that it has not been subsequently validated by a statute as an official GHG reduction target of the State of California. The Executive Order itself states it is “not intended to create, and does not, create any rights or benefits, whether substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers employees, or any other person.”

SB 1368

In September 2006, Governor Schwarzenegger signed SB 1368, which requires the California Energy Commission (CEC) to develop and adopt regulations for GHG emissions performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC). This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low or lower than new combined-cycle natural gas plants, by requiring imported electricity to meet GHG performance standards in California, and by requiring that the standards be developed and adopted in a public process.

SB 375

In August 2008, the legislature passed and on September 30, 2008, Governor Schwarzenegger signed SB 375 (Steinberg), which addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. Regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035, as determined by CARB, are required to consider the emission reductions associated with vehicle emission standards (see SB 1493), the composition of fuels (see Executive Order S-1-07), and other CARB-approved measures to reduce GHG emissions. Regional metropolitan planning organizations (MPOs) will be responsible for preparing a Sustainable Communities Strategy within their Regional Transportation Plan. The goal of the Sustainable Communities Strategy is to establish a development plan for the region, which, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a Sustainable Communities Strategy is unable to achieve the GHG reduction target, an 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. SB 375 provides incentives for streamlining ~~California Environmental Quality Act (CEQA)~~ requirements by substantially reducing the requirements for “transit priority projects,” as specified in SB 375, and eliminating the analysis of the impacts of certain residential projects on global warming and the growth-inducing impacts of those projects when the projects are consistent with the Sustainable Communities Strategy or Alternative Planning Strategy. On September 23, 2010, CARB adopted the SB 375 targets for the regional MPOs. The targets for the San Diego Association of Governments (SANDAG) are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035; however, SANDAG’s plan is currently the subject of litigation and therefore is not being implemented. Achieving these goals through adoption of a Sustainable Communities Strategy will be the responsibility of the MPOs.

SB X1 2

On April 12, 2011, Governor Jerry Brown signed SB X1 2 in the First Extraordinary Session, which would expand the RPS by establishing a goal of 20% of the total electricity sold to retail customers in California per year, by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current and that meets other specified requirements with respect to its location. In addition to the retail sellers covered by SB 107, SB X1 2 adds local publicly owned electric utilities to the RPS. By January 1, 2012, the CPUC is required to establish the quantity of electricity products from eligible renewable energy resources to be procured by retail sellers in order to achieve targets of 20% by December 31, 2013; 25% by

December 31, 2016; and 33% by December 31, 2020. The statute also requires that the governing boards for local publicly owned electric utilities establish the same targets, and the governing boards would be responsible for ensuring compliance with these targets. The CPUC will be responsible for enforcement of the RPS for retail sellers, while the CEC and CARB will enforce the requirements for local publicly owned electric utilities.

AB 758

AB 758 requires the Energy Commission, in collaboration with the California Public Utilities Commission and stakeholders, to develop a comprehensive program to achieve greater energy efficiency in the state's existing buildings. The Energy Commission foresees implementing AB 758 in three phases. The first phase began with the American Recovery and Reinvestment Act of 2009 (ARRA) implementation period (2010-2012). The Energy Commission's ARRA-funded pilots supported energy efficiency efforts through state and local upgrade programs, workforce training, and financing. Funds were also used to implement an extensive outreach campaign, coupled with statewide and local public relations and marketing efforts. Phase I also included the development of the *Comprehensive Energy Efficiency Program for Existing Buildings Scoping Report*, which outlined market needs and identified barriers to implementation. Phase I will conclude with the adoption of the *AB 758 Action Plan*, a roadmap of strategies encompassing all energy efficiency approaches. Phase II will focus on implementing the roadmap necessary for foundational *No Regrets Strategies* to take hold and *Voluntary Pathways* to scale to achieve energy efficiency goals, partnerships, and market development. Phase III will develop and institute *Mandatory Approaches* that will move energy efficiency practices into the mainstream. Transformation and maturation of the energy efficiency marketplace will require the formation of partnerships and cooperation among all stakeholders. (California Energy Commission 2015).

California Air Pollution Control Officers Association

The California Air Pollution Control Officers Association (CAPCOA) is the association of Air Pollution Control Officers representing all 35 air quality agencies throughout California. CAPCOA is not a regulatory body, but has been an active organization in providing guidance in addressing the CEQA significance of GHG emissions and climate change as well as other air quality issues. The GHG analysis set forth herein has been informed, in part, by the expertise and methodologies described in the following documents published by CAPCOA: (i) *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, January 2008* and (ii) *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures, August 2010.*

4.6.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to greenhouse gas emissions are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to greenhouse gas emissions would occur if the project would:

- A. Generate greenhouse gas emissions, either directly or indirectly, that may have 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.

Neither the State of California, City of Oceanside, nor the San Diego Air Pollution Control District (SDAPCD) has adopted emission-based thresholds of significance for GHG emissions under CEQA. OPR’s Technical Advisory titled CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review states that “public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact.” Furthermore, the advisory document ~~indicates in the third bullet item on page 6~~ states that “in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a ‘significant impact,’ individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.”

Section 15064.4 of the CEQA Guidelines, “Determining the Significance of Impacts from Greenhouse Gas Emissions,” states the following:

- A) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
 - i. Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or

- ii. Rely on a qualitative analysis or performance based standards.
- B) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
- i. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
 - ii. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
 - iii. 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 greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project’s incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The City of Oceanside

2020 Buildout Condition

The City of Oceanside utilizes a threshold of significance for analyzing GHG emissions under CEQA, the basis of which is derived from (1) guidance from ~~the California Air Pollution Control Officers Association (CAPCOA)~~ and (2) the *Climate Change Scoping Plan, a Framework for Change Pursuant to AB 32, The California Global Warming Solutions Act of 2006*, dated December 2008, prepared by CARB (“2008 Scoping Plan”, CARB 2008) as updated by the *First Update to the Climate Change Scoping Plan, Building on the Framework Pursuant to AB 32, The California Global Warming Solutions Act of 2006*, dated May 2014, also prepared by CARB (“Updated Scoping Plan”, CARB 2014, and collectively with the 2008 Scoping Plan, the “Scoping Plan”). Prepared by planning staff and reviewed by air pollution control officers and other staff of California’s air districts, CAPCOA published *CEQA and Climate Change – Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* (CAPCOA 2008) to provide direction for evaluating GHG emissions and climate change impacts under CEQA. One approach provided in this white paper is Threshold 1.1, which applies a percent reduction from a business-as-usual scenario, where “business-as-usual means the emissions that would have occurred in the absence of the mandated

reductions” (CAPCOA 2008), to demonstrate consistency with the goal of AB 32. The white paper further indicates:

“Reducing greenhouse gas emission levels from 2020 to 1990 levels could require a 28 to 33 percent reduction of business-as-usual GHG emissions depending on the methodology used to determine the future emission inventories. The exact percent reduction may change slightly once CARB finalizes its 1990 and 2020 inventory estimates” (CAPCOA 2008).

As suggested above, the 2020 forecast inventory estimates may change over time, which it did due to the economic downturn of the late-2000s. According to most recent 2020 forecast presented in the Updated Scoping Plan and the adopted target for 2020 (i.e., 1990 statewide GHG levels), the state must achieve a reduction of at least 15.3% to reach the 2020 target. The statewide 2020 “business as usual” or “unmitigated” scenario is projected to be 509 MMT CO₂E after accounting for reductions associated with two regulations adopted prior to enactment of AB 32 (CARB 2014)². The 2020 statewide target has been set at 431 MMT CO₂E, based on the revised target in the Updated Scoping Plan (CARB 2014). Based on data and evidence provided in the Scoping Plan related to this reduction, and to ensure projects pursued within the City of Oceanside ~~achieve their fair share~~ do not interfere with the State’s achievement of this reduction, the City of Oceanside has developed a performance threshold of 16% below “business as usual ~~unmitigated~~” emissions, which may be used to demonstrate a sufficient reduction in emissions from the “business as usual ~~unmitigated~~” scenario consistent with the goal of AB 32 to achieve 1990 statewide GHG emission levels by 2020. This is because the 2020 “business as usual” or “unmitigated” (no action is taken) scenario (509 MMT CO₂E), which represents the project without accounting for federal, state or local standards adopted to implement AB 32 and applicable to the project to reduce GHG emissions, would need to be reduced by at least 15.3% to get to 1990 levels (341 MMT CO₂E), according to analysis provided by CARB. Therefore, a project that achieves a reduction of 16% ~~would be reducing potential~~ not be interfering with the reductions in statewide GHG emissions at the same rate as is needed throughout the state to achieve the AB 32 emissions reduction target. This methodology used by the City of Oceanside is also used by various other jurisdictions throughout San Diego County, and meets the criteria outlined in Section 15064.4(a) and (b) of the CEQA Guidelines.

Long Term – 2030 and 2050

The GHG reduction targets for 2030 identified in Executive Order B-30-15 and for 2050 identified in Executive Order S-3-05 were not adopted by a public agency through a public review process that requires analysis pursuant to CEQA Guidelines section 15064.4. It is

² These two regulations include the Pavley 1 standards for motor vehicles and the 20% Renewable Portfolio Standard (RPS) related to the state’s energy mix.

questionable whether an Executive Order creates binding law at all. In fact, Executive Order B-30-15 expressly states it is “not intended to create, and does not, create any rights or benefits, whether substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.” Nevertheless, in order to demonstrate that the project does not interfere with the State’s ability to achieve GHG reduction targets identified in Executive Order B-30-15, a discussion of the project’s GHG emissions in 2030 and 2050 is provided.

As described in Section 4.6.2, Executive Order B-30-15 set an interim target of reducing statewide GHG emissions to 40% below 1990 levels by 2030 and directed State agencies to implement appropriate plans. The interim target was established to better measure California’s progress toward meeting or exceeding the long-term emission reduction target of reducing GHG emissions to 80% below 1990 levels by 2050 pursuant to Executive Order S-3-05. The analysis presented below includes a discussion of the project in relation to the 2030 and 2050 reduction targets.

Applicable Plans for the Reduction or Mitigation of GHG Emissions

As discussed above, the CEQA Guidelines also suggest an analysis of whether a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project’s incremental contribution of greenhouse gas emissions, (CEQA Guidelines, § 15064.4(b)(3).) The City has not adopted a climate action plan, General Plan policies or any other local plan to reduce or mitigate GHG emissions pursuant to a public review process and no regional plan exists either. The City has adopted the Green Building Code pursuant to a public review process (City Ordinance 13-ORO752-1, adopted November 6, 2013). The project’s consistency with the Green Building Code is discussed below.

Based on the foregoing, the following thresholds of significance are applied to analyze the project’s impacts on GHG:

1. Would the project interfere with the State of California’s implementation of greenhouse gas emission targets as expressed in AB 32, Executive Order B-30-15, and Executive Order S-3-05?

- a. **AB 32:** The project does not interfere with implementation of AB 32’s goals of reducing statewide GHG emissions to 1990 levels by 2020 if the Project’s GHG emissions are reduced by 16% as compared to the project’s emissions under the “business as usual” scenario.
- b. **Executive Order B-30-15:** The project does not interfere with the state’s implementation of Executive Order B-30-15’s target of reducing statewide

GHG emissions to 40% below 1990 levels by 2030 if it does not interfere with the state’s implementation of GHG reduction plans described in the CARB Revised Scoping Plan, including the state providing for 12,000 megawatts (MW) of renewable distributed generation by 2020, the California Building Commission mandating net zero energy homes in the building code after 2020, or existing building retrofits under AB 758.

a.c. Executive Order S-3-05: The project does not interfere with the state’s implementation of Executive Order S-3-05’s target of reducing statewide GHG emissions to 80% below 1990 levels by 2050 if it does not interfere with the state’s implementation of GHG reduction plans described in the CARB Revised Scoping Plan, including the state providing for 12,000 megawatts (MW) of renewable distributed generation by 2020, the California Building Commission mandating net zero energy homes in the building code after 2020, or existing building retrofits under AB 758.

2. Does the Project interfere with implementation of California’s Green Building Standards?

4.6.4 Impacts Analysis

A. *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Greenhouse gas (GHG) emissions are said to result in an increase in the Earth’s average surface temperature, commonly referred to as “global climate change.” Global climate change, by definition, is cumulative as it is the result of combined worldwide contributions of GHGs to the atmosphere over many years. Impacts associated with the project discussed in this section also serve as the project’s cumulative impact analysis.

Construction

GHG emissions would be associated with the construction phase of the proposed project through use of construction equipment and vehicle trips. Emissions from the construction phase of the Proposed Project were estimated using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, available online (<http://www.caleemod.com/>). For the purposes of modeling and at the time the original air quality analysis was conducted, it was assumed that construction of the proposed project would commence in April 2015. Construction would occur intermittently over an approximately 4-year period and consist of the following phases:

- Site preparation (9 weeks)

- Mass grading (39 weeks)
- Paving (13 weeks)
- Trenching and utility work (5 weeks)
- Building construction (2 years)
- Architectural coatings (3 years).

A detailed depiction of the construction schedule—including information regarding subphases, demolition, and equipment used during each subphase—is included in Appendix A of the GHG report (found in Appendix F of this EIR).

Model defaults were used for construction equipment specifications, and the equipment mix is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately eight hours per day, five days per week (22 days per month), during project construction. Additionally, CalEEMod model assumptions were used for worker trips and vendor trips during building construction subphases.

Table 4.6-2 shows the estimated annual GHG construction emissions associated with the proposed project, as well as the annualized construction emissions over a 30-year “project life.”³

**Table 4.6-2
Estimated Construction GHG Emissions**

Construction Year	GHG Emissions (metric tons CO ₂ E/year)
2015	490
2016	564
2017	487
2018	84
2019	20
Total construction emissions	1,644
Annualized construction emissions	55

Source: Dudek 2015

³ Per SCAQMD guidance, construction emissions should be amortized over the operational life of the project, which is assumed to be 30 years (SCAQMD 2009).

Operation

Operation of the proposed project would result in GHG emissions from vehicular traffic, area sources (e.g., natural gas combustion and landscaping), electrical generation, water supply, and solid waste as described below.

To effectively analyze operational GHG emissions associated with the proposed project, two scenarios were modeled. The first scenario represents project emissions under an “unmitigated business as usual” emissions approach, which estimates project emissions absent federal, state, and local measures and without project features intended to reduce GHG emissions. The second scenario represents project emissions with implementation of applicable federal, state, and local GHG reduction measures and project features, including measures outlined in the Scoping Plan. As stated previously, the May 2014 Scoping Plan Update highlights California’s progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. These efforts were pursued to achieve the near-term 2020 goal, and have created a framework for ongoing climate action that can be built upon to maintain and continue economic sector-specific reductions beyond 2020, as required by AB 32. The Scoping Plan Update identified nine key focus areas (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the cap-and-trade program. Statewide emission reduction measures proposed in CARB’s Scoping Plan that are applicable to the proposed project, including Transportation and Energy Consumption measures, as well as the percent reduction from “unmitigated business as usual” emissions are indicated in Table 4.6-3. Reductions from these measures are incorporated in the emission calculations presented in Table 4.6-4.

**Table 4.6-3
GHG Reductions from State Measures and Project Design Features**

Measure	Sector	Percent Reduction from “ <u>Unmitigated Business as Usual</u> ” Emissions
Low Carbon Fuel Standard	Transportation	10%
Energy Efficiency	Energy Consumption (Electricity)	11%
Residential and Commercial	Energy Consumption (Natural Gas)	10%

Source: Dudek 2015.

Additionally, GHG reduction measures that would be implemented as part of the proposed project, but that were not accounted for in the operational GHG emission calculations include locating the project near existing transit service, include a bus stop that would be located at the Community Park in the southwest corner of the project site; pedestrian infrastructure improvements which would increase walkability in and around the project site (see Pedestrian Priority Project #19 in Chapter 3, Project Description); use reclaimed water for a portion of

outdoor water use; installation of water-efficient irrigation systems; installation of low-flow toilets, fixtures and showers; and implementing and waste and recycling program. Specific emission reductions from these project design features are not known as this time; therefore, emission reductions from implementation of these design features were not accounted for in emission estimates shown in Table 4.6-4.

Vehicular Traffic

The proposed project would impact ~~air quality~~ GHG emissions through the vehicular traffic generated by the proposed project. According to the proposed project's Traffic Impact Analysis prepared by Linscott, Law, and Greenspan, Engineers (LLG), utilized for Section 4.14, Traffic and Circulation, and found in Appendix J of this EIR, the proposed project would result in a total of 3,248 trips.

Annual CO₂ emissions from motor vehicle trips for full project buildout were quantified using CalEEMod Version 2013.2.2 (refer to Appendix A of the GHG report found in Appendix F of this EIR for additional details and model assumptions). Implementation of the Low Carbon Fuel Standard identified above in Table 4.6-3 would reduce emissions associated with vehicular traffic by approximately 10% from the “unmitigated business as usual” project emissions scenario.

Area Sources

In addition to estimating mobile source emissions, CalEEMod Version 2013.2.2 was also used to estimate emissions from project area sources, including natural gas combustion for hearths and appliances, and landscape maintenance ~~(which would not produce winter emissions)~~. Natural gas usage for the proposed project was based upon the CalEEMod default usage rate. Default hearth data, including wood-burning fire places, were maintained when estimating the “business as usual” ~~or “unmitigated”~~ scenario. The proposed project ~~or “mitigated” scenario~~ was analyzed assuming all natural gas hearths.

Electrical Generation

The generation of electricity through combustion of fossil fuels typically results in emissions of CO₂ and to a smaller extent CH₄ and N₂O. Annual electricity emissions were estimated using the reported CO₂ emissions per kilowatt-hour for SDG&E as utilized in CalEEMod. Energy efficiency assumptions utilized in CalEEMod Version 2013.2.2 is based on 2008 Title 24 standards, which is analyzed in the “unmitigated business as usual” scenario. The 2013 Title 24 standards went into effect July 1, 2014 and would be implemented as part of the proposed project; therefore, the proposed project scenario includes emission reductions that would occur

as part of the 2013 Title 24 standards which are 25% more efficient than the 2008 Title 24 standards for lighting, heating, cooling, ventilation, and water heating.

Additionally, as shown in Table 4.6-3, emissions from electricity consumption would be reduced by approximately 11% from energy efficiency measures identified in the Scoping Plan. It should be noted that the 20% Renewable Portfolio Standard reductions were not accounted for in the proposed project emission reduction estimates because these reductions have already been accounted for in the 16% target reduction threshold.

Water Supply

Water supplied to the proposed project requires the use of electricity. Accordingly, the supply, conveyance, treatment, and distribution of water would indirectly result in GHG emissions through use of electricity. Annual water use for the proposed project and GHG emissions associated with the electricity used for water supply were calculated based upon water use estimates by land use as estimated by CalEEMod. Compliance with 2013 Title 24 standards would reduce electricity associated with water demand by approximately 15%. As noted in the electrical generation section above, this results in a reduction in GHG emissions.

Solid Waste

The proposed project will generate solid waste, and will therefore result in CO₂E emissions associated with landfill off-gassing. Annual estimated tonnage for the proposed project and associated CO₂ emissions from solid waste were quantified using CalEEMod.

Summary of GHG Emissions

The estimated GHG emissions associated with vehicular traffic, area sources, electrical generation, water supply, and solid waste are shown below in Table 4.6-4. Additional detail regarding these calculations can be found in Appendix A of the GHG report (found in Appendix F of this EIR). The estimated GHG emissions would be 5,860 metric tons CO₂E per year without taking into account the GHG reduction measures (i.e., “~~unmitigated business as usual emissions~~”) implemented pursuant to AB32 and 4,860 metric tons CO₂E per year⁴ with the GHG reduction measures implemented following AB 32. As indicated in Table 4.6-4, implementation of GHG reduction measures would reduce the project’s GHG emissions by 17.1%. Emissions would be further reduced as a result of implementation of project design features that were not quantified, including the project’s location near public transit service, improved walkability, use of reclaimed water, water efficient irrigation systems, water efficient fixtures, and waste and recycling programs.

⁴ 4869 metrics tons CO₂E per year represents the amount of the project’s increase from the existing conditions baseline.

Table 4.6-4
Estimated GHG Emissions (metric tons/year) 2020

Source	CO ₂ E Emissions “Unmitigated Business as Usual” Scenario	CO ₂ E Emissions with GHG Reduction Measures	Percent Reduction
Motor Vehicles	4,100	3,688	10%
Area Sources	640	304	52.5%
Electrical Generation	522	379	27.4%
Natural Gas Combustion	258	176	31.8%
Water Supply	177	150	15.3%
Solid Waste	108	108	0%
Amortized Annual Construction Emissions	55	55	0%
Total	5,860	4,860	17.1%

Source: Dudek 2015

2020 Buildout Condition

To assess the impact of the proposed project’s GHG emissions, the emissions under an “unmitigated business as usual” scenario are compared with the proposed project’s emissions after accounting for applicable GHG reduction measures. As shown in Table 4.3-4, with implementation of GHG reduction measures the proposed project would reduce GHG emissions by 17.1%. The proposed project would achieve the target of 16% below ~~an~~ the “unmitigated business as usual” scenario that has been established for the purposes of assessing the GHG emissions of projects under the Updated Scoping Plan. Thus, because the project’s GHG emissions are reduced by 16% as compared to the project’s emissions under the “business as usual” scenario, the project does not interfere with implementation of AB 32’s goal of reducing statewide GHG emissions to 1990 levels by ~~the Project would not impede achievement of the AB 32 goals through 2020 and impacts would therefore be less than significant.~~

Horizon Year 2030 and 2050

As described in Section 4.6.2, Executive Order B-30-15 established a statewide emissions reduction target of 40% below 1990 levels by 2030. This interim measure was identified by the Governor as one way to keep the State on a trajectory needed to meet the 2050 goal of reducing GHG emissions to 80% below 1990 levels by 2050 pursuant to Executive Order S-3-05. CARB has already identified the target 2050 emission levels of 431 MMT CO₂E. Executive Order B-30-15 instructs CARB to similarly express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that “California is on track to meet the near-term

2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32.” (see First Update to Scoping Plan, p. ES2.) With regard to the 2050 target for reducing GHG emissions to 80 percent below 1990 levels, the First Update to the Climate Change Scoping Plan states:

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 [MW] of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 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.

(First Update to the Climate Change Scoping Plan dated May 2014, p. 34.) In other words, the experts at CARB attest the State is on a trajectory to meet the 2020, 2030 and 2050 GHG reduction targets set forth in AB 32, Executive Order B-30-15 and Executive Order S-3-05.

The project does not interfere with implementation of any of the above-described GHG reduction goals for 2030 or 2050. For example, the project does not interfere with the state’s goal to install 12,000 MW of renewable distributed generation systems by 2020. Existing policies and regulations also encourage rooftop solar systems, such as government sponsored programs that offer financial incentives for installation of solar systems (e.g., PACE) and The Solar Shade Control Act (Pub. Resources Code, § 2590, *et seq.*) that protects solar systems from the interference of trees and shrubs. Programs such as PACE, which is available to residents of the City of Oceanside, allow for property owners to distribute the cost of renewable energy systems and other energy efficiency upgrades by adding the cost to the property’s tax bill for up to 20 years. The installation of rooftop solar systems is becoming increasingly common in the San Diego region and with costs of solar system installation trending down, it is reasonable to assume that the number of solar systems on California homes will continue to increase (Environment California Research and Policy Center 2014). As such, the project would not interfere with the State’s goal of having 12,000 MW of renewable distributed generation by 2020.

Likewise, the project does not interfere with the ability of the California Building Commission to mandate constructing net-zero energy homes after 2020. The project is expected to be fully constructed in 2019 and therefore would not interfere with the state’s ability to mandate net-zero energy homes on new construction after 2020. If project construction is delayed beyond 2019, it

will be required to construct homes in conformance with the then-existing California Building Commission mandates.

Moreover, the project would not interfere with the state’s implementation of building retrofits to further energy efficiency for existing buildings under AB 758. AB 758, the Comprehensive Energy Efficiency in Existing Buildings Law, tasked the California Energy Commission (“CEC”) with developing and implementing a comprehensive program to increase energy efficiency in existing residential and nonresidential buildings that “fall significantly below the current standards in Title 24.” (Pub. Resources Code, § 25943(a)(1).) Approximately 50% of existing residential and nonresidential buildings in California were constructed before California Building Energy Efficiency Standards went into effect in 1978. (CEC, Existing Buildings Energy Efficiency Action Plan (March 10, 2015) (Draft AB 758 Plan), Ch. 1, p. 5 [also noting that existing buildings represent 20% of all GHG emissions].) Other buildings constructed after 1978 also fall below current Title 24 standards and present significant opportunities for energy efficiency improvements. (*Id.*) Pursuant to AB 758, the CEC is in the process of developing an Existing Building Energy Efficiency Action Plan that identifies strategies to implement energy efficient renovations for such existing commercial, residential and publicly owned buildings. Strategies include making information about a building’s energy efficiency more readily available, educating the public about the cost benefit of energy upgrades, making attractive financing more readily available, educating the public and contractors about available energy upgrades and code compliance requirements, and educating a work force capable of implementing energy upgrades. (*Id.* at Ch. 4, pp. 91-102.) The project would be constructed in compliance with current Title 24 standards and therefore would not interfere with CEC or other initiatives implemented to increase energy efficiency and reduce GHG emissions associated with existing buildings that do not adhere to Title 24 standards.

To further demonstrate that the project does not interfere with the State’s achievement of 2020 and 2030 GHG reduction goals, Table 4.6-5 shows the project’s incremental reduction in emissions associated with current standards and regulations. Table 4.6-5 reflects emissions as projected in 2030 and 2050 using the same project-specific land uses and emission source inputs as described above for the proposed project, including mobile sources, area sources, energy consumption, water supply and solid waste. Reductions shown in Table 4.6-5 only reflect those associated with motor vehicle emissions due to continual vehicle fleet turnover (increases in engine efficiency and fuel-efficient vehicles) as modeled in CalEEMod for the year 2030, and in CARB’s EMFAC2014 emissions model (CARB 2015) for the year 2050. CalEEMod and EMFAC2014 take into account mobile emission regulations and advancements in motor vehicle technology and their effect on emissions in future years. For example, EMFAC2014 accounts for reductions due to the Advanced Clean Car (ACC) Program, the Truck and Bus Regulation “which requires heavy duty vehicles to be retrofit with diesel particulate filters or replaced with trucks having 2007 or 2010 standard engines” (CARB 2015). The model also accounts for the

effectiveness of selective catalytic reduction systems on applicable vehicle classes and years (CARB 2015). Additionally, it is reasonable to assume that additional regulations developed to reduce transportation-related GHG emissions would be implemented in the future in response to new regulations developed to meet 2030 and 2050 target reduction goals, similar to the Pavley standards and the Low Carbon Fuel Standard, as well as an expansion of alternative transportation systems.

Table 4.6-5
Estimated GHG Emissions (metric tons/year) 2020, 2030 and 2050

<u>Source</u>	<u>Proposed Project 2020</u>	<u>Proposed Project 2030¹</u>	<u>Proposed Project 2050²</u>
Motor Vehicles	3,688	2,956	2,121
Area Sources	304	304	304
Electrical Generation	379	379	379
Natural Gas Combustion	176	176	176
Water Supply	150	150	150
Solid Waste	108	108	108
Total	4,805	4,073	3,238

Source: Dudek 2015.

1. Mobile emissions estimated using CalEEMod consistent with the methodology for proposed project emissions.
2. Mobile emissions estimated using EMFAC2014 because CalEEMod is not capable of estimating emissions beyond 2035.

As shown in Table 4.6-5, GHG emissions would continue to decrease due to improvements in fuel efficiency, fleet turnover, and technological improvements related to transportation. Regulations and initiatives as developed and implemented by CARB and other statewide agencies pursuant to the Scoping Plan and Executive Order B-30-15 related to energy, water supply and solid waste will reduce emissions in the future, but the full extent of such reductions cannot be fully quantified or estimated at this time. GHG-related technological advancements in these sectors will also continue to build upon those currently employed state-wide and through local initiatives, and would become increasingly more stringent and efficient over time. Regulations and standards pertaining to these sectors include but are not limited to Title 24 building standards, the state's renewable energy portfolio standard, water conservation measures, solid waste diversion rates and other statewide initiatives as identified in CARB's Scoping Plan.

Additionally, in January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals which would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

Additionally, as described previously, the project applicant would not actively interfere with any future City-mandated, state-mandated, or federally-mandated retrofit obligations enacted or promulgated to legally require residential development City-wide, state-wide, or nation-wide to assist in meeting state-adopted greenhouse gas emissions reduction targets, including that established under Executive Order S-3-05 or Executive Order B-30-15.

Based on the foregoing, the project does not interfere with the state’s implementation of (i) Executive Order B-30-15’s target of reducing statewide GHG emissions to 40% below 1990 levels by 2030 or (ii) Executive Order S-3-05’s target of reducing statewide GHG emissions to 80% below 1990 levels by 2050 because it does not interfere with the state’s implementation of GHG reduction plans described in the CARB’s Updated Scoping Plan, including the state providing for 12,000 MW of renewable distributed generation by 2020, the California Building Commission mandating net zero energy homes in the building code after 2020, or existing building retrofits under AB 758. Therefore, the project’s impacts on greenhouse gas emissions in the 2030 and 2050 horizon years are less than significant.

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

The City of Oceanside has not adopted a Climate Action Plan, nor does the City of Oceanside General Plain contain policies specifically adopted to reduce GHG emissions. The City has adopted the Green Building Code pursuant to a public review process (City Ordinance 13-ORO752-1, adopted November 6, 2013). The project would comply with the requirements of the Green Building Code. Therefore, the project would not interfere with implementation of California’s Green Building Standards and therefore impacts are less than significant.

~~As discussed in Section 4.6.2, the Scoping Plan approved by CARB on December 12, 2008, 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. As such, the Scoping Plan is not directly applicable to specific projects. Moreover, the Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons 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 2009). Under the Scoping Plan, however, 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 (hybrid, electric, and more fuel efficient vehicles) and associated fuels (e.g., LCFS), among others. While state regulatory measures would ultimately reduce GHG emissions associated with~~

the project through their effect on these sources, no statewide plan, policy, or regulation would be specifically applicable to reductions in GHG emissions from the project.

~~GHG reduction measures that would be implemented as part of the proposed project, but that were not accounted for in the operational GHG emission calculations include locating the project near existing transit service, include a bus stop that would be located at the Community Park near the southwest corner of the project site; pedestrian infrastructure improvements which would increase walkability in and around the project site (see Pedestrian Priority Project #19 in Chapter 3, Project Description); use reclaimed water for a portion of outdoor water use; install water efficient irrigation systems; install low flow toilets, fixtures and showers; and implement a recycling and waste reduction program.~~

~~The project's potential effect on global climate change was evaluated, and emissions of GHGs were estimated based on the use of construction equipment and vehicle trips associated with construction activities, as well as operational emissions once construction phases are complete. As shown in Table 4.3-4, the proposed project would result in 5,860 metric tons CO₂E per year under the "unmitigated" scenario, which does not include federal and state standards or project design features for reducing GHG emissions. With incorporation of GHG reduction measures, the proposed project would result in 4,860 metric tons CO₂E per year, which would be a 17.1% reduction from the "unmitigated" scenario. Because the proposed project would exceed the 16% reduction from the "unmitigated" scenario as derived from the Updated Scoping Plan and developed by the City of Oceanside for the purposed of analyzing GHG emissions, impacts would be less than significant.~~

4.6.5 Mitigation Measures

Impacts would be less than significant and no mitigation measures are required.

4.6.6 Level of Significance After Mitigation

Impacts would be less than significant without mitigation; no mitigation measures are required.