3.7 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

This section of the Environmental Impact Report (EIR) analyzes the potential impacts of the proposed Beach Cities Health District (BCHD) Healthy Living Campus Master Plan (Project) related to greenhouse gas (GHG) emissions and global climate change. This analysis estimates the GHG emissions that would result from the construction and operation of the proposed Project, including the generation of GHG emissions from vehicle trips; energy demands for building heating, cooling, and power; and construction of new buildings and associated infrastructure. The analysis focuses on the major GHGs generated by human activities including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). (An analysis of other impacts related to air pollutant emissions is included in Section 3.2, *Air Quality*.) Information for this analysis was derived from the Intergovernmental Panel on Climate Change (IPCC), U.S. Environmental Protection Agency (USEPA), California Air Resources Board (CARB), South Coast Air Quality Management District (SCAQMD) and Southern California Association of Governments (SCAG) as well as the Redondo Beach and Torrance General Plans, Climate Action Plans, and municipal codes.

There are several unique challenges to analyzing GHG emissions and climate change under the California Environmental Quality Act (CEQA), largely due to the global nature of climate change. Typical CEQA analyses address local actions that have local or regional impacts, whereas GHG emissions and global climate change presents the considerable challenge of analyzing the relationship between local activities and the resulting potential, if any, for global environmental impacts. With regard to climate change, it is generally accepted that while the overall magnitude of global impacts is substantial, the contribution of any individual development project is so small that direct project-specific significant impacts – albeit not cumulatively significant impacts – are highly unlikely. Global climate change is also fundamentally different from other types of air quality impact analyses under CEQA in which the impacts are all measured within, and are linked to, a discrete region (i.e., air basin). Instead, a climate change analysis must be considered on a global level and requires consideration of GHG emissions from the project under consideration as well as the extent of the related displacement, translocation, and redistribution of GHG emissions.

3.7.1 Environmental Setting

Overview of Global Climate Change

The USEPA defines climate change as *"any significant change in the measures of climate lasting for an extended period of time."* In other words, climate change includes major changes in air temperature, precipitation, or wind patterns, among others, that occur over several decades or

longer. These changes are caused by a number of natural factors, including oceanic processes, variations in solar radiation reaching the Earth's atmosphere and surface, plate tectonics and volcanic eruptions, and anthropogenic (i.e., human-related) activities. The primary anthropogenic driver of climate change is the release of GHGs into the atmosphere (National Research Council 2010; IPCC 2014).

The Earth's natural warming process is known as the *"greenhouse effect."* The Earth's atmosphere consists of a variety of gases that regulate the Earth's temperature by trapping solar energy; these gases are cumulatively referred to as GHGs because they trap heat like the glass of a greenhouse. Relying on decades of research, the overwhelming majority of the scientific community agrees that human activities, including the burning of fossil fuels to produce energy and deforestation, have contributed to elevated concentrations of GHGs in the atmosphere since the Industrial Revolution (National Research Council 2010). The human production and release of GHGs to the atmosphere has caused an increase in the average global temperature. While the increase in global temperature is known as *"global warming,"* the resulting change in weather patterns is known as *"global climate change."*

Potential Effects of Global Climate Change

Potential adverse physical and environmental effects of global climate change include sea level rise, flooding, increased weather variability and intensified storm events, reduced reliability of water supplies, reduced quality of water supplies, and increased stress on ecosystems that would reduce biodiversity. Additionally, climate change has resulted in impacts to human health due to heat waves and extreme weather events, reduced air quality, and increased climate-sensitive diseases, including food-borne, water-borne, and animal-borne diseases.

Adverse effects from climate change are distributed across the world and have global consequences. Sensitive communities, such as low-lying nations that are more susceptible to impacts from sea level rise, may be more heavily impacted than communities in other regions.

Greenhouse Gases

Although GHGs include a variety of gases that have the potential to trap heat, policies and regulations to manage their effects generally focus on CO_2, CH_4, and N_2O. The following provides a brief description of each of these GHGs and their sources:

- **CO_2.** The natural production and absorption of CO_2 occurs through the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions, such as those required to manufacture cement. CO_2 is

constantly being exchanged among the atmosphere, ocean, and land surface as it is both produced and absorbed by many microorganisms, plants, and animals. However, emissions and removal of CO_2 by these natural processes tend to balance. Since the Industrial Revolution began around 1750, human-related activities had increased CO_2 concentrations in the atmosphere by more than 40 percent as of 2016 (USEPA 2016). Globally, the largest source of CO_2 emissions is the combustion of fossil fuels such as coal, oil, and gas in power plants, motor vehicles, and industrial facilities. CO_2 is sequestered (i.e., removed from the atmosphere) when it is absorbed by plants as part of the biological carbon cycle. When in balance, total CO_2 emissions and removals from the entire carbon cycle are roughly equal.

- **CH_4.** CH_4 is emitted from a variety of both human-related and natural sources. Anthropogenic sources include the production and transport of coal, natural gas, and oil, from livestock and other agricultural practices, and from the decay of organic waste in municipal solid waste landfills. It is estimated that 60 percent of global CH_4 emissions are related to human activities. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and wildfires (USEPA 2019).
- **N_2O.** Concentrations of N_2O also began to rise at the beginning of the Industrial Revolution, reaching 314 parts per billion (ppb) by 1998. Microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen, produce N_2O. In addition to agricultural sources, some industrial processes (e.g., fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of N_2O (USEPA 2019).

CO_2 is the most widely emitted GHG and is the reference gas for determining the global warming potential (GWP) of other GHGs. Because the impact each GHG has on climate change varies, the common metric of carbon dioxide equivalent (CO_2e) is used to report a combined impact from all of the GHGs. This metric scales the global warming potential of each GHG to that of CO_2. GHG emissions are typically expressed in metric tons of carbon dioxide equivalent (MT CO_2e) (USEPA 2017).

Existing GHG Emissions from Human Activity

The sources of GHG emissions from the operation of buildings generally consist of area, energy, mobile, waste, and water sources (California Air Pollution Control Officers Association [CAPCOA] 2013).

- **Area:** Area sources generally produce GHG emissions that occur in relatively small quantities over a dispersed area. For example, area sources include combustion of fossil fuels to operate landscape equipment, such as lawnmowers and trimmers.
- **Energy:** GHG emissions are also emitted as a result of activities within buildings when electricity and natural gas are used as energy sources (e.g., lighting and heating and air conditioning). Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere. When this occurs within building (e.g., the use of natural gas), it is considered a direct GHG emission source. However, GHGs are also emitted during the generation of electricity from fossil fuels. When electricity is used in a building, the electricity generation typically takes place off-site at the power plant; electricity use in a building generally causes emissions in an indirect manner.
- **Mobile:** Mobile source GHG emissions associated with a building are generally related to the on-road mobile sources associated with residents, employees, visitors, and delivery vehicles visiting the site based on the number of daily trips and vehicle miles traveled (VMT).
- **Waste:** The generation of municipal solid waste from day-to-day operational activities generally consists of product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, plastic, and other items routinely disposed of in trash bins. A portion of the solid waste is diverted to waste recycling and reclamation facilities. Waste that is not diverted is usually sent to local landfills for disposal, where the waste decomposes and results in GHG emissions of CO_2 and CH_4.
- **Water:** GHG emissions are also generated from the energy used to convey, treat, and distribute water and wastewater. As such, these emissions are **generally** indirect emissions from the production of electricity to power these systems. Three processes are necessary to supply potable water: 1) supply and conveyance of the water from the source; 2) treatment of the water to potable standards; and 3) distribution of the water to individual users. After use, energy is used as the wastewater is treated and reused as reclaimed water.

The burning of fossil fuels, such as coal and oil, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and thus substantial increases in atmospheric concentrations). In 2019, atmospheric CO_2 concentrations were 412 parts per million (ppm), which represented an increase of nearly 50 percent above the pre-industrial concentrations that were present prior to 1750 (National Aeronautics and Space Administration [NASA] 2019).

Global GHG Emissions

The IPCC was formed by the World Meteorological Organization in 1988 to provide governments at all levels with scientific information that they can use to develop climate policies. The IPCC is the United Nation's body for assessing the science related to climate change and is responsible for tracking and reporting global emissions of GHGs. The IPCC is in the process of preparing the Sixth Assessment Report, tentatively scheduled for publication in June 2022. IPCC's Fifth Assessment Report, which was published in 2014 reported that global GHG emissions were estimated at 49 billion MT CO_2e per year, with CO_2 making up 76 percent of the total anthropogenic GHG emissions. This is an overall increase in GHG emissions of 71 percent from the 28.7 billion MT CO_2e of emissions in 1970 (IPCC 2014). Annual anthropogenic GHG emissions have increased by 10 billion MT CO_2e between 2000 and 2010, with this increase directly coming from energy supply (47 percent), industry (30 percent), transport (11 percent), and buildings (30 percent) sectors (IPCC 2014).

U.S. GHG Emissions

The U.S. emitted 6.46 billion MT CO_2e in 2017. Total U.S. emissions have increased by 1.3 percent from 1990 to 2017, but decreased by nearly 7 percent from 2010 to 2017. Fossil fuel combustion accounted for 93 percent of CO_2 emissions and approximately 75 percent of total U.S. GHG emissions in 2017. Of the six major sectors generating emissions through direct fossil fuel combustion – electricity generation, transportation, industrial, agricultural, residential, and commercial – electricity generation accounts for approximately 28 percent and transportation accounts for 29 percent of these emissions. Of the energy consumed in the U.S. in 2018, approximately 80 percent was produced through combustion of fossil fuels, while the remaining 20 percent came from other energy sources such as hydropower, biomass, nuclear, wind, and solar energy. In 2017, total GHG emissions by sector were 28 percent for the electric power industry, 29 percent for transportation, 22 percent for industry, 9 percent for agriculture, 6 percent for commercial, and 5 percent for residential (USEPA 2020).

State of California GHG Emissions

In 2017, California generated approximately 424.1 million MT CO_2e, approximately 7 percent of total U.S. emissions. This is due primarily to the population and size of California compared to other states. Despite a population increase of 6.2 percent between 2000 and 2018, the State's gross per capita emissions were reduced 24 percent from the 14.1 MT CO_2e per person in 2001 to 10.7 MT CO_2e per person (U.S. Census Bureau 2019; CARB 2018). This reduction indicates the contributions that energy conservation as well as energy efficiency have in reducing per capita

emissions. Reductions in 2008 and 2009 have also been attributed to the economic recession and higher fuel prices, with marked declines in on-road transportation, cement production and electricity consumption (CARB 2014).

Redondo Beach GHG Emissions

The City of Redondo Beach, working in conjunction with the South Bay Cities Council of Governments (SBCCOG), prepared GHG inventories for 2005 and 2012. These inventories, which represent the most recent publicly available data, estimate emissions for on-road transportation, off-road equipment, residential and commercial energy use, solid waste generation, and water and wastewater emissions. The inventories were prepared consistent with industry protocols including the U.S. Community Protocol for Accounting and Reporting of GHG Emissions, the Local Government Operations Protocol, and the California Association of Environmental Professionals whitepapers on inventorying, forecasting, and setting targets for GHG emissions. Transportation sector emissions are the result of gasoline and diesel combustion in vehicles traveling to, from, or within Redondo Beach, but exclude emissions associated with vehicles that pass through the City without stopping. Estimates for residential and commercial energy use are calculated based on the emissions generated by electricity and natural gas consumed by residences and commercial businesses within Redondo Beach, while solid waste emissions are based on the amount of waste disposed in landfills, where it decomposes and generates methane. Water and wastewater emissions are calculated by determining the energy needed to extract, transport, treat, and dispose of the water resources consumed by the community (SBCCOG 2017a).

Table 3.7-1 summarizes Redondo Beach's GHG inventory for the years 2005 and 2012. In 2005, Redondo Beach generated approximately 522,168 MT CO_2e. On-road transportation, at 246,707 MT CO_2e, represented the largest share of emissions at greater than 47 percent. In 2012, Redondo Beach generated approximately 523,400 MT CO_2e, with on-road transportation emissions contributing to approximately 51 percent of total City-wide emissions. However, with emissions decreasing in most sectors (i.e., commercial energy, solid waste, water, off-road sources, and wastewater), total emissions increased by just 0.2 percent from 2005 to 2012.

On a per capita basis, Redondo Beach generated 7.81 MT CO_2e per year per resident in 2012, based on California Department of Finance estimates of 67,007 residents in 2012 (SBCCOG 2017a). These per capita estimates are substantially lower than the California average of 12.1 MT CO_2e per resident in 2012 (CARB 2014).

Table 3.7-1. City of Redondo Beach GHG Emissions Inventory

Emission Source	2005 (MT CO_2e)	2012 (MT CO_2e)	Percent Change from 2005 to 2012
On-Road Transportation	246,707	265,512	7.6%
Commercial Energy	142,679	137,031	-4.0%
Residential Energy	95,616	101,010	5.6%
Solid Waste	16,840	7,406	-56.0%
Water	15,576	10,332	-33.7%
Off-Road Sources	4,492	1,906	-57.6%
Wastewater	258	203	-21.3%
Total	**522,168**	**523,400**	**0.2%**

Source: SBCCOG 2017a.

City of Torrance GHG Emissions

The City of Torrance, working in conjunction with the SBCCOG, prepared GHG inventories for 2005, 2007, 2010, and 2012. As with the 2005 and 2012 inventories prepared by Redondo Beach, these inventories estimate emissions for on-road transportation, off-road equipment, residential and commercial energy use, solid waste generation, water, wastewater, and aviation emissions (SBCCOG 2017b). The inventories were prepared consistent with industry protocols including the U.S. Community Protocol for Accounting and Reporting of GHG Emissions, the Local Government Operations Protocol, and the California Association of Environmental Professionals whitepapers on inventorying, forecasting, and setting targets for GHG emissions (SBCCOG 2017b).

Table 3.7-2 below illustrates Torrance's GHG inventory for the years 2005 and 2012. In 2005, Torrance generated approximately 1,611,012 MT CO_2e. On-road transportation, at 670,670 MT CO_2e, represented the largest share of emissions at 41.6 percent. In 2012, the City generated approximately 675,221 MT CO_2e from on-road transportation, a 0.7-percent decrease from 2005. By 2012, the City had a reduction in emissions of 3 percent from the 2005 inventory, with emissions decreasing in most sectors (e.g., residential energy, solid waste, water, off-road sources, and wastewater). The largest increase in emissions between 2005 and 2012 was the 4.2 percent increase in aviation emissions (SBCCOG 2017b).

Table 3.7-2. City of Torrance GHG Emissions Inventory

Emission Source	2005 (MT CO_2e)	2012 (MT CO_2e)	Percent Change from 2005 to 2012
On-Road Transportation	670,670	675,221	0.7%
Commercial Energy	617,177	620,690	0.6%
Residential Energy	198,158	192,804	-2.7%
Solid Waste	66,013	39,906	-39.5%
Water	51,287	29,906	-41.7%
Off-Road Sources	3,875	1,018	-73.7%
Wastewater	562	443	-21.2%
Aviation	3,270	3,406	4.2%
Total	**1,611,012**	**1,563,394**	**-3.0%**

Source: SBCCOG 2017b.

On a per capita basis, Torrance generated 10.7 MT CO_2e per year per resident in 2012, based on California Department of Finance estimates of 146,115 residents in 2012 (SBCCOG 2017b). These per capita estimates are lower than the California average of 12.1 MT CO_2e per resident in 2012 (CARB 2014).

Project Site GHG Emissions

The primary source of GHG emissions within the vicinity of the Project site are exhaust emissions from motor vehicles. GHG emissions also occur from various stationary sources, such as mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] systems) associated with buildings, the operation of various types of commercial restaurant and retail businesses, and industrial land uses. As described in Section 2.2.3, *Existing Project Site*, the Project site is currently occupied by Beach Cities Health Center, an attached maintenance building, two medical office buildings, two surface parking lots, and an above ground parking structure, each of which is a minor source of GHG emissions.

As described in Section 3.7.3, *Impact Assessment and Methodology,* existing operational GHG emissions at the Project site were modeled using California Emission Estimator Model (CalEEMod) Version 2016.3.2 based on the existing land uses currently on-site. The Project site currently contributes approximately 13,292 MT CO_2e per year (see Table 3.7-3).

Table 3.7-3. Existing Annual GHGs Emissions at the BCHD Campus

Category	Source	Annual GHG Emissions (MT CO_2e/year)
Area	Landscaping Equipment	0.7
Energy	Electricity and Natural Gas	704.1
Mobile	On-road Transportation	12,459.0
Waste	Solid Waste Generation and Disposal	580.3
Water	Water Usage and Wastewater Generation	128.7
	Total	**13,873**

Note: Mobile emissions were calculated outside of CalEEMod, based on trip generation rates from the Transportation Study (see Appendix K). The CalEEMod evaluates only non-traffic operational emissions from the Beach Cities Health Center and Beach Cities Advanced Imaging Building. The Providence Little Company of Mary Medical Institute Building would remain in place under the proposed Project, and therefore is not included in this analysis. Totals may differ slightly from CalEEMod output sheets due to rounding.
Refer to Appendix B for detailed CalEEMod output sheets.

3.7.2 Regulatory Setting

Global climate change is addressed through the efforts of various Federal, State, regional, and local government agencies. These agencies work jointly and individually to understand and regulate the effects of GHG emissions and resulting climate change through legislation, regulations, planning, policymaking, education, and a variety of programs. The significant agencies, conventions, and programs focused on global climate change are discussed below.

Federal Regulations

Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* that CO_2 is an air pollutant, as defined under the Clean Air Act Amendments, and that the USEPA has the authority to regulate emissions of GHGs. On May 13, 2010, the USEPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 MT CO_2e per year for GHG emissions from major industrial facilities. The USEPA has not yet adopted thresholds for other GHG sources.

State Regulations

Executive Order S-3-05 and Assembly Bill 32

Executive Order S-3-05, established the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and

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

The Secretary of California Environmental Protection Agency (CalEPA) has been charged with coordination of efforts to meet these targets and formed the Climate Action Team (CAT) to implement the Executive Order. The CAT also provided strategies and input to the CARB Scoping Plan.

In 2006, the California State Legislature adopted Assembly Bill (AB) 32, California Global Warming Solutions Act, to codify the targets in Executive Order S-3-05 of reducing GHG emissions in California to 1990 levels by 2020. The California Global Warming Solutions Act requires that CARB to adopt rules and regulations directing State actions that would achieve GHG emissions reductions equivalent to 1990 Statewide levels by 2020.

Executive Order B-30-15 and Senate Bill 32

Executive Order B-30-15 established a new State-wide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. This Executive Order acts as an intermediate goal to achieving 80 percent reductions by 2050 as outlined in Executive Order S-3-05. Additionally, this Executive Order aligns California's GHG reduction targets with those of leading international governments, including the 28 nations comprising the European Union. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal established by Executive Order S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

Executive Order B-55-18

Executive Order B-55-18 establishes a State-wide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This Executive Order demonstrates the State’s continued commitment to address climate change.

CARB Scoping Plan

CARB is responsible for the coordination and administration of both Federal and State air pollution control programs within California. In this capacity, CARB conducts research, sets State ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs.

As directed by AB 32, CARB adopted the first Scoping Plan, which presented a set of actions designed to reduce overall GHG emissions in California (CARB 2008). This initial Scoping Plan provided an economy-wide approach to reducing emissions and highlighted the value of

combining carbon pricing with other complementary programs to meet California's 2020 GHG emissions target while ensuring progress in all sectors. Relative to transportation, the Scoping Plan included nine measures or recommended actions related to reducing VMT and transportation-related GHGs through fuel and efficiency measures. These measures would be implemented State-wide rather than on a project-by-project basis.

AB 32 requires CARB to update the scoping plan at least every 5 years. CARB released the First Update to the Climate Change Scoping Plan in May 2014 to provide information on the development of specific regulations and to adjust projections in consideration of the economic recession. The 2014 Update to the Scoping Plan presented an update on the program and its progress toward meeting the 2020 limit. It also developed the first vision for long-term progress beyond 2020. It also identified the need for a 2030 mid-term target to establish a continuum of actions to maintain and continue reductions, rather than only focusing on targets for 2020 or 2050.

In response to Executive Order B-30-15 and Senate Bill (SB) 32, all state agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the Scoping Plan to reflect the 2030 target. The 2017 Update to the Climate Change Scoping Plan was approved by CARB on December 14, 2017 (CARB 2017). The 2017 Scoping Plan builds upon the framework established by the initial 2018 Scoping Plan and 2014 Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that the state meets its GHG reduction targets.

Subsequent to the 2017 Scoping Plan, CARB adopted more aggressive SB 375 targets in 2018 as one measure to support progress toward the Scoping Plan goals, which encourage Sustainable Communities Strategies (SCSs) that plan to achieve, in aggregate, a 19 percent reduction in Statewide per capita GHG emissions reductions relative to 2005 by 2035 from passenger vehicles. However, CARB recognized that additional State and local actions are needed to achieve the transportation system reductions necessary to meet our climate goals, which is approximately 25 percent reduction in State-wide per capita GHG emissions by 2035 relative to 2005. In 2019, CARB released a 2017 Scoping Plan Update which includes a discussion of the relationship between local government actions and achievement of the State's long-term GHG emissions reduction goals, and non-binding recommendations to support local governments in their efforts to reduce GHG emissions. The 2017 Scoping Plan Update also identifies that slower growth in VMT from more efficient land use development patterns would promote achievement of the State's climate goals.

Senate Bill 375, Sustainable Communities and Climate Protection Act

The adoption of SB 375 created a process whereby local governments and other stakeholders must work together within their region to achieve the GHG reductions specified in AB 32 through integrated development patterns, improved transportation planning, and other transportation measures and policies. Under SB 375, the CARB is required to set regional transportation-related GHG reduction targets for 2020 and 2035. Additionally, SB 375 required that those targets be incorporated within a SCS, a required element within the Metropolitan Planning Organization's (MPO's) Regional Transportation Plan (RTP).

On September 23, 2010, CARB adopted transportation-related GHG emissions reduction targets that require a 7 percent to 8 percent reduction by 2020 and between 13 percent and 16 percent reduction by 2035 compared to emissions in 2005 for each MPO. SCAG is the MPO for the Southern California region and is required to work with local jurisdictions, including the City of Redondo Beach and the City of Torrance. CARB has determined SCAG's reduction target for per capita transportation-related GHG emissions to be 13 percent by 2035.

Senate Bill 97

SB 97, adopted in 2007, amended CEQA to establish that GHG emissions and their effects are appropriate subjects for CEQA analysis, and directed the Governor's Office of Planning and Research (OPR) to develop CEQA Guidelines for evaluating and mitigating GHG emissions and global climate change effects. In March 2010, the California Office of Administrative Law adopted amendments to the CEQA Guidelines that provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions, as found in CEQA Guidelines Section 15183.5. The California Resources Agency adopted the Guidelines in January 2009.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in these amendments to the CEQA Guidelines. See Section 3.7.3, *Impact Assessment and Methodology* for further discussion of accepted methodology for evaluating the significance of GHG emissions.

Senate Bill 350, Clean Energy and Pollution Reduction Act

SB 350 establishes California's 2030 GHG reduction target of 40 percent below 1990 levels and sets out to help the State achieve this goal by setting ambitious 2030 targets for energy efficiency and renewable electricity (California Energy Commission [CEC] 2017).

California Energy Efficiency Standards

Title 24 of the California Code of Regulations (CCR) Part 6 comprises California's Energy Efficiency Standards for Residential and Nonresidential Buildings, which was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to increase the baseline energy efficiency requirements. Although the Energy Efficiency Standards were not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions. The 2019 standards are the most recent version, which went into effect on January 1, 2020.

California Green Building Standard Code

Title 24 of the CCR Part 11 comprises CALGreen, which was adopted in 2019 and went into effect January 1, 2020. CALGreen is the first State-wide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. CALGreen establishes mandatory green building code requirements as well as voluntary measures (Tier 1 and Tier 2) for new buildings in California. The mandatory provisions in CALGreen will reduce the use of volatile organic compound (VOC) emitting materials, strengthen water efficiency conservation, increase construction waste recycling, and increase energy efficiency. Tier 1 and Tier 2 are intended to further encourage building practices that minimize the building's impact on the environment and promote a more sustainable design.

Regional Regulations

South Coast Air Quality Management District

The SCAQMD is the agency principally responsible for comprehensive air pollution control in Los Angeles County. In order to provide GHG emissions guidance to local jurisdictions within the South Coast Air Basin, the SCAQMD has organized a Working Group to develop GHG emission analysis guidance and thresholds.

As of the present date, the only regulation adopted by the SCAQMD addressing the generation of GHG emissions is the establishment of a 10,000 MT CO_2e per year screening level threshold of significance for stationary/source/industrial projects for which the SCAQMD is the lead agency.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary sources (i.e., industrial

projects) where the SCAQMD is lead agency. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. The tiered approach defines projects that are exempt under CEQA and projects that are within the jurisdiction of, and subject to the policies of, a GHG Reduction Plan as less than significant. This tiered approach is discussed in Section 3.7.3, *Impact Assessment and Methodology*.

SCAG's Regional Transportation Plan / Sustainable Communities Strategy

As required by SB 375, SCAG has adopted the RTP/SCS, which is the culmination of a multi-year effort involving stakeholders from across the SCAG region. The SCS is a newly required element of the RTP that provides a plan for meeting GHG emissions reduction targets set forth by CARB. SCAG's 2016-2040 RTP/SCS provides growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the SCAQMD. The RTP/SCS includes a strong commitment to reducing emissions from transportation sources and emphasizes the crucial linkages and interrelationships between the economy, the regional transportation system, and land use. Strategies for achieving goals of available, safe, sustainable, and affordable transportation include: 1) investing in bus, light rail, and heavy rail transit, passenger and high-speed rail, pedestrian and bicycle transportation corridors, infrastructure, and transportation demand management (e.g., carpooling to reduce demand for individual transport); 2) encouraging public participation in the planning processes; and 3) educating the public about available transportation methods available in the region. As discussed above, the CARB has determined SCAG's reduction target for per capita vehicular emissions to be 13 percent by 2035 relative to the 2005 baseline. In June 2016, CARB determined that SCAG's 2016-2040 RTP/SCS is consistent with their GHG reduction targets. Specifically, SCAG's plan is expected to help California meet and exceed its GHG reduction goals, with estimated reductions in per capita transportation emissions of 18 percent by 2035.

On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt the 2020-2045 RTP/SCS (Connect SoCal) (SCAG 2020). The 2020-2045 RTP/SCS includes more than 3 years of consultation with stakeholders and the public to capture the goals and objectives of the people within the region and capture the most current available data for determining future demographic projections. The intent of the plan is to build upon and expand land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. The Connect SoCal plan achieves per capita GHG emissions reductions relative to 2005 of 19 percent in 2035 (SCAG 2020).

Beach Cities Livability Plan

In 2011, the Hermosa Beach, Redondo Beach and Manhattan Beach City Councils adopted the Beach Cities Livability Plan. The Plan analyzes the built environment and provides a framework to improve livability and well-being through land use and transportation systems. The Plan consists of goals and recommendations for safe walking and biking conditions and sustainable transportation choices. Implementation of this Plan not only improves support for walking and biking, but also reduces congestion and improves air quality.

South Bay Bicycle Master Plan

The South Bay Bicycle Master Plan is intended to guide the development and maintenance of a comprehensive bicycle network and develop a set of programs and policies throughout the South Bay Region. The participating cities are El Segundo, Gardena, Hermosa Beach, Lawndale, Manhattan Beach, Redondo Beach, and Torrance. The multi-city bicycle master plan encourages the replacement of vehicular trips with bicycle trips, which has a measurable impact on reduced fuel consumption and subsequently fewer mobile source pollutants.

City of Redondo Beach Local Polices and Regulations

As a local jurisdiction, the City of Redondo is responsible for the assessment and mitigation of GHG emissions resulting from its land use decisions. The City of Redondo Beach is also responsible for the implementation of transportation control measures as outlined in the Air Quality Management Plan (AQMP). Examples of such measures include development of bus turnouts to reduce traffic congestion, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City of Redondo Beach must consider the air quality impacts of new development projects for which the City is the lead agency, and require mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitoring and enforcing mitigation.

Many other proposed policies, as set forth in Section 3.2, *Air Quality* and Section 3.14, *Transportation*, also have the practical effect of reducing GHG emissions by reducing criteria air pollutant emissions, VMT, and fossil fuel, water, and energy consumption.

Redondo Beach General Plan Transportation and Circulation Element

Goal G2: Reduce Year 2030 trip generation by 25 percent compared to 2007 levels.

Goal G4: Residents and visitors should be able to safety and conveniently walk, bike, or take transit in Redondo Beach, as they prefer.

Goal G5: Expand Transportation Demand Management (TDM) programs that decrease the number of single-occupant vehicles on the road.

Goal G6: Redondo Beach favors development that purposefully integrates itself with surrounding transportation facilities.

- Policy 1 Support transit-oriented development that reduces current automobile trips.
- Policy 4 Encourage mixed-use development that incentivizes residents to support nearby land uses by minimizing travel distance.

Goal G12: Encourage all employers to pursue successful TDM measures demonstrated in South California.

- Policy 17 Provide incentives for employer-based vanpools.
- Policy 20 Investigate the use of shared transportation vehicles.
- Policy 21 Work with adjacent cities to coordinate incentives for carpools, vanpools, and other measures for Redondo Beach residents.

Goal G13: Link existing and proposed bicycle facilities.

Goal G14: Increase the provision of bike lockers, bike racks, and lighting for bike facilities.

Goal G15: Ensure that residents will be able to walk or bicycle to destinations such as the beach, the Civic Center, Redondo Beach Pier, Riviera Village, and other activity centers.

- Policy 28 Close existing gaps in sidewalk infrastructure where necessary, maintain existing sidewalks in good repair, and require sidewalks with all new development.
- Policy P29 Provide climate-appropriate landscaping, adequate lighting, and street amenities to make walking safe, interesting, and enjoyable.
- Policy P30 Promote use of alternative transportation for short trips and conduct periodic bicycle and pedestrian counts to assess whether alternative mode use is increasing.

Goal G16: Provide reliable, safe fixed-route transit.

- Policy P37 Provide shuttle service to activity areas.

General Plan Housing Element

Goal 1.0: Maintain and enhance the existing viable housing stock and neighborhoods within Redondo Beach.

Policy 1.7 Promote the use of energy conservation techniques and features in the rehabilitation of existing housing.

Goal 2.0: Assist in the provision of housing that meets the needs of all economic segments of the community.

Policy 2.5 Promote the use of energy conservation features in the design of residential development to conserve natural resources and lower energy costs.

Redondo Beach Climate Action Plan

The City of Redondo Beach, in concert with the SSBCOG, prepared the Climate Action Plan, which was adopted in 2017. The Climate Action Plan includes a list of non-binding goals and strategies in the following five categories (SBCCOG 2017a):

- **Land Use and Transportation:** Facilitate pedestrian and neighborhood development and identify ways to reduce automobile emissions including supporting zero emission vehicle infrastructure, improving pedestrian and bicycle infrastructure, enhancing public transit service, and supporting reductions in single-occupancy vehicle use.
- **Energy Efficiency:** Emphasize energy efficiency retrofits for existing buildings, energy performance requirements for new construction, water efficient landscaping, financing programs that will allow home and business owners to obtain low-interest loans for implementing energy efficiency in their buildings.
- **Solid Waste:** Focus on increasing waste diversion and encouraging participation in recycling and composting throughout the community.
- **Urban Greening:** Create carbon sinks as they store GHG emissions that are otherwise emitted into the atmosphere as well as support health of the community.
- **Energy Generation:** Demonstrate the City's commitment to support the implementation of clean, renewable energy while decreasing dependence on traditional, GHG emitting power sources.

Redondo Beach Municipal Code

The Redondo Beach Municipal Code (RBMC) establishes green building standards, including water conservation measures.

Section 9-23.01 – Adoption of 2019 California Green Building Standards Code: The City adopted a Green Building Ordinance in 2008, with updates in 2019. This ordinance requires the use of highly efficient plumbing fixtures, irrigation, and landscaping for new construction, major remodels, and new or remolded landscapes.

City of Torrance Local Policies and Regulations

The Torrance General Plan includes various goals and policies designed to reduce GHG emissions within the City of Torrance (City of Torrance 2010). Climate change and GHG reduction policies are addressed in multiple chapters of the General Plan.

General Plan Circulation and Infrastructure Element

Objective CI.8: To maintain a comprehensive system of pedestrian pathways and bicycle routes that provide viable options to travel by automobile.

Policy CI.8.1 Provide and maintain safe, efficient, and convenient pedestrian pathways that offer access to major activity centers, recreation facilities, schools, community facilities, and transit stops.

Policy CI.8.5 Promote the provision of reasonable and secure bicycle storage and shower and locker facilities at major commercial developments and employment centers.

Policy CI.8.9 Promote the use of compact electric or similar powered vehicles for local trips.

Torrance General Plan Community Resource Element

Objective CR.13: To contribute to the improvement of local and regional ambient air quality to benefit the health of all.

Policy CR.13.2 Work with neighboring cities to implement local and regional projects that improve mobility on freeways and railways, reduce emissions, and improve air quality.

Policy CR.13.5 Support air quality and energy and resource conservation by encouraging alternative modes of transportation such as walking, bicycling, transit, and carpooling.

Policy CR.13.7 Encourage the use of alternative fuel vehicles and re-refined oil.

Policy CR.13.8 Promote energy-efficient building construction and operation practices that reduce emissions and improve air quality.

Objective CR.14: To reduce the City of Torrance's overall carbon footprint and counteract the effects of global warming through a reduction in the emissions of GHGs within Torrance.

Policy CR.14.1 Support the CARB in its ongoing plans to implement AB 32, and fully follow any new AB 32-related regulations.

Policy CR.14.2 Develop and implement GHG emissions reduction measures, including discrete, early-action GHG-reducing measures that are technologically feasible and cost-effective.

Policy CR.14.3 Pursue actions recommended in the U.S. Mayors Climate Protection Agreement to meet AB 32 requirements.

Policy CR.14.4 Act as a leader and example in sustainability and reduction in GHG emissions by conducting City business in the most GHG-sensitive way.

Objective CR.21: The efficient use and conservation of energy resources to reduce consumption of natural resources and fossil fuels.

Policy CR.21.1 Promote and encourage energy resource conservation by the public sector, private sector, and local school district.

Policy CR.21.3 Support the development and use of non-polluting, renewable energy resources.

Policy CR.21.6 Promote energy-efficient design features, including appropriate site orientation, use of light-colored roofing and building materials, and use of trees to reduce fuel consumption for heating and cooling.

Policy CR.21.7 Encourage owners to retrofit existing buildings with energy-conserving lighting fixtures. Also encourage owners to equip new buildings with energy-efficient lighting devices and to design projects to take full advantage of natural lighting.

Torrance Climate Action Plan

The City of Torrance, in coordination with SBCCOG, prepared the City of Torrance Climate Action Plan in order to reduce GHG emissions within Torrance (SBCCOG 2017b). The Torrance City Council adopted the City of Torrance Climate Action Plan on December 12, 2017. The City has established GHG reduction goals for year 2020 (15 percent below 2005 levels) and for year 2035 (49 percent below 2005 levels). The Climate Action Plan includes a list of non-binding goals and strategies in the following the same five general categories as the Redondo Beach Climate Action Plan described above (SBCCOG 2017b).

Torrance Municipal Code

Section 8.113 – California Green Building Code: Torrance Municipal Code (TMC) Chapter 8.113 adopts by reference the CALGreen requirements with the local amendments that require reuse or recycling of all trees, stumps, rocks and associated vegetation and soils removed from land clearing.

3.7.3 Impact Assessment and Methodology

Thresholds of Determining Significance

Due to the global effects of GHG emissions, impacts associated with GHG emissions are typically based on their cumulative effects. Appendix G of the 2020 CEQA Guidelines provides a set of screening questions that address impacts with regard to GHG emissions. Specifically, the CEQA Guidelines state that a proposed project may have a significant adverse impact related to GHG if:

a) The project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or

b) The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

According to the CAPCOA, *"GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective"* (CAPCOA 2008). Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, there is no basis for concluding that a single project's increase in annual GHG emissions would cause a measurable change in global GHG emissions necessary to influence global climate change. CEQA Guidelines Section 15064.4(b) states that *"in determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonable foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's*

incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions."

Generally, the evaluation of an impact under CEQA involves comparing the project's effects against a threshold of significance. The CEQA Guidelines clarify that "*when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.*" For GHG emissions and global climate change, there is not, at this time, one established quantitative threshold of significance for GHG impacts. Instead, lead agencies have the discretion to establish significance thresholds for their respective jurisdictions. A lead agency may look to thresholds developed by other public agencies or other expert entities, so long as the threshold chosen is supported by substantial evidence.

The CEQA Guidelines Section 15064.4(b) recommend considering certain factors when determining the significance of a project's GHG emissions, including: 1) the extent to which the project may increase or reduce GHG emissions as compared to the existing conditions; 2) whether the project's GHG emissions exceeds a significance threshold that the lead agency determines applies to the project; and 3) 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 GHGs.

Even in the absence of adopted, clearly defined thresholds for GHG emissions, CEQA requires that an agency makes a good faith effort to disclose the GHG emissions from a project and mitigate to the extent feasible whenever the lead agency determines that the project contributes to a cumulatively substantial climate change impact. Regardless of which threshold(s) are used, the agency must support its analysis and significance determination with substantial evidence (CEQA Guidelines Section 15064.7).

Although the GHG emissions associated with the proposed Project emissions have been quantified (see Table 3.7-4 through Table 3.7-6), neither CARB, SCAQMD, SCAG, the City of Redondo Beach, nor the City of Torrance have adopted a GHG significance threshold(s) applicable to the development of mixed-use infill projects Further, CEQA Guidelines Section 15183.5 allows lead agencies to choose to analyze GHG emissions of a project at a programmatic level, tiering from a plan for the reduction for GHG emissions or similar document, such as a Climate Action Plan. Plans used for tiering must include all of the plan elements identified in CEQA Guidelines Section 15183.5(b)(1). While the City of Redondo Beach and the City of Torrance completed their Climate Action Plans in 2017, neither of the Climate Action Plans qualify for tiering pursuant to CEQA Guidelines Section 15183.5 because the Climate Action Plans have not undergone CEQA review

per the tiering requirements from CEQA Guidelines Section 15183.5. Therefore, the analysis herein cannot rely on a qualitative tiering analysis with the local Climate Action Plans.

While no GHG significance threshold(s) have been adopted by the SCAQMD, the SCAQMD has been evaluating proposed GHG significance thresholds since April 2008. Most recently, in September 2010, the SCAQMD proposed a tiered efficiency target approach to evaluate potential GHG impacts from various uses. This tiered approach allowed for flexibility when analyzing GHG emissions based on project size, land use type, or other characteristics. The various tiers include: 1) potential CEQA exemptions for certain projects; 2) compliance with a qualified GHG reduction strategy; 3) comparison with separate screening level thresholds for industrial (10,000 MT CO_2e/year), commercial (1,400 MT CO_2e/year), residential (3,500 MT CO_2e/year), and mixed-use (3,000 MT CO_2e/year) projects or comparison against a single numerical screening threshold of 3,000 MT CO_2e/year for all non-industrial projects; 4) consistency with compliance options, including a performance-based reduction analysis (i.e., compare with a Business-As-Usual level), compliance with AB 32, and/or comparison with efficiency-based thresholds (i.e., quantitative thresholds that are based on a per capita efficiency metric; 4.8 MT CO_2e/service population/year for project level analysis and 6.6 MT CO_2e/service population/year for plan level analysis); and/or 5) implement off-site mitigation to reduce GHG emission impacts to a less-than-significant level. The Draft GHG guidance is included as part of the periodic updates to SCAQMD's Air Quality Handbook; however, the SCAQMD draft interim guidance was never officially adopted, and the proposed thresholds were not designed for versatile application to unique project types such as the proposed Project. These proposed targets have not been adopted by the SCAQMD or distributed for widespread public review and comment, and the working group tasked with developing the targets has not met since September 2010.

Additionally, the efficiency targets proposed under SCAQMD's proposed Tier 4 threshold are no longer applicable as they were specific to outdated AB 32 goals and do not consider the recently adopted 2030 GHG reduction targets contained in SB 32 and EO B-30-15. Instead, the 2017 Scoping Plan was recently approved by CARB on December 14, 2017, and sets the State on a course to reduce GHG emissions an additional 40 percent below 1990 levels by 2030 under SB 32 (CARB 2017). Under the 2017 Climate Scoping Plan, CARB recommends State-wide efficiency targets of no more than 6.0 MT CO_2e/service population/year by 2030 and no more than 2.0 MT CO_2e/service population/year by 2050; however, it is important to note that these efficiency targets are intended to apply to the sum of all sectors and are not appropriate for evaluating GHG emissions specific to the land use sector, such as the proposed Project.

To date, CARB, SCAQMD, SCAG, and the City of Redondo Beach and the City of Torrance have not adopted new efficiency targets established consistent with SB 32 for each sector for the 2030 and 2050 target years; however, various other organizations have published technical guidance evaluating potential 2030 efficiency metrics.

In addition to evaluation of a projects impacts against a quantifiable significant threshold, per to CEQA Guidelines Section 15064(h)(3), a project's contribution to a cumulatively considerable impact would not be substantial if the project would comply with an approved plan or mitigation program that provides specific requirements to avoid or substantially reduce the cumulative impact within the geographic area of the proposed Project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include *"[a] water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."* Thus, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of non-significance for GHG emissions if a project complies with programs and/or other regulatory schemes to reduce GHG emissions.

In light of this shifting regulatory environment and available threshold concepts recommended by expert agencies, the determination of whether the proposed Project would result in a cumulatively considerable contribution to the cumulative impacts of global climate change is based on the following:

- Whether the proposed Project would conflict with (and thereby be inconsistent with) the applicable regulatory plans and policies to reduce GHG emissions, which include the Redondo Beach General Plan and Climate Action Plan, the Torrance General Plan and Climate Action Plan; SCAG's 2020-2045 RTP/SCS (Connect SoCal); AB 32, SB 32, and SB 375; the OPR and Climate Action Team recommendations; and CARB's 2017 Scoping Plan Update.

Methodology

CEQA Guidelines Section 15064.4 gives lead agencies the discretion to determine whether to assess the significance of GHG emissions quantitatively or qualitatively. Under either approach, the lead agency's analysis must demonstrate a good faith effort to disclose the amount and significance of GHG emissions resulting from a project, based to the extent possible on scientific and factual data (CEQA Guidelines Section 15064.4[a]). BCHD has chosen to provide both a

quantitative and qualitative GHG analysis for full disclosure of potential impacts related to GHG emissions and global climate change.

Conflict with GHG Reduction Plans

The analysis of potential conflicts with an adopted GHG reduction plan reviews whether the proposed Project would be consistent with applicable GHG plans at the State, regional, and local levels. At the State level, the CARB's 2017 Scoping Plan Update provides strategies and recommendations for achieving the meet the State's 2020, 2030, and 2050 GHG reduction targets. Additionally, the 2017 Scoping Plan Update specifically addresses transportation-related GHG emissions, and provides technical information on what level of Statewide VMT reduction would promote achievement of Statewide GHG emissions reduction targets and the 2017 Scoping Plan Update. Further, the California CAT Report provides recommendations for specific emission reduction strategies for reducing GHG emissions and reaching the targets established in AB 32 and Executive Order S-3-05.

Locally, the City of Redondo Beach's and City of Torrance's GHG reduction goals are contained within the respective General Plans and Climate Action Plans. The intent of a Climate Action Plan is to provide overarching policy direction with respect to climate change through City-wide objectives and broad strategies to reduce GHG emissions. The Climate Action Plan is not a regulatory plan to be applied directly to individual development projects. Rather, the cities recognize that GHG reduction goals cannot be achieved by individual projects alone, but instead requires a comprehensive approach that would include the enactment of future plans, changes to existing ordinances, and an integrated and sustainable approach to land use/transportation planning. For this EIR, the analysis is focused on whether the proposed Project would support, and not hinder, the City-wide objectives and goals of the Redondo Beach and Torrance Climate Action Plans. Thus, if the proposed Project is consistent with these policies and regulations, it would result in a less than significant impact, because it would be consistent with the overarching local and State regulations on GHG reduction.

Net GHG Emissions Estimate

Total GHG emissions (i.e., construction and operation) associated with the proposed Project were quantified to provide information to decision makers and the public regarding the level of the annual GHG emissions associated with the proposed Project. GHG emissions are typically separated into three categories that reflect different aspects of ownership or control over emissions:

- **Scope 1:** Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).

- **Scope 2:** Indirect, off-site emissions associated with purchased electricity or purchased steam.
- **Scope 3:** Indirect emissions associated with other emissions sources, such as energy required to transport solid waste, water, and wastewater.

The proposed Project would result in net GHG operational emissions directly from on-road mobile vehicles, electricity, and natural gas, and indirectly from water conveyance, wastewater generation, and solid waste handling. In addition, construction activities such as demolition, hauling, and construction worker trips would generate GHG emissions. Since potential impacts resulting from GHG emissions are long-term rather than acute, GHG emissions are calculated on an annual basis.

GHG emissions associated with the construction and operation of the proposed Project were estimated using the CalEEMod Version 2016.3.2. CalEEMod is a State-wide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects (CAPCOA 2017). CalEEMod was developed in collaboration with the air districts of California and is recommended by SCAQMD. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts and SCAG to account for local requirements and conditions. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. CalEEMod output sheets and detailed calculations are provided in Appendix B.

The quantification of GHGs from any project involves many uncertainties. For example, newer construction materials and practices, future energy efficiency requirements, future mobile source emission standards, and advances in technology would likely reduce future levels of air pollutant emissions, including GHGs. However, the net effect is difficult to quantify due to the difficulty in predicting future standards and requirements. Since CalEEMod does not take these future energy-reducing practices, requirements, standards, and technology into account, the estimated net increase in emissions resulting from implementation of the proposed Project are conservative. These same uncertainties and assumptions exist throughout the accepted analytical methodologies for quantifying GHG emissions.

Construction GHG Emissions

For the purposes of this EIR, construction work is assumed to begin Spring 2022 and would take place over two implementation phases, of approximately 29 months and 28 months, respectively (refer to Section 2.5.1.6, *Construction Activities* and Section 2.5.2.4, *Construction Activities*). Construction equipment generates GHGs such as CO_2, CH_4, and N_2O through the combustion of fossil fuels. CH_4 may also be emitted during the fueling of heavy equipment.

The construction GHG emissions modeling considers the anticipated Project construction schedule and construction equipment mix. CalEEMod input values are adjusted to reflect these specific construction characteristics to estimate construction GHG emissions associated with the proposed Project. These values were applied to the same construction phasing assumptions used in the air quality criteria pollutant analysis (refer to Section 3.2, *Air Quality*) to generate annual GHG emissions for each construction year. Construction-related GHG emissions are then amortized over 30 years pursuant to current SCAQMD methodology. This means that the total construction emissions are divided by the lifetime of the project, which is generally assumed to be 30 years (SCAQMD 2008).

Operational GHG Emissions

Operation of the proposed Project would generate GHG emissions from on-site operations such as natural gas combustion for heating/cooking, landscaping equipment and the use of consumer products. GHG emissions would also be generated by vehicle trips associated with the proposed Project.

For operational emissions of GHG emissions, CalEEMod was used to estimate GHG emissions from natural gas, solid waste, water and wastewater, and landscaping equipment. Operational impacts were assessed for the full buildout under Phase 1 and Phase 2. CalEEMod was used to analyze operational GHG emissions from the operation of the proposed residential, medical office, community service, office, gym, restaurant, and open space land uses:

- **Vehicular Trips.** Vehicle trips generated as a result of the proposed Project would result in GHG emissions through combustion of fossil fuels. In calculating mobile-source GHG emissions, emissions are estimated based on the predicted number of trips to and from the Project site as determined in the Transportation Study (see Section 3.14, *Transportation* and Appendix K). Daily vehicle trips under existing baseline conditions and in 2024 and 2029 were multiplied by corresponding GHG emission factors produced by CARB's mobile source emissions model named EMissions FACtor (EMFAC2017; see Appendix

B). Trip lengths for areas within the SCAQMD are generated based on the SCAG's Transportation Demand Model (SCAQMD 2020).

- **On-site Use of Natural Gas and Other Fuels.** Natural gas would be used by the proposed Project for heating of the Assisted Living and Memory Care units and for the restaurant and dining uses, resulting in a direct release of GHGs. Estimated emissions from the combustion of natural gas and other fuels is based on the number of Assisted Living and Memory Care units and square footage of kitchen space. CH_4 and N_2O emissions were estimated using the total VMT as determined by CalEEMod and USEPA emissions factors for on-road vehicles.
- **Electricity Use.** Use of electricity for the operation of the proposed Project would contribute to the indirect emissions associated with electricity production. Estimated emissions from the consumption of electricity are based on the number of dwelling units in the RCFE Building and square footage of residential, medical office, community service, office, gym, and restaurant space, using the standard electrical consumption rates from CalEEMod. This estimate is conservative in that the proposed Project would generate a percentage of its own energy using photovoltaic solar panels that would cover between 25 and 50 percent of the proposed roof space (refer to Section 2.5.15, *Sustainability Features*).
- **Water Use and Wastewater Generation.** The amount of water used and wastewater generated by a project has indirect GHG emissions as a result of the energy used to supply, distribute, and treat water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both CH_4 and N_2O depending on the treatment method. Estimated emissions from the consumption of potable water were estimated as part of the CalEEMod modeling output. Estimated emissions from the generation of wastewater were based on the consumption factors using Wastewater Generation Factors from Exhibit M.2-22 of the Los Angeles CEQA Thresholds Guide (2006), consistent with the analysis of wastewater generation in Section 3.15, *Utilities and Service Systems*, multiplied by the number of dwelling units and the square footage of medical office, community service, office, gym, restaurant, and open space.
- **Solid Waste.** Emissions calculated for solid waste reflect the indirect GHG emissions associated with waste that is disposed at a landfill. GHG emissions from solid waste disposal are also calculated using CalEEMod. Emissions are based on solid waste calculated for the proposed Project and the GHG emission factors for solid waste decomposition. The GHG emission factors, particularly for CH_4, depend on characteristics of the landfill, such as the presence of a landfill gas capture system and subsequent flaring or energy recovery. The default values, as provided in CalEEMod, for landfill gas capture

(e.g., no capture, flaring, energy recovery) are State-wide averages and are used in this assessment.

Other area sources of GHG emissions from operation of the proposed Project include equipment used to maintain landscaping, such as lawnmowers and trimmers. CalEEMod default emission rates were used in calculating GHG emissions from these additional area sources.

Project Construction and Operational GHG Emissions

Total annual GHG emissions for construction and operation of the proposed Project were estimated using CalEEMod (see Table 3.7-4 and Table 3.7-5; see Appendix B). It should be noted that the GHG emissions shown in Table 3.7-4 are based on construction equipment operating continuously throughout the work day. In reality, construction equipment operates periodically or cyclically throughout the work day. Therefore, the GHG emissions shown reflect a conservative, worst-case estimate. A complete listing of construction equipment by phase, emission factors, and calculation parameters used in this analysis is included within the emissions calculation worksheets provided in Appendix B of this EIR.

Table 3.7-4. GHG Emissions from Construction of the Proposed Project

Year	GHG Emissions (MT CO_2e)
Phase 1	
2022	715
2023	861
2024	286
Phase 2	
2029	404
2030	2,317
2031	1,670
Total	**6,253**
Amortized over 30 years	**208.4 per year**

Notes: See Appendix B.

As shown in Table 3.7-4 above, construction activities associated the proposed Project would result in temporary generation of GHG emissions totaling 6,253 MT CO_2e. As previously described, SCAQMD recommends that construction-related GHG emissions be amortized over a project's 30-year lifetime, beginning with the construction of Phase 1, to include these emissions as part of a project's annualized lifetime total emissions. Construction-related GHG emissions are divided by year and total construction GHG emissions are amortized over an anticipated 30-year

lifetime period to provide an average annual estimate of 208.4 MT CO_2e/year. In accordance with SCAQMD methodology, the amortized estimated construction GHG emissions are included in the annualized operational GHG emissions in Table 3.7-5 and Table 3.7-6 below.

Table 3.7-5. Annual Operational GHG Emissions for Phase 1 of the Proposed Project

Annual Emissions by Category	GHG Emissions (MT CO_2e)
Area	4
Energy	541
Mobile	4,884
Waste	220
Water	126
Phase 1 Operational Total	**5,775**
Construction (amortized)	208.4
Total Annual GHG Emissions	**5,983.4**

Notes: Mobile emissions were calculated outside of CalEEMod, based on trip generation rates from the Transportation Study (see Appendix K). Total annual GHG emissions are the sum of amortized construction and Phase 1 annual operational emissions. See Appendix B.

As described in Table 3.7-5 above, operational GHG emissions generated as a result of Phase 1 would be approximately 5,775 MT CO_2e/year. Pursuant to current SCAQMD methodology, the amortized construction GHG emissions are included in the total Phase 1 operational emissions. Therefore, total annual GHG emissions (i.e., amortized construction and operational) during Phase 1 of the proposed Project would be 5,983.4 MT CO_2e.

Table 3.7-6. Combined Annual Operational GHG Emissions for the Proposed Project

Annual Emissions by Category	GHG Emissions (MT CO_2e)
Area	4
Energy	1,682
Mobile	10,292
Waste	745
Water	201
Phase 1 and Phase 2 Operational Total	**12,923**
Construction (amortized)	208.4
Total Annual GHG Emissions	**13,131.4**

Notes: Mobile emissions were calculated outside of CalEEMod, based on trip generation rates from the Transportation Study (see Appendix K). Amortized construction and operational emissions are cumulative - they reflect total GHG emissions on-site following the buildout of Phase 2. Total annual GHG emissions are the sum of amortized construction and annual operational emissions. See Appendix B.

Cumulative operational GHG emissions following buildout of the proposed Project (both the Phase 1 preliminary site development plan and the more general Phase 2 development program) would be approximately 12,923 MT CO_2e/year (refer to Table 3.7-6). Pursuant to current SCAQMD methodology, the combination of amortized construction GHG emissions with operational GHG emissions would result in a combined total of approximately 13,131.4 MT CO_2e/year.

Table 3.7-7. Net Annual Operational GHG Emissions for the Proposed Project

Annual Emissions	GHG Emissions (MT CO_2e)
Proposed Project Annual GHG Emissions (refer to Table 3.7-6)	13,131.4
Existing Project Site Annual GHG Emissions (refer to Table 3.7-3)	13,873
Net GHG Emissions (Existing – Proposed)	-741.6

Notes: Total annual GHG emissions are the sum of amortized construction and annual operational emissions. See Appendix B.

As described in Table 3.7-7 above, the net annual GHG emissions associated with the proposed Project were calculated by subtracting the existing annual GHG emissions associated with the Beach Cities Health Center and Beach Cities Advanced Imaging Building on-site (refer to Table 3.7-3) from the total GHG emissions associated with the proposed Project (refer to Table 3.7-6). When total annual GHG emissions from the proposed Project are compared to existing annual GHG emissions generated by the Project site, the net change in GHG emissions is a net reduction of approximately 741.6 MT CO_2e/year (refer to Table 3.7-7).

The net reduction in annual operational-related GHG emissions is primarily attributable to decreases in mobile source GHGs. As shown in Table 3.7-3, the majority of the annual GHG emissions generated by the BCHD campus result from mobile sources. Similarly, the majority of the GHG emissions associated with the proposed Project would also result from mobile sources (refer to Table 3.7-6). Although the proposed Project is anticipated to generate a net increase of approximately 376 daily vehicle trips (see Section 3.14, *Transportation*), mobile source emissions calculated for the buildout of the proposed Project would be reduced as compared to existing mobile source emissions at the Project site. This reduction in mobile source emissions is due to the fact that Federal and State combustion emissions standards become more stringent in future years. Emissions from mobile sources would decline in future years as older vehicles are replaced

with newer vehicles resulting in a greater percentage of the vehicle fleet meeting more stringent combustion emissions standards, such as the model year 2017-2025 Pavley Phase II standards.[1]

As previously described, no quantitative significance thresholds for GHG emissions have been adopted by CARB, SCAQMD, SCAG, or the City of Redondo Beach and the City of Torrance. Tier 4 of SCAQMD's outdated tiered approach addresses residential, commercial, or mixed-use projects with net new GHG emissions that generate more than 3,000 MT CO_2e/year, and considers whether a project generates GHG emissions in excess of applicable performance standards for the service population (i.e., population plus employment). Given that the buildout of the proposed Project would result in a net reduction in total annual GHG emissions as compared to existing conditions, the net GHG emissions associated with the proposed Project would be well below the SCAQMD's proposed 3,000 MT CO_2e per year target. As described above, the impact analysis below is based on consistency of the proposed Project with current State-wide and local policies, plans, and programs rather than outdated proposed thresholds.

It should also be noted that the operational emissions presented in Table 3.7-5 and Table 3.7-6 provide a conservative estimate of the actual GHG emissions, considering CalEEMod does not account for some of the sustainability and energy efficiency measures included as part of the proposed Project (e.g., photovoltaic solar panels, energy efficient HVAC systems, high-performance building envelope usage to maximize insulation, lighting systems designed with occupancy sensors and dimmers to minimize energy use, etc.).

3.7.4 Project Impacts and Mitigation Measures

Impact Description (GHG-1)

a) The project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or

[1] In 2012, the USEPA adopted Federal standards for model year 2017 through 2025 vehicles to promotes a new generation of cleaner, more fuel-efficient trucks by encouraging the development and deployment of new and advanced cost-effective technologies. These standards are slightly different from the California emissions standards (referred to as the Pavley Phase II standards), which require additional reductions in CO_2 emissions beyond model year 2016, but the State of California agreed not to contest these standards, due to the fact that while the national standard would achieve slightly less reductions in California, it would achieve greater reductions nationally, and is stringent enough to meet state GHG emission reduction goals. In 2012, CARB adopted regulations that allow manufacturers to comply with the 2017 through 2025 national standards to meet State law.

b) The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

GHG-1 The proposed Project – including the Phase 1 preliminary site development plan as well as the more general Phase 2 development program – would not generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Therefore, this impact would be *less than significant.*

As shown in Table 3.7-6 and 3.7-7, the proposed Project would result in a net reduction in total annual GHG emissions when compared to existing annual GHG emissions generated at the Project site. As such, the proposed Project would not generate GHG emissions that may have a significant impact on the environment.

As described in detail below, the proposed Project complies with Connect SoCal, the Redondo Beach and Torrance General Plans and Climate Action Plans, the RBMC, the TMC, AB 32, and SB 32, and thus would ensure that the GHG emissions associated with the proposed Project would conform with State and local requirements (see Tables 3.7-8 through 3.7-10).

Project Consistency with City of Redondo Beach Policies and Regulations

The proposed Project has been designed to be consistent with the City of Redondo Beach's local policies and regulations, and includes several design measures intended to reduce overall GHG emissions (see Table 3.7-8). The proposed Project requires approval of a Building Plan and Landscape and Irrigation Plan, as well as building, grading, shoring, plumbing, electrical, and mechanical permits from the City of Redondo Beach (refer to Section 1.5, *Required Approvals*), which will require that the proposed Project meets the City's guidelines for transportation and sustainable design. The proposed Project also includes sustainable design features and characteristics, such as a photovoltaic solar panels, solar hot water systems, and energy efficient HVAC systems, intended to reduce overall GHG impacts (refer to Section 2.5.1.5, *Sustainability Features*). As required by RBMC, all new buildings on the site would conform to the California Title 24 Building Energy Efficiency Standards (Part 6) CALGreen (Part 11). The design of the proposed Project would optimize passive design strategies, which use ambient energy sources (e.g., daylight and wind) to supplement electricity and natural gas to increase the energy efficiency.

Further, the proposed Project would minimize employee, visitor, and resident VMT to and from the Project site by implementing a TDM plan with trip reduction strategies to reduce single-occupancy vehicle trips to the Project site. The TDM plan would include transit and carpool incentives for employees (see Section 3.14, *Transportation*). The proposed Project would also include sustainable transportation infrastructure, such as bicycle parking; employee shower and locker facilities; electric vehicle (EV) charging stations; designated parking for carpools and vanpools; and ride-share amenities to provide options to reduce internal-combustion vehicle usage for residents and visitors. BCHD would provide incentives to employees and visitors for hybrid and/or electric car parking and provide a bicycle sharing program for access to the adjacent bicycle paths and local surroundings. Additionally, the Assisted Living, Memory Care, and Program of All-Inclusive Care for the Elderly (PACE) services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus (refer to Section 2.5.1.5, *Sustainability Features*).

The proposed Project would be consistent with the City of Redondo Beach's GHG reduction goals and policies established in the Redondo Beach General Plan Transportation and Circulation Element, General Plan Housing Element, and Climate Action Plan (see **Error! Reference source not found.**8). Therefore, the proposed Project would be consistent with applicable Redondo Beach plans, policies, and regulations related to GHG emissions and impacts would be *less than significant*.

Table 3.7-8. City of Redondo Beach General Plan and Climate Action Plan Policy Consistency Summary

Policy	Relationship to Project
Redondo Beach General Plan Transportation and Circulation Element	
G2. Reduce Year 2030 trip generation by 25 percent compared to 2007 levels.	**Consistent.** As described in Section 2.5.1.5, *Sustainability Features* and Section 3.14, *Transportation*, the proposed Project would develop a TDM plan that would include trip reduction strategies to reduce single-occupancy vehicle trips to the Project site and measures to encourage employees and visitors to travel to the campus via multi-modal or active transportation (e.g., walking or biking). For example, the proposed Project would develop employment opportunities within 0.1 miles of several Beach Cities Transit Line 102 bus stops located at the Project site and within the immediate vicinity. The proposed Project would provide bicycle parking, employee shower and locker facilities, and a bicycle program sharing program for access to the adjacent bicycle paths and local surroundings. The proposed Project would promote walkability by providing several publicly accessible, tree-lined pedestrian pathways that would cross the Project site and would provide connections to adjacent residential neighborhoods, neighborhood-serving commercial uses, and recreational uses (e.g., Dominguez Park). Additionally, the proposed Project would encourage ride-share by providing designated parking for carpools and vanpools; and ride-share amenities, such as seating areas for ride-share waiting and a large roundabout for drop-off and pick-up for ride-share services (e.g., Uber, Lyft, etc.). The TDM plan would include carpool incentives for employees. The Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus. The TDM plan and project design features would help to decrease the number of single-occupant vehicle trips to and from the Project site (see Section 3.14, *Transportation*).
G4. Residents and visitors should be able to safety and conveniently walk, bike, or take transit in Redondo Beach, as they prefer.	
G5. Expand TDM programs that decrease the number of single-occupant vehicles on the road.	
G6. Redondo Beach favors development that purposefully integrates itself with surrounding transportation facilities.	**Consistent.** The proposed Project would develop additional employment opportunities within 0.1 miles of several Beach Cities Transit Line 102 bus stops located at the Project site and immediate vicinity. The proposed Project would promote walkability by providing several publicly accessible, tree-lined pedestrian pathways that would cross the Project site and would provide connections to adjacent residential neighborhoods, neighborhood-serving commercial uses, and recreational uses (e.g., Dominguez Park). Additionally, the proposed Project would include bicycle facilities, such as bicycle parking, employee shower and locker facilities, and a bicycle program sharing program for access to the adjacent bicycle paths and local surroundings.
P1. Support transit-oriented development that reduces current automobile trips.	
P4. Encourage mixed-use development that incentivizes residents to support nearby land uses by minimizing travel distance.	**Consistent.** The proposed Project would establish residential, medical office, community service, office, gym, restaurant, and open space uses adjacent to single- and multi-family residences. The proposed Project would also provide community-serving activities and events, such as local farmers' markets, and fitness classes, that would be available to adjacent residents. The Project site is also located immediately adjacent to existing recreational amenities (e.g., Dominguez Park) and commercial uses (i.e., Redondo Village shopping center).
G12. Encourage all employers to pursue successful TDM measures demonstrated in South California.	**Consistent.** The proposed Project would include designated parking for carpools and vanpools; and ride-share amenities, such as seating areas for ride-share waiting and a large roundabout for drop-off and pick-up for ride-share services (e.g., Uber, Lyft, etc.). The TDM plan would include carpool incentives for employees. The proposed

Table 3.7-8. City of Redondo Beach General Plan and Climate Action Plan Policy Consistency Summary (Continued)

Policy	Relationship to Project
P17. Provide incentives for employer-based vanpools.	Project would also provide a bicycle sharing program for access to the adjacent bicycle paths and local surroundings. Additionally, the Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus (see Section 3.14, *Transportation*).
P20. Investigate the use of shared transportation vehicles.	
P21. Work with adjacent cities to coordinate incentives for carpools, vanpools, and other measures for Redondo Beach residents.	
G13. Link existing and proposed bicycle facilities.	**Consistent.** The Project site is located adjacent to existing Class II (i.e., striped) bicycle lanes along Diamond Street and Beryl Street east of Flagler Lane. Though not designated, Flagler Alley is also often used as an informal bicycle path. The proposed Project would include on-site bicycle facilities, such as bicycle parking and employee showers and lockers, to encourage active transportation to and from the Project site.
G14. Increase the provision of bike lockers, bike racks, and lighting for bike facilities.	
G15. Ensure that residents will be able to walk or bicycle to destinations such as the beach, the Civic Center, Redondo Beach Pier, Riviera Village, and other activity centers.	**Consistent.** The proposed Project would implement a program to encourage visitors to travel to the campus via multi-modal or active transportation (e.g., walking or biking). The proposed Project would include bicycle parking, employee shower and locker facilities, and a bicycle sharing program for access to the adjacent bicycle paths and local surroundings. The proposed Project would also promote active transportation by providing publicly accessible, pedestrian linkages through the Project site as well as on-site bicycle facilities, which would assist in reducing vehicle trips and VMT. For example, the proposed Project would include 114,830 sf of ground-level open space traversed with tree-lined pedestrian pathways which would provide on-site connectivity with the existing sidewalks adjacent to the Project site on North Prospect Avenue, Beryl Street, Flagler Lane and Flagler Alley, and Diamond Street. Given the Project site's location adjacent to existing Class II (i.e., striped) bicycle lanes along Diamond Street and Beryl Street, as well as Flagler Alley, which is often used as an informal bicycle path, the proposed on-site bicycle facilities (e.g., bicycle parking, employee showers and lockers, etc.) would encourage active transportation to and from the Project site.
P28. Close existing gaps in sidewalk infrastructure where necessary, maintain existing sidewalks in good repair, and require sidewalks with all new development.	**Consistent.** The proposed Project would include 114,830 sf of ground-level open space traversed with publicly accessible pedestrian pathways which would provide on-site connectivity with the existing sidewalks adjacent to the Project site on North Prospect Avenue, Beryl Street, Flagler Lane and Flagler Alley, and Diamond Street.
P29. Provide climate-appropriate landscaping, adequate lighting, and street amenities to make walking safe, interesting, and enjoyable.	**Consistent.** Plant species selection in the conceptual Landscape Plan – including drought-resistant grasses, shrubs, indigenous ground cover, and native shade trees – were based on their drought resistance and ability to withstand local conditions such as temperature and shade. The Project site would include 114,830 sf of ground-level open

Table 3.7-8. City of Redondo Beach General Plan and Climate Action Plan Policy Consistency Summary (Continued)

Policy	Relationship to Project
	space traversed with publicly accessible, tree-lined pedestrian pathways. Open space areas would include an entry plaza featuring directional signage, public art, shaded seating areas, and security lighting.
P30. Promote use of alternative transportation for short trips and conduct periodic bicycle and pedestrian counts to assess whether alternative mode use is increasing.	**Consistent.** The Project site is located adjacent to several stops along the Beach Cities Transit Line 102. The proposed Project would include designated parking for carpools and vanpools; and ride-share amenities, such as seating areas for ride-share waiting and a drop-off and pick-up zone for ride-share services (e.g., Uber, Lyft, etc.). The TDM plan would include carpool incentives for employees. The proposed Project would also provide a bicycle sharing program for access to the adjacent bicycle paths and local surroundings. Additionally, the Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus (see Section 3.14, *Transportation*).
G16. Provide reliable, safe fixed-route transit.	
P37. Provide shuttle service to activity areas.	
Redondo Beach General Plan Housing Element	
P1.7. Promote the use of energy conservation techniques and features in the rehabilitation of existing housing.	**Consistent.** The proposed Project would provide photovoltaic solar panels on campus to reduce the energy demand associated with the proposed Project. The design of the proposed Project would also optimize passive design strategies, which use ambient energy sources (e.g., daylight, wind, etc.) to supplement electricity and natural gas to increase the energy efficiency. The proposed Project would also incorporate several sustainable design features to reduce the power demand associated with the proposed Project, including installation of energy efficient HVAC systems, operable windows to increase air flow, high-performance building envelope to maximize insulation, lighting systems with occupancy sensors and dimmers, and water-efficient equipment and plumbing infrastructure.
P2.5. Promote the use of energy conservation features in the design of residential development to conserve natural resources and lower energy costs.	
Redondo Beach Climate Action Plan	
LUT A1.1. Offer free parking to EVs.	**Consistent.** The proposed Project would include designated free parking for EVs with EV charging stations.
LUT B1.1. Facilitate bike-sharing.	**Consistent.** The proposed Project would include designated parking for carpools and vanpools; and ride-share amenities, such as seating areas for ride-share waiting and a large roundabout for drop-off and pick-up for ride-share services (e.g., Uber, Lyft, etc.). The TDM plan would include carpool incentives for employees. The proposed Project would also provide a bicycle sharing program for access to the adjacent bicycle paths and local surroundings. Additionally, the Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus (see Section 3.14, *Transportation*).
LUT B1.2. Facilitate car-sharing.	
LUT B1.3. Facilitate ride-hailing and ride-sharing.	
LUT C2.10. Explore programs to offer discounted transit passes.	**Consistent.** The proposed Project would develop 157 new Assisted Living units, 60 replacement Memory Care units, and community service uses conveniently located adjacent to several stops along the Beach Cities Transit Line 102. The

Table 3.7-8. City of Redondo Beach General Plan and Climate Action Plan Policy Consistency Summary (Continued)

Policy	Relationship to Project
LUT C2.11. Fund transit services for the elderly and handicapped.	proposed Project would implement a TDM plan that would include transit and carpool incentives for employees. Additionally, the Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus (see Section 3.14, *Transportation*).
LUT D2.3. Require new developments to provide pedestrian, bicycle, and transit amenities.	**Consistent.** The proposed Project would implement a program to encourage visitors to travel to the campus via multi-modal and active transportation (e.g., walking or biking). The proposed Project would include 114,830 sf of ground-level open space traversed with publicly accessible, pedestrian pathways which would provide on-site connectivity with the existing sidewalks adjacent to the Project site on North Prospect Avenue, Beryl Street, Flagler Lane and Flagler Alley, and Diamond Street. The proposed Project would also include bicycle parking, employee shower and locker facilities, and ride-share amenities for residents and visitors. The proposed Project would also implement a TDM plan with transit and carpool incentives for employees. Given the Project site's location adjacent to existing Class II (i.e., striped) bicycle lanes along Diamond Street and Beryl Street, as well as Flagler Alley, which is often used as an informal bicycle path, the proposed on-site bicycle facilities (e.g., bicycle parking, employee showers and lockers, etc.) would encourage active transportation to and from the Project site.
LUT D2.4. Amend zoning ordinance to require shower facilities and dressing areas for new developments.	**Consistent.** The proposed Project would include employee shower and locker facilities and bicycle parking.
LUT D2.5. Require commercial and multi-family residential projects to provide permanent bicycle parking facilities.	
LUT D2.13. Construct or improve pedestrian infrastructure around transit.	**Consistent.** The Project site is located adjacent to several stops along the Beach Cities Transit Line 102. The proposed Project would promote multi-modal and active transportation (e.g., walking or biking) by providing pedestrian linkages through the site and bicycle facilities on-site. For example, the proposed Project would include 114,830 sf of ground-level open space traversed with publicly accessible, pedestrian pathways which would provide on-site connectivity with the existing sidewalks adjacent to the Project site on North Prospect Avenue, Beryl Street, Flagler Lane and Flagler Alley, and Diamond Street. Pedestrian-only open space on the ground level of the proposed Project would enhance active transportation usage in the Project vicinity. Given the Project site's location adjacent to existing Class II (i.e., striped) bicycle lanes along Diamond Street and Beryl Street, as well as Flagler Alley, which is often used as an informal bicycle path, the proposed on-site bicycle facilities (e.g., bicycle parking, employee showers and lockers, etc.) would encourage active transportation in the vicinity of transit.
LUT F2.4. Encourage employers to provide vanpools or shuttles from major stations.	**Consistent.** The proposed Project would implement a TDM plan that would include transit and carpool incentives for employees. Additionally, the Assisted Living, Memory Care, and PACE services would also share and use vans

Table 3.7-8. City of Redondo Beach General Plan and Climate Action Plan Policy Consistency Summary (Continued)

Policy	Relationship to Project
	to transport several participants at once, which would reduce vehicle trips to the BCHD campus (see Section 3.14, *Transportation*).
LUT G1.3. Increase housing density near transit.	**Consistent.** The proposed Project would develop 157 new Assisted Living units, 60 replacement Memory Care units, and community services uses located adjacent to several stops along the Beach Cities Transit Line 102. The proposed Project would implement a TDM plan that would include transit and carpool incentives for employees. Additionally, the Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus (see Section 3.14, *Transportation*).
LUT G2.4 Encourage mixed-use and infill development projects in key in-fill areas.	
LUT G2.7. Encourage new mixed-use development near transit.	
EE E2.1. Allow recycled or grey water for non-municipal uses.	**Consistent.** As described in Section 3.15, *Utilities and Service Systems*, the proposed Project may use recycled water from the West Basin Municipal Water District's (WBMWD's) Edward C. Little (ECL) Water Recycling Facility for operational landscaping irrigation.
UG A1.1. Establish/maintain a community garden – Investigate creating a new or maintain a current community garden.	**Consistent.** The proposed Project would upgrade BCHD's existing Demonstration Garden with demonstration vegetable garden plots, an orchard with citrus and other fruit trees, and a garden shed. The proposed Demonstration Garden would allow BCHD to continue its existing LiveWell Kids program, which delivers lessons in the gardens of all of the elementary schools within Redondo Beach as well as Hermosa View Elementary School. Students participate in hands-on gardening lessons about planting, composting, harvesting and mindful eating. The proposed Blue Zone Demonstration Kitchen would use produce grown in the proposed Demonstration Garden on campus. Further, the proposed Project would include a tree-lined promenade (also referred to as Main Street), which could support outdoor farmers' markets.
UG A1.2. Promote gardening and composting – Provide resources and information regarding community gardens and composting to educate the public on how to grow organic edible plants.	
UG A2.1. Establish a local farmers' market – Work with local organizations to establish farmers' markets in the community.	
EGS A2.2. Encourage and support on-site installation and use of renewable and alternative energy generation systems for residential, commercial, institutional, and industrial uses.	**Consistent.** The proposed Project would provide photovoltaic solar panels on campus to reduce the energy demand associated with the proposed Project. The design of the proposed Project would also optimize passive design strategies, which use ambient energy sources (e.g., daylight and wind) to supplement electricity and natural gas to increase the energy efficiency.

Project Consistency with City of Torrance Local Policies and Regulations

The proposed Project would support the City of Torrance's GHG reduction goals and policies established in the Torrance General Plan Circulation and Infrastructure Element, General Plan Community Resource Element, and Climate Action Plan (see Table 3.7-9). Development of the proposed Project would be consistent the goals of General Plan and Climate Action Plan, which call for integration of land use and transportation to reduce GHGs by focusing new development near transit to create sustainable, active pedestrian-friendly development that decreases reliance on automobiles and increases walking, bicycling, and transit use. The proposed Project is a mixed-use infill development, which is located adjacent to existing neighborhood-serving commercial development, recreational uses (e.g., Entradero Park), multi-modal transit, and existing bicycle and pedestrian facilities. Directing growth to existing urbanized areas is an important strategy to reduce GHG emissions, largely due to reduced building energy and automobile use. These measures would ensure that the contribution of GHGs associated with the proposed Project would be reduced. The required sustainable features would also ensure that the proposed Project is consistent with local policies (see Table 3.7-9). Therefore, the proposed Project would be consistent with applicable City of Torrance plans, policies, and regulations, and impacts would be *less than significant*.

Table 3.7-9. City of Torrance General Plan and Climate Action Plan Policy Consistency Summary

Policy	Relationship to Project
Torrance General Plan Circulation and Infrastructure Element	
Policy CI.8.1. Provide and maintain safe, efficient, and convenient pedestrian pathways that offer access to major activity centers, recreation facilities, schools, community facilities, and transit stops.	**Consistent.** The proposed Project would promote walkability by providing several publicly accessible, tree-lined pedestrian linkages through the Project site and due to its location adjacent to multi- and single-family residences, neighborhood-serving commercial development, and recreational uses. For example, the proposed Project would include 114,830 sf of ground-level open space traversed with pedestrian pathways which would provide on-site connectivity with the existing sidewalks adjacent to the Project site on North Prospect Avenue, Beryl Street, Flagler Lane and Flagler Alley, and Diamond Street. Pedestrian-only open space on the ground level of the proposed Project would enhance active transportation vicinity of the Project site.
Policy CI.8.5. Promote the provision of reasonable and secure bicycle storage and shower and locker facilities at major commercial developments and employment centers.	**Consistent.** The proposed Project would include on-site bicycle facilities, such as secure bicycle parking and employee showers and lockers.
Policy CI.8.9. Promote the use of compact electric or similar powered vehicles for local trips.	**Consistent.** The proposed Project would include designated free parking for EVs with EV charging stations.
Torrance General Plan Community Resource Element	
Policy CR.13.2. Work with neighboring cities to implement local and regional projects that improve mobility on freeways and railways, reduce emissions, and improve air quality.	**Consistent.** The proposed Project would include bicycle parking, employee shower and locker facilities, and ride-share amenities for residents and visitors. The proposed Project would also implement a TDM plan with transit and carpool incentives for employees. The proposed Project would also implement a program to encourage visitors to travel to the campus via multi-modal and active transportation (e.g., walking or biking). BCHD would provide a bicycle sharing program for access to the adjacent bicycle paths and local surroundings (see Section 3.14, *Transportation*). The proposed Project would also promote multi-modal and active transportation by providing publicly accessible pedestrian linkages through the Project site and bicycle facilities on-site, which would assist in reducing vehicle trips and VMT. For example, the proposed Project would include 114,830 sf of ground-level open space traversed with pedestrian pathways which would provide on-site connectivity with the existing sidewalks adjacent to the Project site on North Prospect Avenue, Beryl Street, Flagler Lane and Flagler Alley, and Diamond Street. Pedestrian-only open space on the ground level of the proposed Project would enhance active transportation usage in the Project vicinity. Given the Project site's location adjacent to existing Class II (i.e., striped) bicycle lanes along Diamond Street and Beryl Street, as well as Flagler Alley, which is often used as an informal bicycle path, the proposed on-site bicycle facilities (e.g., bicycle parking, employee showers and lockers, etc.) would encourage active transportation to and from the Project site.
Policy CR.13.5. Support air quality and energy and resource conservation by encouraging alternative modes of transportation such as walking, bicycling, transit, and carpooling.	

Table 3.7-9. City of Torrance General Plan and Climate Action Plan Policy Consistency Summary (Continued)

Policy	Relationship to Project
Policy CR.13.7. Encourage the use of alternative fuel vehicles and re-refined oil.	**Consistent.** The proposed Project would include designated free parking for EVs with EV charging stations.
Policy CR.13.8. Promote energy-efficient building construction and operation practices that reduce emissions and improve air quality.	**Consistent.** The proposed Project would implement several design features and programs to increase energy efficiency, reduce energy demand, and reduce GHG emissions from vehicle trips to the Project site. As required by TMC, all new buildings on the site would conform to the California Title 24 Building Energy Efficiency Standards (Part 6) CALGreen (Part 11). The design of the proposed Project would optimize passive design strategies, which use ambient energy sources (e.g., daylight and wind) to supplement electricity and natural gas to increase the energy efficiency. The proposed Project would incorporate photovoltaic solar panels; energy efficient HVAC systems; operable windows; high-performance building envelope usage to maximize insulation; lighting systems designed with occupancy sensors and dimmers to minimize energy use; and water efficient equipment and plumbing infrastructure (e.g., sinks, toilets, etc.). The proposed Project would also implement a TDM program with trip reduction strategies to reduce single-occupancy vehicle trips to the Project site (see Section 3.14, *Transportation*).
Policy CR.14.1. Support the CARB in its ongoing plans to implement AB 32, and fully follow any new AB 32-related regulations.	
Policy CR.14.2. Develop and implement GHG emissions reduction measures, including discrete, early-action GHG-reducing measures that are technologically feasible and cost-effective.	
Policy CR.14.3. Pursue actions recommended in the U.S. Mayors Climate Protection Agreement to meet AB 32 requirements.	
Policy CR.14.4. Act as a leader and example in sustainability and reduction in GHG emissions by conducting City business in the most GHG-sensitive way.	
Policy CR.15.3. Maximize the use of local water resources to reduce imported water supplies.	**Consistent.** As described in Section 3.15, *Utilities and Service Systems*, the proposed Project may use recycled water from the WBMWD's ECL Water Recycling Facility for operational landscaping irrigation. The proposed landscaping plan would also incorporate drought-resistant vegetation and water efficient equipment and plumbing infrastructure (e.g., sinks, toilets, etc.) to reduce the water demand associated with the proposed Project.
Policy CR.15.4. Encourage residents and businesses in Torrance to practice water conservation through incentive programs and where necessary, programs that penalize wasteful practices.	
Policy CR.15.6. Reduce the amount of water used for landscaping through such practices as the planting of native and drought-tolerant plants, use of efficient irrigation systems, and collection and recycling of runoff.	
Policy CR.15.8. Expand the use of recycled water at schools, parks, at City facilities, and other potential irrigation or industrial use sites.	

Table 3.7-9. City of Torrance General Plan and Climate Action Plan Policy Consistency Summary (Continued)

Policy	Relationship to Project
Policy CR.15.9. Identify opportunities for increased use of reclaimed water.	
Policy CR.21.1. Promote and encourage energy resource conservation by the public sector, private sector, and local school district.	**Consistent.** The proposed Project would provide photovoltaic solar panels on the campus to reduce the energy demand associated with the proposed Project. The proposed design would also optimize passive design strategies, which use ambient energy sources (e.g., daylight, wind) to supplement electricity and natural gas to increase the energy efficiency. The proposed Project would also incorporate several sustainable design features to reduce the power demand associated with the proposed Project, including installation of energy efficient HVAC systems, operable windows to increase air flow, high-performance building envelope to maximize insulation, lighting systems with occupancy sensors and dimmers, and water-efficient equipment and plumbing infrastructure (refer to Section 2.8, *Sustainability Features*).
Policy CR.21.3. Support the development and use of non-polluting, renewable energy resources.	
Policy CR.21.6. Promote energy-efficient design features, including appropriate site orientation, use of light-colored roofing and building materials, and use of trees to reduce fuel consumption for heating and cooling.	**Consistent.** The design of the proposed project would optimize passive design strategies, which use ambient energy sources (e.g., daylight, wind) to supplement electricity and natural gas to increase the energy efficiency. The western and eastern border of the BCHD campus would be lined with intermittent large shade canopy trees and smaller shade trees. The campus's northern border would be lined with shade and flowering ornamental trees. Larger trees would also be planted within and adjacent to the proposed parking lots, open space, building footprints to provide shade.
Torrance Climate Action Plan	
LUT B1.1. Facilitate Bike-sharing.	**Consistent.** The proposed Project would include designated parking for carpools and vanpools; and ride-share amenities, such as seating areas for ride-share waiting and a large roundabout for drop-off and pick-up for ride-share services (e.g., Uber, Lyft, etc.). The TDM plan would include carpool incentives for employees. The proposed Project would also provide a bicycle sharing program for access to the adjacent bicycle paths and local surroundings. Additionally, the Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus (see Section 3.14, *Transportation*).
LUT B1.2. Facilitate Ride-hailing and Ride-sharing.	
LUT C2.10. Explore programs to offer discounted transit passes.	
LUT C2.11. Fund transit services for the elderly and handicap.	**Consistent.** The proposed Project would develop 157 new Assisted Living units, 60 replacement Memory Care units, and community service uses conveniently located adjacent to several stops along the Beach Cities Transit Line 102. The proposed Project would implement a TDM plan that would include transit and carpool incentives for employees. Additionally, the Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus (see Section 3.14, *Transportation*).

Table 3.7-9. City of Torrance General Plan and Climate Action Plan Policy Consistency Summary (Continued)

Policy	Relationship to Project
LUT D2.3. Require new developments to provide pedestrian, bicycle, and transit amenities.	**Consistent.** The proposed Project would include bicycle parking, employee shower and locker facilities, and ride-share amenities for residents and visitors. The proposed Project would also implement a TDM plan with transit and carpool incentives for employees. BCHD would provide a bicycle sharing program for access to the adjacent bicycle paths and local surroundings (see Section 3.14, *Transportation*). The proposed Project would also promote multi-modal and active transportation by providing pedestrian linkages through the site and bicycle facilities on-site, which would assist in reducing vehicle trips and VMT. For example, the proposed Project would include 114,830 sf of ground-level open space traversed with publicly accessible, pedestrian pathways which would provide on-site connectivity with the existing sidewalks adjacent to the Project site on North Prospect Avenue, Beryl Street, Flagler Lane and Flagler Alley, and Diamond Street. Pedestrian-only open space on the ground level of the proposed Project would enhance active transportation usage in the Project vicinity. Given the Project site's location adjacent to existing Class II (i.e., striped) bicycle lanes along Diamond Street and Beryl Street, as well as Flagler Alley, which is often used as an informal bicycle path, the proposed on-site bicycle facilities (e.g., bicycle parking, employee showers and lockers, etc.) would encourage active transportation to and from the Project site.
LUT D2.4. Require commercial and multi-family residential projects to provide permanent bicycle parking facilities.	**Consistent.** The proposed Project would include bicycle parking, employee shower and locker facilities, and a bicycle sharing program for access to the adjacent bicycle paths and local surroundings.
LUT D2.5. Provide short and long-term bicycle parking near key areas.	
LUT D2.11. Construct or improve pedestrian infrastructure around transit.	**Consistent.** The Project site is located adjacent to several stops along the Beach Cities Transit Line 102. The proposed Project would promote multi-modal and active transportation by providing pedestrian linkages through the site and bicycle facilities on-site. For example, the proposed Project would include 114,830 sf of ground-level open space traversed with publicly accessible pedestrian pathways which would provide on-site connectivity with the existing sidewalks adjacent to the Project site on North Prospect Avenue, Beryl Street, Flagler Lane and Flagler Alley, and Diamond Street. Given the location of the Project site adjacent to existing Class II (i.e., striped) bicycle lanes along Diamond Street and Beryl Street, as well as Flagler Alley, which is often used as an informal bicycle path, the proposed on-site bicycle facilities (e.g., bicycle parking, employee showers and lockers, etc.) would encourage active transportation in the vicinity of transit.
LUT F1.4. Encourage mixed-use and infill development projects in key in-fill areas.	**Consistent.** The proposed Project would develop 157 new Assisted Living units, 60 replacement Memory Care units, and community service uses located adjacent to several stops along the Beach

Table 3.7-9. City of Torrance General Plan and Climate Action Plan Policy Consistency Summary (Continued)

Policy	Relationship to Project
LUT F1.6. Encourage new mixed-use development near transit.	Cities Transit Line 102. The proposed Project would implement a TDM plan that would include transit and carpool incentives for employees. Additionally, the Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at once, which would reduce vehicle trips to the BCHD campus (see Section 3.14, *Transportation*).
UG A1.1. Establish/maintain a community garden – Create a new or maintain a current community garden.	**Consistent.** The proposed Project would upgrade BCHD's existing Demonstration Garden with demonstration vegetable garden plots, an orchard with citrus and other fruit trees, and a garden shed. The proposed Demonstration Garden would allow BCHD to continue its existing LiveWell Kids program, which delivers lessons in the gardens of all of the elementary schools within Redondo Beach as well as Hermosa View Elementary School. Students participate in hands-on gardening lessons about planting, composting, harvesting and mindful eating. The proposed Blue Zone Demonstration Kitchen would use produce grown in the proposed Demonstration Garden on campus.
UG A1.2. Promote gardening and composting – Provide resources and information regarding community gardens and composting to educate the general public on how to grow organic edible plants.	

Project Consistency with State-wide and Regional Mandates, Plans, Policies, and Regulations

The primary focus of many of the State-wide and regional mandates, plans, policies, and regulations is to address global climate change. A single source of GHG emissions does not cause global climate change by itself; rather GHG emissions, in their aggregate, contribute to global climate change.

In addition to assessing consistency with local policies and regulations, the significance of the GHG emissions associated with the proposed Project has also been evaluated based on whether the proposed Project is consistent with the relevant Statewide and regional mandates, plans, policies and regulations to reduce GHG emissions including AB 32 and SB 32 (Health and Safety Code [H&SC] Division 25.5), SB 375, Connect SoCal, and other State-wide and regional regulations and programs. Because the proposed Project incorporates physical and operational sustainability features that would promote a reduction in GHG emissions (refer to Section 2.5.1.5, *Sustainability Features*), the proposed Project would not substantially contribute to a cumulatively considerable global climate change effect and would not conflict with the GHG reduction goals of H&SC Division 25.5 and associated GHG reduction plans such as Connect SoCal. Connect SoCal also strives towards enhancing the existing transportation system and integrating land use into transportation planning. Connect SoCal recommends local jurisdictions accommodate future growth within existing urbanized areas to reduce VMT, congestion, and GHG emissions. Consistent with Connect SoCal's alignment of transportation, land use, and housing strategies, the proposed Project would accommodate increases in population, households, employment, and travel demand by implementing smart land use strategies. As discussed previously, the Project site is an infill location within close proximity to existing restaurants, grocery, entertainment, recreational, and residential uses and in close proximity to existing Beach Cities Transit Line 102 bus stops along North Prospect Avenue and Beryl Street. The proposed Project would implement a TDM plan with transit and carpool incentives for Project employees. The proposed Project would also implement a program to encourage people to visit the campus via multi-modal and active transportation (e.g., walking or biking). The proposed Project would include designated free parking for EVs with EV charging stations. The Assisted Living, Memory Care, and PACE services would also share and use vans to transport several participants at one time, which would reduce vehicle trips to the BCHD campus (refer to Section 2.5.1.5, *Sustainability Features*). The proposed Project – including the Phase 1 preliminary site development plan as well as the more general Phase 2 development program – would be consistent with all applicable goals of Connect SoCal intended to improve mobility and access to diverse destinations, promote smart growth, provide more transportation choices, and reduce vehicular demand and associated emissions. As such, the proposed Project would be consistent with regional plans to reduce VMT and associated GHG emissions, and impacts would be *less than significant*.

Table 3.7-10. Project Consistency Summary with Regional GHG Emissions Reduction Strategies

Strategy	Relationship to Project
Connect SoCal Land Use Actions and Strategies	
Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations	**Consistent.** The proposed Project would establish residential, medical office, community service, office, gym, restaurant, and open space uses located immediately adjacent to recreational amenities (e.g., Dominguez Park and Entradero Park) commercial uses and in close proximity to schools and multi-modal transportation options (i.e., Beach Cities Transit Line 102).
Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods	**Consistent.** The proposed Project would redevelop the existing BCHD campus to provide community services, activities, and events for the BCHD service population.
Connect SoCal Transportation Network Actions and Strategies	
Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets.	**Consistent.** The Project site is located in an urbanized area close to existing commercial and residential development. The proposed Project would develop additional housing and jobs within 0.1 miles of several Beach Cities Transit Line 102 bus stops located at the Project site and immediate vicinity (see Section 3.14, *Transportation*). The proposed Project would also develop a TDM plan that would include trip reduction strategies to reduce single-occupancy vehicle trips to the Project site and measures to encourage visitors to travel to the campus via multi-modal or active transportation (e.g., walking or biking). The proposed Project would ensure connectivity of the neighborhood to existing developed and recreational areas as well as provide bicycle parking to encourage bicycling and walking rather than driving. The proposed Project would promote walkability due to its location adjacent to residential neighborhoods, neighborhood-serving commercial uses, and recreational uses. Additionally, the proposed Project would include bicycle facilities, such as bicycle parking and employee shower and locker facilities, encouraging both patrons and employees to use alternative modes of transportation.
Plan for growth near transit investments and support implementation of first/last mile strategies.	
Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations).	
Connect SoCal Sustainability Actions and Strategies	
Integrate local food production into the regional landscape.	**Consistent.** The proposed Project would upgrade BCHD's existing Demonstration Garden with demonstration vegetable garden plots, an orchard with citrus and other fruit trees, and a garden shed. The proposed Demonstration Garden would allow BCHD to continue its existing LiveWell Kids program, which delivers lessons in the gardens of all of the elementary schools within Redondo Beach as well as Hermosa View Elementary School. Students participate in hands-on gardening lessons about planting, composting, harvesting and mindful eating. The proposed Blue Zone Demonstration Kitchen would use produce grown in the proposed Demonstration Garden on campus.

Table 3.7-10. Project Consistency Summary with Regional GHG Emissions Reduction Strategies (Continued)

Strategy	Relationship to Project
Connect SoCal Technology Actions and Strategies	
Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space.	**Consistent.** The proposed Project would include sustainable transportation infrastructure, such as designated parking spaces for hybrid cars and EVs equipped with electrical charging stations, bicycle parking, and designated parking for carpools and vanpools. The TDM plan would include a bicycle sharing program for access to the adjacent bicycle paths and local surroundings. The proposed Project would also provide ride-share amenities to provide options to reduce internal-combustion vehicle usage for residents and visitors.
Identify ways to incorporate "micro-power grids" in communities, for example solar energy, hydrogen fuel cell power storage.	**Consistent.** The proposed Project would provide photovoltaic solar panels on campus to reduce the energy demand associated with the proposed Project. The design of the proposed Project would also optimize passive design strategies, which use ambient energy sources (e.g., daylight, wind) to supplement electricity and natural gas to increase the energy efficiency.

Source: SCAG 2020.

The proposed Project would also be consistent with the State's strategies in the 2017 Scoping Plan to reduce GHG emissions (see Table 3.7-11). The 2017 Scoping Plan relies on a broad array of GHG reduction strategies, which include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based mechanisms, such as the Cap-and-Trade Program. These potential strategies include increasing the fuel economy of vehicles and the number of zero-emission or hybrid vehicles, reducing the rate of growth in VMT, supporting high speed rail and other alternative transportation options, and use of high efficiency appliances, water heaters, and HVAC systems. The proposed Project would benefit from State-wide, regional, and local efforts towards increasing the portion of electricity provided from renewable resources. The proposed Project would also benefit from State-wide efforts towards increasing the fuel economy standards of vehicles. The proposed Project would utilize energy efficiency appliances and equipment, as well as encourage the use of public transportation through its TDM plan and the use of electric-powered vehicles by providing EV vehicle spaces. While CARB is in the process of developing a framework for the 2030 reduction target in the 2017 Scoping Plan, the proposed Project would support, or at a minimum not impede, implementation of these potential reduction strategies identified by the CARB.

Further, CARB's 2017 Scoping Plan Update (released in January 2019) states *"in many instances, achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an inappropriate overall objective for new development"* and also recognizes that *"achieving a net zero increase in GHG emissions may not be appropriate or feasible for every project. Indeed, there are circumstances when certain types of development projects, by virtue of their location and land use context, are likely consistent with state climate goals, when considered on a per capita VMT basis."* The 2017 Scoping Plan Update further provides that VMT is a proxy for transportation-related GHG emissions and the associated effect on the climate. Based on the 2017 Scoping Plan Update, land use development projects in areas that would produce rate of light-duty VMT per capita that are approximately 16.8 percent lower than existing conditions (either lower than regional average or other appropriate context) could be, by virtue of their location and land use context, interpreted to be consistent with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 State climate goals. As discussed in detail in Section 3.14, *Transportation*, the home-based VMT per capita associated with the proposed Project would be 5 percent lower than existing regional averages and the home-based work VMT per employee calculated for the proposed Project would be 19 percent lower than existing regional averages. Therefore, when reviewing the proposed land use characteristics and associated VMT, the proposed Project would be in support of GHG reduction goals.

Based on the above, the proposed Project would be consistent with the California Renewables Portfolio Standard, SB 350, SB 100, Title 24 of the CCR, CalGreen, SB 375, and recommendations of the State Attorney General, OPR and Climate Action Team (see Table 3.7-11). Therefore, the proposed Project would be consistent with applicable plans, policies, and regulations and impacts would be *less than significant*.

Table 3.7-11. Project Consistency Summary with State GHG Emissions Reduction Strategies

Strategy	Relationship to Project
California Renewables Portfolio Standard and SB 350 and SB 100	
Increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020. SB 350 requires 50 percent by 2030. It also requires the State Energy Resources Conservation and Development Commission to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation. SB 100 accelerates the Renewables Portfolio Standard Program goals as follows: 1) 50 percent renewable resources target by December 31, 2026; and 2) 60 percent renewable resources target by December 31, 2030. SB 100 also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.	**Consistent.** While this measure does not directly apply to the proposed Project, the proposed Project would be consistent with and would not conflict with this strategy because Southern California Edison (SCE) is required to meet the State's Renewable Portfolio Standard, including SB 100. SoCal Edison would also be required to meet the 60 percent renewable target in 2030. Additionally, the proposed Project would include the installation of solar photovoltaic panels.
Title 24 of the CCR	
Energy Efficiency Standards for Residential and Nonresidential Buildings	**Consistent.** The proposed Project would comply with the Title 24 Building Energy Efficiency Standards at the time of building permit issuance and would incorporate solar photovoltaic panels as well as energy-efficient HVAC and lighting systems, thereby reducing energy use, air pollutant emissions, and GHG emissions.
Title 24 includes water efficiency requirements for new residential and non-residential uses.	**Consistent.** The proposed Project would meet this requirement as part of its compliance with the RBMC, TMC, and CALGreen. The proposed Project would include water efficient equipment and plumbing infrastructure. As described in Section 3.15, *Utilities and Service System*, with regard to operational landscaping irrigation, the proposed Project may use recycled water from the WBMWD's ECL Water Recycling Facility. These options would be explored as final design plans are further developed.
California Green Building Standards Code Requirements	
All bathroom exhaust fans shall be ENERGY STAR compliant.	**Consistent.** The proposed Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in Title 24.
HVAC Systems will be designed to meet ASHRAE standards.	**Consistent.** The proposed Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in Title 24.

Table 3.7-11. Project Consistency Summary with State GHG Emissions Reduction Strategies (Continued)

Strategy	Relationship to Project
Energy commissioning shall be performed for buildings larger than 10,000 sf.	**Consistent.** The proposed Project would meet this requirement as part of its compliance with RBMC Section 9-23.01.
Air filtration systems are required to meet a minimum of MERV 8 or higher.	**Consistent.** The proposed Project would meet or exceed this requirement as part of its compliance with the RBMC, TMC, and CALGreen.
Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	**Consistent.** The proposed Project would meet or exceed this requirement as part of its compliance with the RBMC, TMC, and CALGreen.
Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.	**Consistent.** The proposed Project would meet or exceed this requirement as part of its compliance with RBMC, TMC, and CALGreen.
Long-term and short-term bike parking shall be provided for up to five percent of vehicle trips.	**Consistent.** The proposed Project would meet or exceed this requirement as part of its compliance with the RBMC, TMC, and CalGreen by including bicycle parking at the main entrance, with the final number determined through the TDM plan.
Stormwater Pollution Prevention Plan (SWPPP) required.	**Consistent.** The proposed Project would meet this requirement as part of its compliance with the Redondo Beach Stormwater and Urban Runoff Pollution Control Regulations as well as CALGreen.
Indoor water usage must be reduced by 20% compared to current California Building Code Standards for maximum flow.	**Consistent.** Refer to the consistency discussion under Title 24 of the CCR Title 24.
All irrigation controllers must be installed with weather sensing or soil moisture sensors.	**Consistent.** The proposed Project would meet or exceed this requirement as part of its compliance with RBMC, TMC, and CALGreen.
Wastewater usage shall be reduced by 20 percent compared to current California Building Standards.	**Consistent.** The proposed Project would meet or exceed this requirement as part of its compliance with RBMC, TMC, and CALGreen.
Requires a minimum of 50 percent recycle or reuse of nonhazardous construction and demolition debris.	**Consistent.** The proposed Project would exceed this requirement as part of its compliance with RBMC, TMC, and CALGreen. BCHD would submit a waste management plan to the City of Redondo Beach and diverting at least 50 percent of construction and demolition debris from landfills. As described in Section 3.15, *Utilities and Service System*, the proposed Project would also be served by Athens Services, which has already achieved a diversion rate of 75 percent through its contract with Athens Services that is in excess of the requirements of AB 939 and AB 341 to achieve a 50 percent diversion by 2020.
Requires documentation of types of waste recycled, diverted or reused.	**Consistent.** The proposed Project would meet or exceed this requirement as part of its compliance with RBMC, TMC, and CALGreen.

Table 3.7-11. Project Consistency Summary with State GHG Emissions Reduction Strategies (Continued)

Strategy	Relationship to Project
Requires use of low VOC coatings consistent with AQMD Rule 1168.	**Consistent.** The proposed Project would be consistent with this regulation and would meet or exceed the low VOC coating requirements.
100 percent of vegetation, rocks, soils from land clearing associated with new non-residential developments shall be reused or recycled. Phased projects can stockpile onsite.	**Consistent.** The proposed Project would meet or exceed this requirement as part of its compliance with the RBMC, TMC, and CALGreen. Usable fill material would be taken to certified construction and demolition waste processors where it would be recycled as feasible.
Mobile Source Strategy (Cleaner Technology and Fuels)	
Reduce GHGs and other pollutants from the transportation sector through transition to zero emission and low-emission vehicles, cleaner transit systems and reduction of VMT.	**Consistent.** While this measure does not apply to individual projects, the proposed Project would be consistent and would not conflict with this strategy by supporting the use of zero-emission and low-emission vehicles through the on-site provision of EV parking spaces. Further, the proposed Project would reduce VMT as a result of its urban infill location, with access to public transportation within a 0.25-mile radius of the Project site.
AB 1493 (Pavley Regulations)	
Reduces greenhouse gas emissions in new passenger vehicles from model year 2012 through 2016 (Phase I) and model year 2017-2025 (Phase II). Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	**Consistent.** The proposed Project would not conflict with implementation of the vehicle emissions standards.
Low Carbon Fuel Standard (Executive Order S-01-07)	
Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	**Consistent.** The proposed Project would be consistent with this regulation and would not conflict with implementation of the transportation fuel standards.
SB 375	
SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the state's MPOs, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035.	**Consistent.** While this measure does not directly apply to the proposed Project, the proposed Project would be consistent with and would not conflict with this strategy because the Project would be consistent with Connect SoCal goals and objectives under SB 375 to implement infill development and reduce regional VMT. The Project site is located within walking distance of public transportation.
SB X7-7	
The Water Conservation Act of 2009 sets an overall goal of reducing per capita urban water use by 20 percent by	**Consistent.** Refer to the consistency discussion under Title 24 of the CCR Title 24.

Table 3.7-11. Project Consistency Summary with State GHG Emissions Reduction Strategies (Continued)

Strategy	Relationship to Project
December 31, 2020. Each urban retail water supplier shall develop water use targets to meet this goal.	
California Integrated Waste Management Act of 1989 and AB 341	
The IWMA mandated that state agencies develop and implement an integrated waste management plan which outlines the steps to be taken to divert at least 50 percent of their solid waste from disposal facilities. AB 341 directs CalRecycle to develop and adopt regulations for mandatory commercial recycling and sets a statewide goal for 75 percent disposal reduction by the year 2020.	**Consistent.** While this measure does not apply to individual projects, the proposed Project would be served by a solid waste collection and recycling service, approved or licensed to collect solid waste in Redondo Beach, that may include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with and would not conflict with City-wide recycling targets. The proposed Project would incorporate sustainability waste diversion measures and performance standards to increase recycling and minimize waste disposal, consistent with the Redondo Beach and Torrance General Plans. These include implementing a construction waste management plan to divert 50 percent of all mixed construction and demolition debris a certified waste processor. During operation, the proposed Project would provide easily accessible recycling areas dedicated to the collection and storage of non-hazardous materials such as paper, corrugated cardboard, glass, plastics, metals, and landscaping debris (trimmings). Provision of on-site recycling containers and waste reduction programs would support the measures to divert waste from landfills.
Climate Action Team	
Reduce diesel-fueled commercial motor vehicle idling.	**Consistent.** The proposed Project would comply with the CARB Air Toxics Control Measure to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any given time.
Achieve California's 50 percent waste diversion mandate (Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction.	**Consistent.** Refer to the discussion under California Integrated Waste Management Act above.
Plant five million trees in urban areas by 2020 to effect climate change emission reductions.	**Consistent.** The proposed Project would provide appropriate landscaping on the Project site including drought-resistant vegetation and trees as required by City of Redondo Beach and City of Torrance regulations.
Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.	**Consistent.** The proposed Project would meet or exceed this requirement as part of its compliance with RBMC, TMC, and CALGreen. Refer to the consistency discussion under Title 24 of the CCR Title 24.
Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have	**Consistent.** The proposed Project would utilize energy efficiency appliances and equipment and would meet or exceed the Title 24 Building Energy Efficiency Standards.

Table 3.7-11. Project Consistency Summary with State GHG Emissions Reduction Strategies (Continued)

Strategy	Relationship to Project
established specific goals for updating the standards; new standards are currently in development.	
Apply strategies that integrate transportation and land-use decisions, including but not limited to promoting jobs/housing proximity, high-density residential/ commercial development along transit corridors, and implementing intelligent transportation systems.	**Consistent.** The proposed Project would locate residential, medical office, community service, office, gym, restaurant, and open space uses in close proximity to multi- and single-family residential uses as well as recreational and commercial uses. The Project site is also within walking distance to several stops along the Beach Cities Transit Line 102. The area surrounding the Project site also provides an extensive network of sidewalks, pedestrian paths, and a bicycle route.

Cumulative Impacts

As previously described, the analysis of GHG emissions is cumulative in nature because global climate change impacts are caused by cumulative GHG emissions. Additionally, physical impacts related to global climate change do not necessarily occur in the same area as the source of the GHG emissions. The preceding analysis, which describes the cumulative impacts of GHG emissions associated with the proposed Project, has found that the proposed Project would not conflict with (and thereby be inconsistent with) the applicable regulatory plans and policies to reduce GHG emissions. Therefore, the proposed Project would not substantially contribute to a cumulatively considerable impact related to GHG emissions and global climate change.