Section 3.6
Greenhouse Gases

SECTION SUMMARY

This section describes the existing greenhouse gas (GHG) environment within the project area and potential impacts on GHG emissions associated with construction and operation of the proposed project. An analysis of potential impacts on GHG emissions associated with the alternatives is detailed in Chapter 4 Analysis of Alternatives.

Section 3.6 Greenhouse Gases provides the following:

- A description of the GHG and climate information within the region and project site vicinity;
- A description of local, state, and federal regulations and policies regarding GHG emissions;
- A discussion on the methodology and thresholds used to determine whether the proposed project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;
- An impact analysis of the proposed project associated with GHGs;
- A description of any Conditions of Approval that the City would impose, or mitigation measures proposed to reduce any potential impacts and residual impacts (i.e., impacts remaining after mitigation), as applicable;
- A summary of GHG impact determinations associated with the proposed project and mitigation measures; and
- A description of significant unavoidable impacts associated with GHG emissions, if any.

Key Points of Section 3.6:

The purpose of the GHG analysis is to evaluate the potential GHG impacts resulting from implementation of the proposed project. The proposed project would revitalize approximately 36 acres of land and water by redeveloping and expanding local and visitor serving commercial uses, enhancing public access and recreational opportunities and facilities, and improving the aging support infrastructure and parking facilities. The proposed project would also create substantial improvements in site connectivity, public access and public views to and along the waterfront.

There are a number of active uses that exist on-site. These uses, with the exception of Kincaid's restaurant, would cease to operate prior to the beginning of construction. With the exception of access to Kincaid's restaurant, access to the site during construction would be limited to those directly associated with construction activities. These existing uses generate GHG emissions from both area sources and mobile sources. Indirect source emissions are generated by electrical consumption, natural gas consumption, water and wastewater usage (transportation), and solid waste disposal. Direct sources consist of motor vehicles trips generated by residents and patrons of the existing uses.

The proposed project would generate GHG emissions from a variety of sources. First, GHG emissions would be generated during construction of the proposed project. Once fully operational, the proposed project's operations would generate GHG emissions from both area sources and mobile sources. Indirect source emissions generated by the proposed project include electrical consumption, natural gas consumption, water and wastewater usage (transportation), and solid waste disposal. Mobile (direct) sources of GHGs associated with the proposed project would consist of motor vehicles trips generated by residents and patrons of the new commercial retail, office, hotel, and other specialty uses.

The proposed project would have a net increase of 1,438 employees. Therefore, the per service population emissions would equal 3.51 metric tons carbon dioxide equivalents ($MTCO_2e$) annually. This would not exceed the South Coast Air Management District's (SCAQMD) annual 4.6 $MTCO_2e$ project level service population emissions threshold. Therefore, the net increase in GHG emissions resulting from project implementation is considered to be less than significant and no mitigation is required.

The proposed project's 2020 emissions results in a 24.17 percent reduction from the Business As Usual (BAU) scenario. Therefore, the proposed project's GHG reduction would exceed the Assembly Bill (AB) 32 reduction target of 15 percent below the BAU scenario for municipal emissions. Therefore, the proposed project is less than significant with respect to the generation of GHGs.

The proposed project would be designed to comply with the California Green Building Standards Code (CALGreen Code) to ensure that the new on-site developments would use resources (energy, water, etc.) efficiently and reduce pollution and waste. Therefore, the proposed project would be consistent with the Climate Change Scoping Plan (Scoping Plan) measures through incorporation of stricter building and appliance standards. As a result of the incorporation of stricter building and appliance standards in addition to the implementation of State regulations for the reduction of GHG emissions, the proposed project would be more efficient than the BAU scenario. As noted above, the proposed project would exceed the AB 32 reduction target of 15 percent below the BAU scenario for municipal emissions. Therefore, the proposed project would further the goals of the Scoping Plan and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and the impact would be less than significant.

The proposed project would be consistent with Title 24 for energy and water conservation practices. Additionally, the proposed project would be recycling building materials on-site where feasible and transferring to a sorting facility for recycling when the material cannot be used on-site, therefore increasing recycling conservation. While the goals of the Sustainable Development Strategic Plan are generally not applicable to a project-level development such as the proposed project, the design and construction practices of the proposed project would nonetheless further the City's overall sustainability goals.

3.6.1 Introduction

This section describes the existing climate and GHG emissions in the project area, identifies applicable rules and regulations, and evaluates potential short- and long-term GHG impacts associated with buildout of the proposed project. Where applicable, measures to mitigate or minimize GHG emissions associated with the proposed project are included. Modeling assumptions, calculations and output files are provided in Appendix G1 - 5.

3.6.2 Environmental Setting

Gases that trap heat in the atmosphere are called GHGs. The major concern with GHGs is that increases in their concentrations are causing global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to human activities, most in the scientific community agree that there is a direct link between increased emissions of GHGs and long term global temperature increases.

The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Because different GHGs have different global warming potentials (GWPs) and CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). For example, SF_6 is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF_6, while comprising a small fraction of the total GHGs emitted annually world-wide, is a much more potent GHG with 22,800 times the GWP as CO_2. Therefore, an emission of one metric ton (MT) of SF_6 could be reported as an emission of 22,800 MT of CO_2e (Intergovernmental Panel on Climate Change [IPCC], 2007). Large emission sources are reported in million metric tons (MMT) of CO_2e.[1]

Some of the potential effects in California of global warming may include loss in snow pack, sea level rise, an increased number of extreme heat days per year, more high ozone days, more forest fires, and more drought years (California Air Resources Board [CARB], 2009). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The proposed projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

[1] A metric ton is 1,000 kilograms; it is equal to approximately 1.1 U.S. tons and approximately 2,204.6 pounds.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, ocean acidification, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

California produced 459 gross $MMTCO_2e$ in 2012 (CARB, 2014a). This is an increase from levels between 2009 and 2011 (458.44, 453.06, and 450.94 $MMTCO_2e$ respectively) but a decrease from levels between 2000 and 2008 where emissions ranged from a low of 466.32 in 2000 to a high of 492.86 in 2004 (CARB, 2014a). Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2012, accounting for 36 percent of total GHG emissions in the state (CARB, 2014a). This sector was followed by the electric power sector (including both in-state and out-of-state sources) (21 percent) and the industrial sector (19 percent) (CARB, 2014a).

3.6.2.1 Emissions for Existing Uses

The project site is currently developed with approximately 219,881 square feet of existing buildings, consisting primarily of restaurants, retail, and office uses constructed primarily between 1950's and 1970's under less energy efficient building standards. There are approximately 1,289 employees at the project site. Operational GHG emissions associated with the exiting on-site conditions include GHG emissions generated by direct and indirect sources and have been estimated utilizing methodologies from SCAQMD (SCAQMD, 2009). Direct emissions are those emissions that result directly from the operation of the site, area sources and fuel combustion from mobile sources. Area-source emissions are widely distributed on-site sources made of many small emissions sources (e.g., building heating and cooling units, landscaping equipment and consumer products etc.). Indirect emissions are the emissions associated with the operation of the site, but where the emissions themselves occur off-site. Examples of indirect emissions include electrical production, water and wastewater treatment and conveyance, and solid waste disposal. Existing GHG emissions from the project site are presented in Table 3.6-1 and the method used to quantify existing emissions is detailed in Section 3.6.4.1.2.

Table 3.6-1 Estimated Existing Operations-Related GHG Emissions

Emission Source	Estimated Emissions CO_2e (MT/yr)
Area Sources[a]	0.01
Energy Consumption	3,212.87
Mobile Sources	10,898.59
Solid Waste	165.33
Water Consumption	220.26
Total Existing Emissions	**14,497.06**
Service population[b]	1,289
MT CO_2e per service population	11.25

NOTES: CO_2e= carbon dioxide equivalent; MT/yr = metric tons per year
[a] Areas sources represent commercial product use, area architectural coatings from building maintenance and upkeep activities, and landscaping equipment use.
[b] Service population is the total number of residents and employees at the project site. As there is no current residential land uses on the project site, service population represents the current site employment.

Source: ESA 2015 (based on Appendix G3 of this Draft EIR)

3.6.3 Regulatory Framework

3.6.3.1 Federal

The principal air quality regulatory mechanism at the federal level is the Clean Air Act (CAA) and in particular, the 1990 amendments to the CAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. The federal CAA does not specifically regulate GHG emissions; however, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the federal CAA. There are currently no federal regulations that set ambient air quality standards for GHGs.

3.6.3.1.1 Fuel Efficiency Standard

The Federal Government sets emission standards for construction equipment. The first federal standards (Tier 1) were adopted in 1994 for all off-road engines over 50 horse power (hp) and to be phased in by 2000. In 1998, a new standard was adopted that introduced Tier 1 for all equipment below 50 hp and introduced the Tier 2 and Tier 3 standards. Phase in for Tier 2 and Tier 3 standards for all equipment was to be phased in by 2008. Tier 4 efficiency requirements are contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068 (originally adopted in 69 Federal Register 38958 [June 29, 2004], and were most recently updated in 2014 [79 Federal Register 46356]). Emissions requirements for new off-road Tier 4 vehicles is to be completely phased in by the end of 2015.

3.6.3.1.2 Corporate Average Fuel Economy (CAFE) Standards

New federal rules have been adopted that set national GHG emissions standards and will significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. The National Highway Traffic Safety Administration has established fuel economy standards that strengthen each year reaching an estimated 34.1 miles per gallon for the combined industry-wide fleet for model year 2016. (See 75 Federal Register 25324 et seq. [May, 7, 2010]). It is however legally infeasible for individual municipalities to adopt more stringent fuel efficiency standards. The CAA (42 United States Code [U.S.C.] Section 7543[a]) states that “No state or any political subdivision therefore shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part.”

3.6.3.1.3 Energy Independence and Security Act of 2007

The Federal Government passed the Energy Independence and Security Act of 2007, which sets energy efficiency standards for lighting (light bulbs) and appliances. The proposed project would be required to install photosensors and install energy efficient lighting fixtures consistent with the requirements of the 42 U.S.C. Section 17001 et seq.

3.6.3.2 State

3.6.3.2.1 Executive Order S-1-07

Executive Order S-1-07, which was signed by Governor Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. As a result of this order, CARB approved a proposed regulation to implement the Low Carbon Fuel Standard (LCFS) on April 23, 2009, which would reduce GHG emissions from the transportation sector in California by about 16 MMT by 2020. The

LCFS is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, and stimulate the production and use of alternative, low-carbon fuels in California. The LCFS is designed to provide a durable framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011.

3.6.3.2.2 Executive Order S-3-05 & 4-29-2015

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

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

In 2015, Governor Brown issued Executive Order 4-29-2015 to establish a GHG reduction target of 40 percent below 1990 levels by 2030. These orders are only applicable to "state agencies with jurisdiction over sources of greenhouse gas emissions" (Order 4-29-2015 Section 2). The City of Redondo Beach (City) does not fall within the definition of a state agency. Furthermore, there is currently no implementation strategy for these Executive Orders (i.e., a plan, similar to the AB 32 Scoping Plan, which apportions GHG reductions by economic sector/activity/region).

The emphasis of the Executive Orders is the continuing reduction in GHG emissions over time in order to limit the effects of climate change. A project is considered consistent with the provisions of the Executive Order if it meets the general intent in reducing City emissions in order to facilitate the achievement of City and State adopted goals and does not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect conformity with each and every planning policy or goals to be consistent. A project would be consistent, if it will further the objectives and not obstruct their attainment.[2]

While the proposed project would not result in an on-site reduction of 80 percent below 1990 levels, at the time the project becomes operational in 2019, the proposed project furthers the state's efforts at GHG reductions, and would not impede implementation of additional GHG reduction strategies. As described in greater detail in the following sections, the state legislature and regional planning agencies have been tasked with different planning efforts to reduce GHG emissions. Pursuant to the provisions of Senate Bill (SB) 375 and SB 743, regional land use planning efforts have focused upon infill development, development in transit priority areas, and reducing per capita Vehicle Miles Traveled (VMT). As discussed in the 2012 SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS),

---

[2] *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490; San Francisco Tomorrow et al. v. City and County of San Francisco (2015) 229 Cal.App.4th 498; San Franciscans Upholding the Downtown Specific Plan v. City & County of San Francisco (2002) 102 Cal.App.4th 656; Sequoyah Hills Homeowners Assn. V. City of Oakland (1993) 23 Cal.App.4th 704, 719.

[3] The Scoping Plan document states "approximately 30 percent from BAU analysis (CARB, 2008 pg 12). When calculated the percent reduction between the 1990 goal of 427 MMT CO_2e by 2020 and the 2020 BAU of 596 MMT CO_2e equals 28.36 [(596 – 427)/596).

"SB 375 enhances the State's goals of Assembly Bill 32, the Global Warming Solutions Act of 2006…the SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measurers" (2012 SCAG RTP/SCS, page 8).

As discussed under Impact GHG-2 in Section 3.4.6.3.2 below, the proposed project would be a redevelopment project that would be located within walking distance to public transportation as well as existing residential uses within the City. The location of the project is in close proximity to transit, the California Coastal Trail (a well utilized pedestrian/bicycle path), and existing residences. The project also falls within a transit priority area (under SB 743), as discussed in greater detail in Section 3.13 Transportation and Traffic analysis (Sections 3.13.3.1 and 3.13.4.3.3). In addition, the proposed project would also result in reduced per service population emissions of 3.51 MT CO_2e in comparison to the existing per service population emissions of 11.25 MT CO_2e.

As noted in the subsequent sections, to date, the state's regulatory efforts to reduce GHG emissions have increased in Renewable Portfolio Standards, increased vehicle fuel efficiency standards. (See Sections 3.6.3.2.3 and 3.6.3.2.4; see also proposed SB 350 [2015]). Implementation of the proposed project would not obstruct or impede these regulatory/planning efforts. In the event that the state adopts more stringent standards, the project will be able to utilize the GHG benefits of those requirements (i.e. the project will utilize a greater percentage of renewable electricity and will benefit from increased vehicle fuel efficiency standards).

The proposed project furthers the state's land use and planning efforts designed to reduce GHGs, and would comply with the existing energy efficiency requirements. Therefore, the proposed project would be implemented consistent with the Executive Orders.

3.6.3.2.3 Assembly Bill 32 – California Global Warming Solutions Act

In response to the 2006 Executive Order, the California Legislature adopted AB 32, the Global Warming Solutions Act of 2006, which requires CARB to establish a statewide GHG emissions cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt and enforce programs and regulations that identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions. In December 2007 CARB adopted 427 MMT CO_2e as the statewide GHG emissions limit equivalent to the statewide levels for 1990. This is approximately 28 percent below forecasted 2020 "business-as-usual" emissions of 596 MMT of CO_2e, and about 10 percent below average annual GHG emissions during the period of 2002 through 2004 (CARB, 2008).[3,4]

CARB published the "Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration" in September 2007 (CARB,

[3] The Scoping Plan document states "approximately 30 percent from BAU analysis (CARB, 2008 pg 12). When calculated the percent reduction between the 1990 goal of 427 MMT CO_2e by 2020 and the 2020 BAU of 596 MMT CO_2e equals 28.36 [(596 – 427)/596).

[4] Updates to these values are discussed under the Climate Change Scoping Plan in Section 3.6.3.2.4 below.

2007). CARB adopted nine Early Action Measures for implementation, including Ship Electrification at Ports, Reduction of High Global-Warming-Potential Gases in Consumer Products, Heavy-Duty Vehicle Greenhouse Gas Emission Reduction (Aerodynamic Efficiency), Reduction of Perfluorocarbons from Semiconductor Manufacturing, Improved Landfill Gas Capture, Reduction of Hydrofluorocarbon-134a from Do-It-Yourself Motor Vehicle Servicing, Sulfur Hexaflouride Reductions from the Non-Electric Sector, a Tire Inflation Program, and a LCFS.

By January 1, 2011, CARB was required to adopt rules and regulations (which were to become operative January 1, 2012), to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 permitted the use of market-based compliance mechanisms to achieve those reductions. AB 32 also required CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it had adopted.

As of January 1, 2012, the GHG emissions limits and reduction measures adopted in 2011 by CARB became enforceable. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

3.6.3.2.4 Climate Change Scoping Plan

In December 2008, CARB approved the AB 32 Climate Change Scoping Plan (Scoping Plan) outlining the state's strategy to achieve the 2020 GHG emissions limit (CARB, 2008). This Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health. However, recognizing that there are various technological, environmental, and economic factors for different types of emission sources/sectors, Section II of the Scoping Plan sets different reduction targets depending upon the nature of the activity. This concept is graphically displayed in Figure 3 of the 2008 Scoping Plan. In setting these goals, CARB was specifically tasked with selecting a goal based upon technological and economic feasibility (See Health & Safety Code Section 38561). In addition to the approximately 28 percent reduction from the BAU scenario by 2020, the 2008 Scoping Plan set a local government target of 15 percent below today's levels by 2020.[5]

As required by AB 32, the Climate Change Scoping Plan must be updated at least every five years to evaluate the mix of AB 32 policies to ensure that California is on track to meet the targets set out in the legislation. In October 2013, a draft Update to the initial Scoping Plan was developed by CARB in collaboration with the CAT. The draft Update builds upon the Scoping Plan with new strategies and expanded measures, and identifies opportunities to leverage existing and new funds to drive GHG emission reductions through strategic planning and targeted program investments. The draft Update to the Scoping Plan was presented to CARB's Board for discussion at its February 20, 2014 meeting. Subsequently, the first update to the AB 32 Scoping Plan was approved on May 22, 2014 by CARB.

[5] Today's levels as discussed in the Scoping Plan refer to the years used for the average emissions and estimates for projected 2020 BAU emissions which were for the years 2002 through 2004.

As part of the proposed update to the Scoping Plan, the emissions reductions required to meet the 2020 statewide GHG emissions limit were further adjusted. The primary reason for adjusting the 2020 statewide emissions limit was based on the fact that the original Scoping Plan relied on the IPCC's 1996 Second Assessment Report (SAR) to assign the GWPs of GHGs. Recently, in accordance the United Nations Framework Convention on Climate Change (UNFCCC), international climate agencies have agreed to begin using the scientifically updated GWP values in the IPCC's Fourth Assessment Report (AR4) that was released in 2007. Because CARB has begun to transition to the use of the AR4 100-year GWPs in its climate change programs, CARB recalculated the Scoping Plan's 1990 GHG emissions level with the AR4 GWPs. As the recalculation resulted in 431 $MMTCO_2e$, the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 $MMTCO_2e$ in the initial Scoping Plan. Considering that the proposed update also adjusted the 2020 BAU forecast of GHG emissions to 509 $MMTCO_2e$, a 15 percent reduction below the estimated BAU levels was determined to be necessary to return to 1990 levels by 2020 (CARB, 2014b).

As recently described by the California Governor in the 2015 Executive Order "California is on track to meet or exceed the current target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32)"(Brown, 2015).

3.6.3.2.5 Senate Bill 97

SB 97, enacted in August 2007, required the Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. On April 13, 2009, the OPR submitted proposed amendments to the Natural Resources Agency in accordance with SB 97 regarding analysis and mitigation of GHG emissions. As directed by SB 97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines for GHG emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

3.6.3.2.6 Senate Bill 375

SB 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the state on September 30, 2008. On September 23, 2010, CARB adopted the vehicular GHG emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a seven to eight percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as the Southern California Association of Governments (SCAG) will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. SCAG's reduction target for per capita vehicular emissions is eight percent by 2020 and 13 percent by 2035 (CARB, 2010).

In April 2012, the SCAG adopted the 2012-2035 RTP/SCS. SCAG's RTP/SCS includes a commitment to reduce emissions from transportation sources by promoting compact and infill development in order to comply with SB 375. Two goals of the SCS that are applicable to the proposed project include:

1. "Promote the development of better places to live and work through measures that encourage more compact development, varied housing options, bike and pedestrian improvements, and efficient transportation infrastructure."

2. "Create more compact neighborhoods and plac[e] everyday destinations closer to homes and closer to one another."

3.6.3.2.7 California Green Building Standard Code

In January 2010, the State of California adopted the 2010 CALGreen Code, which became effective in January 2011. Building off of the initial 2008 California Green Building Code, the 2010 CALGreen Code represents a more stringent building code that requires, at a minimum, that new buildings and renovations in California meet certain sustainability and ecological standards. The 2010 CALGreen Code has mandatory Green Building provisions for all new residential buildings that are three stories or fewer (including hotels and motels) and all new non-residential buildings of any size that are not additions to existing buildings.

In early 2013 the California Building Standards Commission adopted the 2013 California Building Standards Code that also included the latest 2013 CALGreen Code, which became effective on January 1, 2014. The mandatory provisions of the Code are anticipated to reduce GHG emissions by three MMT by 2020, reduce water use by 20 percent or more, and divert 50 percent of construction waste from landfills. Additionally, the California Building Code includes a requirement for a 20 percent reduction in indoor potable water usage. The 2013 California Energy Code (Title 24, Part 6), which is also part of the CALGreen Code (Title 24, Part 11, Chapter 5.2), became effective on July 1, 2014.

3.6.3.2.8 California Renewable Portfolio Standard

Established in 2002 under SB 1078, and accelerated by SB 107 [2006] and SB 2 [2011], California's RPS obligates investor-owned utilities, energy service providers and community choice aggregators to procure 33 percent of their electricity from renewable energy sources by 2020. The California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) are jointly responsible for implementing the program. In 2013, Southern California Edison (SCE), electricity provider for Redondo Beach, produced 21.6 percent of its electricity from renewable sources (CPUC, 2015). In 2014, SCE produced approximately 23.5 percent of its electricity from renewable sources (SCE, 2015).

3.6.4 Impacts and Mitigation Measures

3.6.4.1 Methodology

At the time of this analysis, neither the City nor SCAQMD have formally adopted a methodology for analyzing impacts related to GHG emissions on global climate change. Pursuant to full disclosure and according to OPR's CEQA Guidelines section 15064.4(a) that states, "A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions

resulting from a project," the construction and operational emissions associated with the proposed project have been quantified using methods described below.

The methodology used to analyze the existing conditions (baseline) contribution to global climate change included evaluating the operational GHG emissions that are currently being emitted from direct and indirect sources.

The methodology used to analyze the proposed project's contribution to global climate change includes evaluating the proposed project's total net annual GHG emissions (construction and operational) against SCAQMD's proposed GHG emissions efficiency threshold based on per service population for projects, and comparing the numeric levels of GHG emissions generated by the proposed project at buildout in 2020 to those generated under a BAU scenario.

3.6.4.1.1 Construction Emissions

As discussed in greater detail in Section 2.5 of Chapter 2 Project Description, construction of the proposed project would commence in 2017 and is anticipated to extend for approximately 27 to 30 months (2.25 to 2.5 years), from January 2017 through June 2019. The proposed project would be implemented within two general areas within the project site: landside (including the northern and southern portions of the project site) and waterside. Each area has distinct construction assumptions associated with the proposed project elements. These assumptions are summarized below and are detailed in Appendix G1. With the exception of Kincaid's restaurant and the restroom building at Seaside Lagoon, all buildings within the project site would be removed as a part of the proposed project. Only Kincaid's would remain operational during construction. During construction, the entire project site would be closed to the public, with the exception of some limited access to facilities on, and near, the Horseshoe Pier (i.e., access to Kincaid's restaurant at the northern segment of the Horseshoe Pier and the facilities on the Monstad Pier). Vessels located in the Redondo Beach Marina in Basin 3, including liveaboards, would be temporarly relocated.

Construction emissions for the proposed project were estimated using the most recent version of the California Emissions Estimator Model (CalEEMod), Version 2013.2.2, as recommended by the SCAQMD for land use projects, as applicable. Additionally, for the project's waterside construction activities, where water-based equipment is used, emissions were calculated outside of CalEEMod and based on CARB's OFFROAD equipment emission factors as CalEEMod does not account for these types of equipment. Modeling was based on project-specific data provided by the applicant, where available. Where project-specific information was not available (for example the age and fuel efficiencies of the vehicle fleet), default model settings or reasonable assumptions based on other similar projects were used to estimate GHG emissions. Modeling assumptions, calculations, input and output files are provided in Appendix G1 - 5.

CalEEMod estimates the emissions of CO_2, CH_4, and N_2O as well as the resulting total CO_2e emissions associated with construction-related GHG sources such as off-road construction equipment, material delivery trucks, soil haul trucks, and construction worker vehicles. As CalEEMod currently uses the IPCC's 1996 SAR to assign the GWPs for CH_4 and N_2O, these emissions from the CalEEMod outputs were taken and converted to CO_2e emissions outside of CalEEMod using the updated GWPs from IPCC's AR4. The use of GWPs from IPCC's AR4 is recommended in CARB's latest First Update to the Scoping Plan. The GHG analysis incorporates similar assumptions as the air quality analysis for project consistency. Based on

the SCAQMD's 2008 *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* document, SCAQMD recommends that for construction GHG emissions the total emissions for a project be amortized over a 30-year period and added to its operational emission estimates.

3.6.4.1.2 Operational Emissions

Operational emissions were also estimated using the most recent version of the CalEEMod as recommended by the SCAQMD for land use projects.

SCAQMD Threshold Analysis

Operational GHG emissions associated with the proposed project, including GHG emissions generated by direct and indirect sources, have been estimated utilizing methodologies from SCAQMD (SCAQMD, 2009). Direct sources include emissions such as vehicle trips, natural gas consumption, and landscape maintenance. Indirect sources include off-site emissions occurring as a result of the project's operations such as electricity and water consumption and solid waste disposal. The direct and indirect emissions generated during the proposed project's operations were estimated using CalEEMod.

The analysis estimates emissions from area, energy, mobile, waste and water sources. Area sources are those emissions that result from the application of architectural coating (as standard building maintenance), the use of consumer products onsite, and the use of landscaping equipment. Energy sources include the consumption of natural gas and electricity as part of the annual operations of the project. Mobile sources include all of the vehicle trips (patron, employee, vendor) associated with the operation of the project. Waste sources include the emissions associated with the collection and disposal of solid waste generated at the project site. Finally, water emissions are those emissions associated with the energy used to transport and treat potable water consumed and wastewater generated by annual operations.

Long-term emissions of GHGs associated with the proposed project, including mobile- and area-source emissions, were modeled according to the size and type of land use proposed. Mass mobile-source emissions were modeled based on the daily vehicle trips that would result from the proposed project. Vehicle fleet mix and fuel efficiencies for mobile-source emissions were based on the CalEEMod default assumptions. Project trip generation rates were obtained from the proposed project's traffic analysis (Section 3.13 Traffic and Transportation and associated Appendix L1). All GHG emission estimate assumptions, calculations and CalEEMod output are provided in Appendix G1 - 5.

Similar to the calculation of the project's construction-related GHG emissions, the proposed project's operational emissions of CH_4 and N_2O were extracted from the CalEEMod output file and converted to CO_2e emissions using the GWPs from IPCC's AR4. Modeling was based on project-specific data (e.g., size and type of proposed land uses) and vehicle-trip data obtained from the project's traffic analysis.

Additionally, as the majority of existing uses would be demolished and replaced with the proposed project, the emissions from these existing uses were also calculated. The calculation of direct and indirect sources from existing conditions were conducted using the same methodology as for the proposed project, however the operational date was set in 2014 which is the year of the NOP publication and hence the baseline conditions. Therefore, the default emissions factors within the model, especially for vehicle fleet mix, would reflect the 2014 factors rather than the 2020 factors used in the proposed project calculations. The emissions

from the existing uses were then subtracted from the emissions of the proposed project to determine the net increase in project related GHG emissions.

Business As Usual Analysis

In addition to the SCAQMD's per service population threshold, the project's GHG emissions at buildout were also compared to the BAU scenario. According to both the 2008 Scoping Plan and CARB's 2014 First Update to the Scoping Plan, "Recognizing the important role local governments play in the successful implementation of AB 32, the initial 2008 Scoping Plan called for local governments to set municipal and community-wide GHG reduction targets of 15 percent below then-current levels by 2020, to coincide with the statewide limit." Therefore, the difference in emissions from the proposed project's net 2020 emissions and the BAU scenario were compared to the reduction target.

To determine the project's GHG emissions that would result under the BAU scenario, CalEEMod was used to estimate the emissions that would occur if the proposed project was operational in 2020 without the implementation of plans and policies included in the 2008 Scoping Plan and by the State prior to development of the baseline emissions inventory in the 2008 Scoping Plan. Specifically the BAU scenario does not include the GHG emissions reductions attributed to implementation of the Pavley standards, the LCFS, the 2008 and 2013 Title 24 requirements, and the California RPS. In order to present the emissions based on consistency with the Scoping Plan BAU scenario (i.e., what would occur in 2020 if the Scoping Plan measures were not implemented), the year 2005 was used in CalEEMod.[6] The selection of year 2005 in CalEEMod automatically prompts the model to remove the emissions reductions associated with the Pavley standards and the LCFS as well as the emissions reductions associated with the energy efficiencies from the implementation of more current (i.e., subsequent to 2005) Title 24 requirements.

Additionally, to account for the energy intensity[7] of CO_2 emissions from electrical generation prior to implementation of the Scoping Plan, the energy intensity factors for SCE provided in the USEPA's 2005 Emissions & Generation Resources Integrated Database (eGRID) were used in CalEEMod.

The proposed project's GHG emissions for the 2020 scenario were also determined using CalEEMod using a buildout year of 2020. The proposed project emissions represent the project's emissions in 2020 with the implementation of plans and policies included in the 2008 Scoping Plan and by the State subsequent to the development of the baseline emissions inventory in the 2008 Scoping Plan. This emissions scenario specifically accounts for the emissions reductions afforded by the Pavley standards, LCFS, and 2013 Title 24 requirements. Additionally, the CO_2 intensity factors under the proposed project's 2020 buildout scenario

[6] CARB's emissions baseline period in its Scoping Plan reflects the average emissions from 2002 to 2004. However since CalEEMod does not allow for years between 2000 and 2009 other than 2005, 2005 was used in the CalEEMod modeling as a representation of the baseline period. Using 2005 will accurately account for emissions anticipated in 2020 without the incorporation of the Scoping Plan and other reduction requirements.

[7] Energy intensity is the amount of energy used in producing a given level of output or activity (i.e. pounds of emissions per megawatt hour produced).

were adjusted to account for the achievement of a 19.9 percent renewable energy generation by SCE in 2014.[8]

According to the RPS strategy, renewable energy should meet 33 percent by or shortly after project operations begin. Additionally, subsequent to modeling, SCE's 2014 renewable contribution was increased from 19.9 percent to 23.5 percent. Therefore, the use of the 19.9 percent renewable energy generation is a conservative estimate of emissions. With the continued increase in renewable energy generation in SCE's energy portfolio, the energy intensity of electrical generation will continue to decrease, resulting in less indirect emissions from energy generation. Therefore, at actual project buildout, emissions from electrical generation would likely be less than estimated in this analysis.

Similarly, federal fuel efficiency standards are anticipated to continue to increase between now and 2020 and beyond. Additionally, drivers are beginning to convert to electric or alternative fuel vehicles. This would further reduce emissions beyond what was assumed for the analysis. The analysis assumes only the LCFS and Pavley requirements that are anticipated by CARB for the 2020 vehicle fleet mix; therefore, the analysis is considered conservative.

All GHG emission estimate assumptions, calculations and CalEEMod output are provided in Appendix G1 - 5.

3.6.4.2 Thresholds of Significance

The proposed project would result in significant impacts associated with GHGs if it would:

GHG-1 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

GHG-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs

As noted previously, the increased concentration of GHGs in the atmosphere has been linked to global warming, which can lead to climate change. Construction and operation of the proposed project would incrementally contribute to GHG emissions along with past, present, and future activities, and the CEQA Guidelines acknowledge this as a cumulative impact. As such, impacts of GHG emissions are analyzed here on a cumulative basis.

Although no formal significance threshold for GHG emissions associated with development-type land uses has been adopted by the City or SCAQMD at this juncture, Section 15064.7(c) of the State CEQA Guidelines states "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies…" However, the SCAQMD has proposed an efficiency threshold value of 4.6 $MTCO_2e$ per year per service population for projects as presented by the Stakeholder Working Group in November 2009 (SCAQMD, 2009). Since the City has not adopted any significance criteria for GHG analysis at the time of this writing, it is reasonable under CEQA for the City, as the lead agency, to utilize the two part efficiency threshold that is recommended by

[8] While the proposed project would not be built out until 2019, it is unknown what level of renewable energy generation will be available at that time. Therefore, as a conservative estimation, the 19.9 percent achieved in 2014 was used to determine the CO_2 energy intensity.

SCAQMD, which is the applicable air pollution control agency for the City. This threshold was proposed by SCAQMD for mixed use and other non-stationary source development projects. Under the first part of the threshold, the annual GHG emissions from the project must meet the per service population threshold of 4.6 $MTCO_2e$ per year. Under part two of the threshold residual emissions from development projects implementing the per service population GHG efficiency threshold must not exceed 25,000 $MTCO_2e$ per year. Projects that meet both of these conditions are considered to be less than significant. This threshold directly applies to Impact GHG-1 as it is comparison to the quantification of GHG emissions from the proposed project. This threshold indirectly applies to Impact GHG-2 in that the SCAQMD has established the threshold to help guide the region towards the achievement of the reduction goals under AB 32.

In addition to the SCAQMD's per service population threshold, the proposed project's GHG emissions for 2020 were also compared to the BAU scenario. According to CARB's 2014 First Update to the Scoping Plan, "Recognizing the important role local governments play in the successful implementation of AB 32, the initial Scoping Plan called for local governments to set municipal and community-wide GHG reduction targets of 15 percent below then-current levels by 2020, to coincide with the statewide limit." As a second determination of significance and consistent with the most current CARB Scoping Plan, the proposed project must reduce emissions by 15 percent from the BAU scenario.

3.6.4.3 Impacts and Mitigation

3.6.4.3.1 Proposed Project

The main components of the proposed project include the proposed demolition of approximately 207,402 square feet of existing structures, demolition/renovation of the existing Pier Parking Structure, and construction/renovation of up to approximately 523,939 square feet to include retail, restaurant, creative office, specialty cinema, a public market hall, and a boutique hotel, resulting in approximately 304,058 square feet of net new development. As part of the proposed project, the existing utilities, including water pipelines, wastewater conveyance pipelines, lift stations, and electric and natural gas lines would be upgraded/replaced.

The proposed project also includes proposed enhancements to public recreation and open space, including a new small craft boat launch ramp, the opening of Seaside Lagoon to King Harbor as a protected beach and hand launch area (currently the lagoon is not directly connected to the ocean), new and expanded pedestrian and bicycle pathways, as well as new high quality public open spaces. Site connectivity and coastal access would be increased by the establishment of a new pedestrian bridge across the Basin 3 entrance, a new pedestrian promenade along the water's edge from the base of the Horseshoe Pier to Seaside Lagoon, the Pacific Avenue Reconnection, and a new main street flanked by commercial uses and public walkways that would traverse the northern portion of the project site from north to south, approximately parallel to Harbor Drive. Project elements also include water quality benefits, measures to accommodate sea level rise projections, and replacement or upgrades to aging infrastructure.

A detailed description of project construction is provided in Chapter 2 Project Description and Section 3.2 Air Quality.

3.6.4.3.2 Impact Determination

Impact GHG-1: The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

The proposed project would generate GHG emissions from a variety of sources. First, GHG emissions would be generated during construction of the proposed project. Once fully operational, the project's operations would generate GHG emissions from both area sources and mobile sources. Indirect source emissions generated by the proposed project include electrical consumption, water and wastewater usage (transportation), and solid waste disposal. Direct sources of air pollutants associated with the proposed project would consist of mobile sources (motor vehicles trips generated by employees and patrons of the proposed retail, office, recreational, and specialty uses) and area sources (combustion of natural gas for heating and cooling, landscaping equipment and consumer product use). Project design would include features to reduce energy emissions and would be accounted for as part of compliance with current 2013 Title 24 requirements.

SCAQMD Threshold Analysis

Construction

As discussed in the Methodology section above, all on-site activities, with the exception of Kincaid's restaurant, would cease at the beginning of construction activities and the project site would be closed to non-construction access. Construction-related GHG emissions for the proposed project were estimated using the same assumptions that were applied to the project's air quality analysis. Total estimated construction-related GHG emissions for the proposed project are shown in Table 3.6-2. As shown in Table 3.6-2, the proposed project's total estimated GHG emissions during construction would be approximately 12,329 $MTCO_2e$. This would equal to approximately 411 $MTCO_2e$ per year after amortization over 30 years per SCAQMD methodology.

Table 3.6-2: Estimated Total Construction-Related GHG Emissions

Construction Year	Estimated CO_2e Emissions
2017	6850.24 (MT)
2018	3,879.27 (MT)
2019	1,559.63 (MT)
Total	**12,329.14 (MT)**
Annual Construction (Amortized over 30 years)	**410.97 (MT/Yr)**

Notes:
CO_2e= carbon dioxide equivalent; MT =metric tons; MT/yr = metric tons per year.
Source: ESA CalEEMod Modeling 2015 (Appendix G4)

Operation

Area and indirect sources associated with the proposed project would primarily result from electricity and natural gas consumption, water transport (the energy used to pump water to and from the project site), and solid waste generation. GHG emissions from electricity consumed on the project site would be generated off-site by fuel combustion at the electricity provider. GHG emissions from water transport are also indirect emissions resulting from the energy required to transport water from its source. In addition, the new and renovated developments at the project site would also generate mobile source emissions from motor vehicle trips generated by employees and patrons. The estimated operational GHG emissions resulting from project implementation are shown in Table 3.6-3. Additionally, in accordance with SCAQMD's recommendation, the project's amortized construction-related GHG emissions from Table 3.6-2 are added to the operational emissions estimate in order to determine the project's total annual GHG emissions. As shown in Table 3.6-3, the total operational emissions would result in net emission increase of 5,041.82 $MTCO_2e$ per year, which would not exceed the second requirement of SCAQMD's efficiency threshold of 25,000 $MTCO_2e$ per year maximum net project emissions. The proposed project would have a net increase of 1,438 employees. Therefore, the per service population emissions would equal 3.51 $MTCO_2e$ annually. This would not exceed the first requirement of SCAQMD's efficiency threshold of 4.6 project level service population. Therefore, the net increase in GHG emissions resulting from project implementation is considered to be less than significant and no mitigation is required.

Table 3.6-3 Estimated Construction- and Operations-Related GHG Emissions

Emission Source	Estimated Emissions CO_2e (MT/yr)
Existing	
Area Sources	0.01
Energy Consumption	3,212.87
Mobile Sources	10,898.59
Solid Waste	165.33
Water Consumption	220.26
Total Existing Emissions	14,497.06
Proposed Project	
Area Sources	0.03
Energy Consumption[a]	5,463.42
Mobile Sources	13,136.19
Solid Waste	258.54
Water Consumption[b]	327.65
Total Project Emissions	19,158.75
Net Emissions Increase[c]	
Area Sources	0.03
Energy Consumption[a]	2,233.55
Mobile Sources	2,237.60
Solid Waste	93.21
Water Consumption[b]	107.30
Total Net Emissions Increase	4,661.69
Annual Amortized Construction	410.97
Total Project Emissions	**5,072.66**
Exceed 25,000 MT CO_2e/Year	No
Service Population (SP) (Net)[c]	1,438

Emissions per SP ($MTCO_2e$/yr/SP)	3.53
Threshold ($MTCO_2e$/yr/SP)	4.60
Exceed Threshold	No
Significant?	No

Notes: CO_2e= carbon dioxide equivalent; MT/yr = metric tons per year; %=percent.

[a] The energy-related GHG emissions, as estimated by CalEEMod, use 2008 Title 24 energy usage rates. However, according to the CEC, buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards would be 15 percent more energy efficient than the 2008 Standards. As such, this additional reduction in energy consumption was accounted for in the proposed project's estimated GHG emissions associated with energy consumption.

[b] GHG emissions reductions associated with water use resulting from compliance with CALGreen requirements, which requires a minimum 20 percent reduction in indoor water use and the provision of irrigation controllers for outdoor water use, were accounted for in CalEEMod model run.

[c] Net emissions equal the total project emissions minus the emissions from the existing operations. Because the emissions are compared to the threshold using a net increase, the service population represents the net increase in service population.

Source: ESA CalEEMod Modeling 2015 (Appendix G3)

BAU Analysis

GHG emissions for the BAU scenario would total 32,421.44 $MMTCO_2e$. This includes amortized construction emissions. The proposed project-related GHG emissions that accounted for applicable regulatory developments that would reduce GHG emissions from direct and indirect sources would total 24,586.70 $MMTCO_2e$.

Table 3.6-4 summarizes the GHG emissions for both the BAU scenario and the proposed project's emissions. As shown, the proposed project's emissions results in a 24.17 percent reduction from BAU. Therefore, the proposed project's GHG reduction would meet the AB 32 Scoping Plan's reduction target for local governments of 15 percent below the BAU scenario for municipal emissions. Therefore, the proposed project would result in less than significant emissions and no mitigation is required.

Table 3.6-4 Unmitigated BAU Emissions Comparison

Emission Source	Estimated Emissions CO_2e (MT/yr)
Proposed Project BAU Scenario	
Area Sources	0.03
Energy Consumption	5,887.90
Mobile Sources	25,179.24
Solid Waste	514.32
Water Consumption	428.97
Amortized Construction	410.97
Total BAU Emissions	32,421.44
Proposed Project 2020 Buildout Scenario	
Area Sources	0.03
Energy Consumption[a]	4,771.87
Mobile Sources	18,859.87
Solid Waste	258.54
Water Consumption[b]	285.41
Amortized Construction	410.97
Total Proposed Project Emissions	**24,586.70**
Reduction from BAU	24.17 percent
Reduction Threshold (municipal)	15.00 percent
Significant?	**No**

NOTES: CO_2e= carbon dioxide equivalent; MT/yr = metric tons per year; %=percent.

[a] The energy-related GHG emissions, as estimated by CalEEMod, use 2008 Title 24 energy usage rates. However, according to the CEC, buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards would be 15 percent more energy efficient than the 2008 Standards. As such, this additional reduction in energy consumption was accounted for in the proposed project's estimated GHG emissions associated with energy consumption.

[b] GHG emissions reductions associated with water use resulting from compliance with CALGreen requirements, which requires a minimum 20 percent reduction in indoor water use and the provision of irrigation controllers for outdoor water use, were accounted for in CalEEMod model run.

Source: ESA CalEEMod Modeling 2015 (Appendix G5)

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GHG-2: The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Consistency with GHG Emissions Reduction Plans or Policies

Consistency with CARB Scoping Plan

Out of the Recommended Actions contained in CARB's Scoping Plan, the actions that are most applicable to the proposed project would be Actions E-1 (increased Utility Energy efficiency programs including more stringent building and appliance standards), GB-1 (Green building), and W-1 (Increased water use efficiency). CARB Scoping Plan Action E-1, together with Action GB-1 (Green Building), aims to reduce electricity demand by increased

efficiency of Utility Energy Programs and adoption of more stringent building and appliance standards, while Action W-1 aims to promote water use efficiency. The proposed project would be designed to comply with the CALGreen Code to ensure that the new on-site developments would use resources (energy, water, etc.) efficiently and reduce pollution and waste. Therefore, the proposed project would be consistent with the Scoping Plan measures through incorporation of stricter building and appliance standards.

As a result of the incorporation of stricter building and appliance standards in addition to the implementation of State regulations for the reduction of GHG emissions, the proposed project's GHG reduction would exceed the AB 32 reduction target of 15 percent below the BAU scenario for municipal emissions as demonstrated under Impact GHG-1 above.

Consistency with SB 375

The key goal of the SCS is to achieve GHG emission reduction targets through integrated land use and transportation strategies. The focus of these reductions is on transportation and land use strategies that influence vehicle travel. The proposed project would be a redevelopment project that would be located within walking distance to public transportation as well as existing residential uses within the City. The location of the project in close proximity to both transit, the California Coastal Trail (a well utilized pedestrian/bicycle path), and existing residences would reduce transportation emissions within the City. Therefore, the proposed project would be consistent with the key goal of SB 375. The project is also located within a transit priority area (under SB 743). A more detailed discussion of the project's consistency with SB 375 is provided in the project's transportation analysis in Section 3.13 Traffic and Transportation and associated Appendix L1.

Consistency with Redondo Beach Sustainable Development Strategic Plan

The Sustainable Development Strategic Plan sets forth goals, specific objectives, and methods of implementing sustainable (green) development policies and programs (City of Redondo Beach, 2004). The plan sets overall City goals but does not provide goals that are appropriate at the project level. However, some of the objectives are designed to increase public and private water, energy resource, and recycling conservation practices. The proposed project would be consistent with Title 24 for energy and water conservation practices, therefore meeting a future objective of the Plan. The proposed project would be recycling building material on-site where applicable and transferring to a sorting facility for recycling when the material cannot be used on-site, therefore increasing recycling conservation. Additionally, as discussed in detail under consistency with SB 375 above, the proposed project would reduce region wide vehicle miles traveled by implementing infill development within walking distance to public transportation and by placing retail adjacent to existing residential uses. While the goals of the Sustainable Development Strategic Plan are generally not applicable to a project-level development such as the proposed project, the design and construction practices of the proposed project would nonetheless further the City's overall sustainability goals. Therefore, the proposed project would be consistent with the Sustainable Development Strategic Plan.

As discussed above, the proposed project would be consistent with the CARB Scoping Plan, SB 375 and with the City's Sustainable Development Strategic Plan. Therefore, the proposed project would have a less than significant impact and no mitigation would be required.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.6.4.4 Cumulative Impacts

Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Therefore, the geographic scope for the analysis of cumulative construction- and operational-related impacts resulting from the emissions of GHG is worldwide. Construction and operation of the proposed project would incrementally contribute to GHG emissions along with past, present, and future activities, and the CEQA Guidelines acknowledge this as a cumulative impact. As such, impacts of GHG emissions as analyzed in this section represent the cumulative analysis.

As discussed under Impact GHG-1 above, annual emissions of GHGs from implementation of the proposed project would result in per service population emissions of 3.51 $MTCO_2e$ annually. This would not exceed the SCAQMD's 4.6 $MTCO_2e$ annual project-level service population emissions threshold. The proposed project's 2020 emissions would result in a 24.17 percent reduction from BAU. Thus, the proposed project would exceed the AB 32 reduction target of 15 percent below the BAU scenario for municipal projects. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment and would not result in a cumulatively considerable contribution to a cumulative impact.

As discussed under Impact GHG-2 above, the proposed project would be designed to comply with the CALGreen Code to ensure that the new on-site developments would use resources (energy, water, etc.) efficiently and significantly reduce pollution and waste. Therefore, the proposed project would be consistent with the Scoping Plan measures through incorporation of stricter building and appliance standards. As a result of the incorporation of stricter building and appliance standards, in addition to the implementation of State regulations for the reduction of GHG emissions, the proposed project would exceed the AB 32 reduction target of 15 percent below the BAU scenario for municipal emissions.

The proposed project would be consistent with the key goal of SB 375. Because the nature of the redevelopment is designed to service the local community and is not designed to draw region-wide traffic, the location of the project in close proximity to both transit and existing residences would reduce transportation emissions within the City.

The proposed project would be consistent with Title 24 for energy and water conservation practices, therefore meeting a future objective of the City's Sustainable Development Strategic Plan. The proposed project would be recycling building material on-site where applicable and transferring to a sorting facility for recycling when the material cannot be used on-site, therefore increasing recycling conservation. Additionally, as discussed in detail under consistency with SB 375 above, the proposed project would reduce region wide vehicle miles traveled by implementing infill development within walking distance to public transportation and by placing retail adjacent to existing residential uses. While the goals of the Sustainable Development Strategic Plan are generally not applicable to a project-level development such as the proposed project, the design and construction practices of the proposed project would nonetheless further the City's overall sustainability goals. Therefore, the proposed project

would be consistent with the Plan and the proposed project would not result in a cumulatively considerable contribution to a cumulative impact relative to consistency with the Sustainable Development Strategic Plan.

The proposed project would be consistent with the CARB Scoping Plan, SB 375 and with the City's Sustainable Development Strategic Plan. Therefore, the proposed project would not result in a cumulatively considerable impact and no mitigation would be required.

Cumulative Mitigation Measures

No mitigation is required.

Cumulative Residual Impacts

Impacts would be less than significant.

3.6.4.5 Summary of Impact Determinations

Table 3.6-5 below summarizes the impact determinations of the proposed project in addition to adopted growth projections (i.e., potential cumulative impacts) related to GHG emissions, as described in the detailed discussion above.

Table 3.6-5: Summary Matrix of Potential Impacts and Mitigation Measures for GHGs Associated with the Proposed Project and Cumulative Growth

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
GHG-1: The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	Proposed Project: Less than significant	Proposed Project: No mitigation is required	Proposed Project: Less than significant
	Cumulative: Less than significant (no cumulatively considerable contribution)	Cumulative: No mitigation is required	Cumulative: Less than significant (not cumulatively considerable)
GHG-2: The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.	Proposed Project: Less than significant	Proposed Project: No mitigation is required	Proposed Project: Less than significant
	Cumulative: Less than significant(no cumulatively considerable contribution)	Cumulative: No mitigation is required	Cumulative: Less than significant (not cumulatively considerable)

3.6.4.6 Summary of Mitigation Measures

In the absence of significant impacts, mitigation measures are not required.

3.6.5 Significant Unavoidable Impacts

The proposed project would not result in any significant and unavoidable impacts related to GHG emissions.

This page left intentionally blank