

GREENHOUSE GAS EMISSIONS

TECHNICAL REPORT

20401 VENTURA AVENUE SELF-STORAGE PROJECT

Prepared by: DKA Planning
20445 Prospect Avenue, Suite C
San Jose, CA 95129

Prepared for: Banner Real Estate Group
20929 Ventura Boulevard, Suite 47-521
Woodland Hills, CA 91364

JUNE 2022 (revised July 2023)

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Introduction

This technical report examines the direct and indirect impacts of the Proposed Project at 20401 Ventura Boulevard related to greenhouse gas (GHG) emissions and global climate change by disclosing GHG emissions generation and by addressing the Project's consistency with applicable GHG emission reduction plans, policies, and regulations. Calculation worksheets and documentation are included in the Technical Appendix to this analysis.

Project Description

The Project includes the demolition and removal of the existing remnant building foundation, parking areas, and 19 trees, from the Project Site and development of the site with a 158,371-square-foot climate-controlled self-storage facility, which would include a 1,015-square-foot office associated with the self-storage facility operations, and 1,400 square feet of either neighborhood-serving retail or office use.¹ The building would be three stories tall (a maximum building height of 40 feet) over two basement levels. The Project would include 22 vehicle parking spaces to be provided in a surface parking lot located in the eastern portion of the Project Site. Additionally, the Project would include 16 short-term bicycle parking spaces and 24 long-term bicycle parking spaces. A loading area would be located interior of the building, with additional loading areas located within the surface parking lot in the northeastern portion of the Project Site. The Project would include security fencing along the perimeter of the Project Site, a secure access gate limited to use by customers and employees, and 24-hour camera surveillance. Additionally, the entire building would be self-contained with access to the storage units restricted from the interior of the building. The 19 non-protected but significant trees on the Project Site would be removed and replaced in accordance with the City's tree replacement requirements. The Project would require the export of approximately 32,598 cubic yards of material during the demolition phase and 61,585 cubic yards of soil and material during the grading phase.

Environmental Setting

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in average temperature of Earth's surface and atmosphere. One identified cause of global warming is an increase of GHG emissions in the atmosphere. GHG emissions are those compounds in Earth's atmosphere that play a critical role in determining Earth's surface temperature.

Earth's natural warming process is known as the "greenhouse effect." It is called the greenhouse effect because Earth and the atmosphere surrounding it are similar to a greenhouse with glass panes in that the glass allows solar radiation (sunlight) into Earth's atmosphere but prevents radiative heat from escaping, thus warming Earth's atmosphere. Some levels of GHG emissions keep the average surface

¹ *The gross square footage of the proposed building is 158,317 square feet; the net square footage is 146,012 square feet.*

temperature of Earth close to a hospitable 60 degrees Fahrenheit. However, it is believed that excessive concentrations of anthropogenic GHG emissions in the atmosphere can result in increased global mean temperatures, with associated adverse climatic and ecological consequences.²

Scientists studying the particularly rapid rise in global temperatures have determined that human activity has resulted in increased emissions of GHG emissions, primarily from the burning of fossil fuels (from motor vehicle travel, electricity generation, consumption of natural gas, industrial activity, manufacturing), deforestation, agricultural activity, and the decomposition of solid waste. Scientists refer to the global warming context of the past century as the “enhanced greenhouse effect” to distinguish it from the natural greenhouse effect.³

Global GHG emissions due to human activities have grown since pre-industrial times. As reported by the United States Environmental Protection Agency (USEPA), global carbon emissions from fossil fuels increased by over 16 times between 1900 and 2008 and by about 1.5 times between 1990 and 2008. In addition, in the Global Carbon Budget 2014 report, published in September 2014, atmospheric carbon dioxide (CO₂) concentrations in 2013 were found to be 43 percent above the concentration at the start of the Industrial Revolution, and the present concentration is the highest during at least the last 800,000 years.⁴ Global increases in CO₂ concentrations are due primarily to fossil fuel use, with land use change providing another significant but smaller contribution. With regard to emissions of non-CO₂ GHG, these have also increased significantly since 1990. In particular, studies have concluded that it is very likely that the observed increase in methane (CH₄) concentration is predominantly due to agriculture and fossil fuel use.⁵

In August 2007, international climate talks held under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) led to the official recognition by the participating nations that global emissions of GHG must be reduced. According to the “Ad Hoc Working Group on Further Commitments of Annex I Parties under the Kyoto Protocol,” avoiding the most catastrophic events forecast by the United Nations Intergovernmental Panel on Climate Change (IPCC) would entail emissions reductions by industrialized countries in the range of 25 to 40 percent below 1990 levels. Because of the Kyoto Protocol’s Clean Development Mechanism, which gives industrialized countries credit for financing emission-reducing projects in developing countries, such an emissions goal in industrialized countries could ultimately spur efforts to cut emissions in developing countries as well.⁶

² Intergovernmental Panel on Climate Change, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)].

³ Center for Climate and Energy Solutions, Climate Change 101: Understanding and Responding to Global Climate Change.

⁴ C. Le Quéré, et al., Global Carbon Budget 2014, (Earth System Science Data, 2015, doi:10.5194/essd-7-47-2015).

⁵ USEPA, Atmospheric Concentrations of Greenhouse Gas, updated June 2015.

⁶ United Nations Framework Convention on Climate Change, Press Release—Vienna UN Conference Shows Consensus on Key Building Blocks for Effective International Response to Climate Change, August 31, 2007

With regard to the adverse effects of global warming, as reported by the Southern California Association of Governments (SCAG), “Global warming poses a serious threat to the economic well-being, public health and natural environment in southern California and beyond. The potential adverse impacts of global warming include, among others, a reduction in the quantity and quality of water supply, a rise in sea level, damage to marine and other ecosystems, and an increase in the incidences of infectious diseases. Over the past few decades, energy intensity of the national and state economy has been declining due to the shift to a more service-oriented economy. California ranked fifth lowest among the states in CO₂ emissions from fossil fuel consumption per unit of Gross State Product. However, in terms of total CO₂ emissions, California is second only to Texas in the nation and is the 12th largest source of climate change emissions in the world, exceeding most nations. The SCAG region, with close to half of the state’s population and economic activities, is also a major contributor to the global warming problem.”

GHG Emissions Background. GHG emissions include CO₂, CH₄, nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃).⁷ Carbon dioxide is the most abundant GHG. Other GHG emissions are less abundant but have higher global warming potential than CO₂. Thus, emissions of other GHG emissions are frequently expressed in the equivalent mass of CO₂, denoted as CO₂e. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. A general description of the GHG emissions is provided in **Table 1**.

Global Warming Potential (GWP) is one type of simplified index based upon radiative properties used to estimate the potential future impacts of emissions of different gases upon the climate system. The GWP is based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO₂, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO₂. The larger the GWP, the more that a given gas warms the Earth compared to CO₂ over that time period. A summary of the atmospheric lifetime and GWP of selected gases is presented in **Table 2**.⁸ As indicated on the table, the GWP ranges from 1 to 22,800.

⁷ As defined by California Assembly Bill (AB) 32 and Senate Bill (SB) 104.

⁸ Atmospheric lifetime is defined as the time required to turn over the global Atmospheric burden. Source: Intergovernmental Panel on Climate Change, IPCC Third Assessment Report: Climate Change 2001 (TAR), Chapter 4: Atmospheric Chemistry and Greenhouse Gases, 2001, p. 247.

Table 1
Description of Identified GHG Emissions^a

Greenhouse Gas	General Description
	An odorless, colorless GHG, which has both natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of CO ₂ are burning coal, oil, natural gas, and wood.
Methane (CH₄)	A flammable gas and is the main component of natural gas. When one molecule of CH ₄ is burned in the presence of oxygen, one molecule of CO ₂ and two molecules of water are released. A natural source of CH ₄ is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain CH ₄ , which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.
Nitrous Oxide (N₂O)	A colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. N ₂ O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, racecars, and as an aerosol spray propellant.
Hydrofluorocarbons (HFCs)	Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH ₄ or ethane (C ₂ H ₆) with chlorine and/or fluorine atoms. CFCs are non-toxic, non-flammable, insoluble, and chemically unreactive in the troposphere (the level of air at Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. Because they destroy stratospheric ozone, the production of CFCs was stopped as required by the Montreal Protocol in 1987. HFCs are synthetic man-made chemicals that are used as a substitute for CFCs as refrigerants. HFCs deplete stratospheric ozone, but to a much lesser extent than CFCs.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. The two main sources of PFCs are primary aluminum production and semi-conductor manufacturing.
Sulfur Hexafluoride (SF₆)	An inorganic, odorless, colorless, non-toxic, and non-flammable gas. SF ₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.
Nitrogen Trifluoride (NF₃)	An inorganic, non-toxic, odorless, non-flammable gas. NF ₃ is used in the manufacture of semi-conductors, as an oxidizer of high-energy fuels, for the preparation of tetrafluorohydrazine, as an etchant gas in the electronic industry, and as a fluorine source in high power chemical lasers.
<p><i>GHG emissions identified in this table are ones identified in the Kyoto Protocol and other synthetic gases recently added to the IPCC's Fifth Assessment Report.</i></p> <p><i>Source: Association of Environmental Professionals, Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007; Environmental Protection Agency, Acute Exposure Guideline Levels (AEGs) for Nitrogen Trifluoride; January 2009.</i></p>	

**Table 2
Atmospheric Lifetimes and Global Warming Potential**

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO ₂)	50–200	1
Methane (CH ₄)	12 (+/-3)	25
Nitrous Oxide (N ₂ O)	114	298
HFC-23: Fluoroform (CHF ₃)	270	14,800
HFC-134a: 1,1,1,2-Tetrafluoroethane (CH ₂ FCF ₃)	14	1,430
HFC-152a: 1,1-Difluoroethane (C ₂ H ₄ F ₂)	1.4	124
PFC-14: Tetrafluoromethane (CF ₄)	50,000	7,390
PFC-116: Hexafluoroethane (C ₂ F ₆)	10,000	12,200
Sulfur Hexafluoride (SF ₆)	3,200	22,800
Nitrogen Trifluoride (NF ₃)	740	17,200

Source: IPCC, Climate Change 2007: Working Group I: The Physical Science Basis, Direct Global Warming Potentials

Projected Impacts of Global Warming in California. The scientific community’s understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth’s climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC’s Fifth Assessment Report, Summary for Policy Makers states that, “it is extremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forces together.”⁹ A report from the National Academy of Sciences concluded that 97 to 98 percent of the climate researchers most actively publishing in the field support the tenets of the IPCC in that climate change is very likely caused by human (i.e., anthropogenic) activity.¹⁰

According to CARB, the potential impacts in California due to global climate change may include: loss in snowpack; sea level rise; more extreme heat days per year; more high ozone days; more large forest fires; more drought years; increased erosion of California’s coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation. Below is a summary of some of the potential effects that could be experienced in California as a result of global warming and climate change.

Air Quality. Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of

⁹ Intergovernmental Panel on Climate Change, Fifth Assessment Report, Summary for Policy Makers, page 5, 2013, <http://ipcc.ch/report/ar5/syr/>. Accessed April 2020.

¹⁰ Anderegg, William R. L., J.W. Prall, J. Harold, S.H., Schneider, Expert Credibility in Climate Change, Proceedings of the National Academy of Sciences of the United States of America. 2010;107:12107-12109.

the effect and, therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would exacerbate air quality. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state.¹¹ However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires.

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy* as a response to the Governor’s Executive Order S-13-2008.¹² The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the California Energy Commission (CEC) was directed to develop a website on climate change scenarios and impacts that would be beneficial for local decision makers.¹³ The website, known as Cal-Adapt, became operational in 2011.¹⁴ The information provided on the Cal-Adapt website represents a projection of potential future climate scenarios. The data are comprised of the average values (i.e., temperature, sea-level rise, snowpack) from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors. According to the Cal-Adapt website, the portion of the city in which the Project Site is located could result in an average increase in temperature of approximately 5.4 to 8.0°F by 2070–2099, compared to the baseline 1961–1990 period.

Water Supply. Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, “[c]onsiderable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change.”¹⁵ For example, some studies identify little change in total annual precipitation in projections for California while others show significantly more precipitation.¹⁶ Warmer, wetter winters would increase the amount of runoff available for groundwater recharge; however, this additional runoff would occur at a time when some basins are either being recharged at their maximum capacity or are already full. Conversely,

¹¹ California Environmental Protection Agency, *Preparing California for Extreme Heat: Guidance and Recommendations*, October 2013, https://www.cdph.ca.gov/Programs/OHE/CDPH%20Document%20Library/CCHEP-General/CDPH-EPA-2013-Preparing-CA-for-Extreme-Heat_ADA.pdf. Accessed April 2020

¹² California Natural Resources Agency, Climate Action Team, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, 2009.

¹³ California Natural Resources Agency, Climate Action Team, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, 2009.

¹⁴ The Cal-Adapt website address is: <http://cal-adapt.org>.

¹⁵ Pacific Institute for Studies in Development, Environment and Security, *Climate Change and California Water Resources: A Survey and Summary of the Literature*, July 2003, page 5, http://www.pacinst.org/reports/climate_change_and_california_water_resources.pdf. Accessed April 2020.

¹⁶ Pacific Institute for Studies in Development, Environment and Security, *Climate Change and California Water Resources: A Survey and Summary of the Literature*, July 2003, http://www.pacinst.org/reports/climate_change_and_california_water_resources.pdf. Accessed April 2020.

reductions in spring runoff and higher evapotranspiration because of higher temperatures could reduce the amount of water available for recharge.¹⁷

The California Department of Water Resources report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta, concludes that “climate change will likely have a significant effect on California’s future water resources...[and] future water demand.” It also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain.”¹⁸ It also reports that the relationship between climate change and its potential effect on water demand is not well understood, but “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows.¹⁹ In its *Fifth Assessment Report*, the IPCC states “Changes in the global water cycle in response to the warming over the 21st century will not be uniform. The contrast in precipitation between wet and dry regions and between wet and dry seasons will increase, although there may be regional exceptions.”²⁰

Hydrology and Sea Level Rise. As discussed above, climate change could potentially affect: the amount of snowfall, rainfall and snowpack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a \$30 billion agricultural industry that produces half the country’s fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants

¹⁷ California Natural Resources Agency, *Safeguarding California: Reducing Climate Risk, an Update to the 2009 California Climate Adaptation Strategy*, 2014.

¹⁸ California Department of Water Resources *Climate Change Report, Progress on Incorporating Climate Change into Planning and Management of California’s Water Resources*, July 2006, page 2-54, https://water.ca.gov/LegacyFiles/climatechange/docs/CCprogress_nov06.pdf. Accessed April 2020

¹⁹ California Department of Water Resources *Climate Change Report, Progress on Incorporating Climate Change into Planning and Management of California’s Water Resources*, July 2006, page 2-75, https://water.ca.gov/LegacyFiles/climatechange/docs/CCprogress_nov06.pdf. Accessed April 2020

²⁰ Intergovernmental Panel on Climate Change, *Fifth Assessment Report, Summary for Policy Makers*, 2013, page 20.

more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.²¹

Ecosystems and Wildlife. Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise by 2-11.5°F (1.1-6.4°C) by 2100, with significant regional variation.²² Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as 2 feet along most of the United States coastline. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.²³

Regulatory Framework: Federal

In response to growing scientific and political concern with global climate change, federal and state entities have adopted a series of laws to reduce emissions of GHG emissions to the atmosphere.

Federal Clean Air Act. The U.S. Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that CO₂ and other GHG emissions are pollutants under the federal Clean Air Act (CAA), which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. The U.S. Supreme Court did not mandate that the USEPA enact regulations to reduce GHG emissions. Instead, the Court found that the USEPA could avoid acting if it found that GHG emissions do not contribute to climate change or if it offered a “reasonable explanation” for not determining that GHG emissions contribute to climate change.

On April 17, 2009, the USEPA issued a proposed finding that GHG emissions contribute to air pollution that may endanger public health or welfare. On April 24, 2009, the proposed rule was published in the Federal Register under Docket ID No. EPA-HQ-OAR-2009-0171. The USEPA stated that high atmospheric levels of GHG emissions “are the unambiguous result of human emissions and are very likely the cause of the observed increase in average temperatures and other climatic changes.” The USEPA further found that “atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act.” The findings were signed by the USEPA Administrator on December 7, 2009. The final findings were published in the Federal Register on

²¹ California Climate Change Center, *Our Changing Climate: Assessing the Risks to California*, 2006, <https://www.ucsusa.org/resources/our-changing-climate-assessing-risks-california>. Accessed April 2020.

²² National Research Council, *Advancing the Science of Climate Change*, 2010, <http://dels.nas.edu/resources/static-assets/materials-based-on-reports/reports-in-brief/Science-Report-Brief-final.pdf>. Accessed April 2020.

²³ Parmesan, C., and H. Galbraith, *Observed Impacts of Global Climate Change in the U.S.*, Prepared for the Pew Center on Global Climate Change, November 2004, <https://www.c2es.org/site/assets/uploads/2004/11/observed-impacts-climate-change-united-states.pdf>. Accessed April 2020.

December 15, 2009. The final rule was effective on January 14, 2010.²⁴ While these findings alone do not impose any requirements on industry or other entities, this action is a prerequisite to regulatory actions by the USEPA, including, but not limited to, GHG emissions standards for light-duty vehicles.

On April 4, 2012, the USEPA published a proposed rule to establish, for the first time, a new source performance standard for GHG emissions. Under the proposed rule, new fossil fuel-fired electric generating units larger than 25 megawatts (MW) are required to limit emissions to 1,000 pounds of CO₂ per MW-hour (CO₂/MWh) on an average annual basis, subject to certain exceptions. Subsequently, on April 23, 2018, the USEPA issued a policy stating that CO₂ emissions from biomass-fired and other biogenic sources would be considered carbon neutral when used for energy production at stationary sources.

On April 17, 2012, the USEPA issued emission rules for oil production and natural gas production and processing operations, which are required by the CAA under Title 40 of the Code of Federal Regulations, Parts 60 and 63. The final rules include the first federal air standards for natural gas wells that are hydraulically fractured, along with requirements for several other sources of pollution in the oil and gas industry that currently are not regulated at the federal level.²⁵

Corporate Average Fuel Economy (CAFE) Standards. In response to the *Massachusetts v. Environmental Protection Agency* ruling, the George W. Bush Administration issued Executive Order 13432 in 2007, directing the USEPA, the United States Department of Transportation (USDOT), and the United States Department of Energy (USDOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011; in 2010, the USEPA and the NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Obama issued a memorandum directing the USEPA, USDOT, USDOE, and NHTSA to establish additional standards regarding fuel efficiency and GHG emissions reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG emissions and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards are projected to achieve 163 grams/mile of CO₂ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon (mpg) if the standards were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021. In March 2020, NHTSA and USEPA adopted new less stringent standards covering model years 2021 through 2026.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011 the USEPA and the NHTSA announced fuel economy and GHG standards for medium- and heavy-duty

²⁴ USEPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Final Rule.

²⁵ USEPA, 2012 Final Rules for Oil and Natural Gas Industry, April 17, 2012, <https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/2012-final-rules-oil-and-natural-gas-industry>, accessed April 2020.

trucks for model years 2014–2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program would reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.²⁶

Building on the success of the first phase of standards, in August 2016, the USEPA and the NHTSA finalized Phase 2 standards for medium and heavy-duty vehicles through model year 2027 that will improve fuel efficiency and cut carbon pollution. The Phase 2 standards were to lower CO₂ emissions by approximately 1.1 billion metric tons and save vehicle owners fuel costs of about \$170 billion.²⁷ On August 10, 2021, NHTA proposed new CAFE standards for 2024-2026 that would increase the stringency of standards by 8 percent per year rather than the previous 1.5 percent.

On September 19, 2019, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and USEPA issued a final action entitled the "One National Program Rules" to enable the federal government to provide nationwide uniform fuel economy and greenhouse gas (GHG) emission standards for automobile and light duty trucks. This action finalizes the Safe Affordable Fuel Efficient (SAFE) Vehicles Rule and clarifies that federal law preempts state and local tailpipe GHG emissions standards as well as zero emission vehicle (ZEV) mandates. The SAFE Vehicle Rule also withdraws the CAA waiver granted to the State of California that allowed the state to enforce its own Low Emission Vehicle program.²⁸ On March 31, 2020, Part II of the SAFE Vehicles was issued and sets carbon dioxide emissions and CAFE standards for passenger vehicles and light duty trucks, covering model years 2021-2026.²⁹ On December 21, 2021, NHTA repealed the SAFE I Rule.

Energy Independence and Security Act. The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;

²⁶ The emission reductions attributable to the regulations for medium- and heavy-duty trucks were not included in the Project's emissions inventory due to the difficulty in quantifying the reductions. Excluding these reductions results in a more conservative (i.e., higher) estimate of emissions for the Project.

²⁷ USEPA and NHTSA Adopt Standards to Reduce GHG and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles for Model Year 2018 and Beyond, August 2016.

²⁸ U.S. Department of Transportation and EPA. 2019. *One National Program Rule on Federal Preemption of State Fuel Economy Standards*, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-one-national-program-federal-preemption-state#:~:text=In%20this%20action%20NHTSA%20is,and%20local%20programs%20are%20preempted.>

²⁹ U.S. Department of Transportation. 2020. *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks*, https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/final_safe_preamble_web_version_200330.pdf.

- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and the NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks, and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of the EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of “green jobs.”³⁰

Regulatory Framework: State

Executive Order S-3-05. This Executive Order, issued by Governor Schwarzenegger in June 2005, established GHG emissions targets for the state, as well as a process to ensure the targets are met. The order directed the Secretary for the California Environmental Protection Agency (CalEPA) to report every two years on the state’s progress toward meeting the Governor’s GHG emission reduction targets. The statewide GHG emissions reduction targets are as follows:

- By 2010, reduce to 2000 emission levels;³¹
- By 2020, reduce to 1990 emission levels;
- By 2030, reduce to 40 percent below 1990 levels; and
- By 2050, reduce to 80 percent below 1990 levels.

The State Legislature adopted equivalent 2020 and 2030 statewide targets in the California Global Warming Solutions Act of 2006 (also known as Assembly Bill [AB] 32) and Senate Bill 32, respectively, both of which are discussed below. However, the Legislature has not yet adopted a target for the 2050 horizon year.

As a result of Executive Order S-3-05, the California CAT, led by the Secretary of CalEPA, was formed. The CAT is made up of representatives from several state agencies and was formed to implement global warming emission reduction programs and to report on the progress made toward meeting statewide targets established under the Executive Order. The CAT reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order.³²

³⁰ A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

³¹ The 2010 target to reduce GHG emissions to 2000 levels was not met. Source: Rubin, Thomas A., “Does California Really Need Major Land Use and Transportation Changes to Meet Greenhouse Gas Emissions Targets?,” July 3, 2013.

³² CalEPA, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006.

The CAT stated that smart land use is an umbrella term for strategies that integrate transportation and land-use decisions. Such strategies generally encourage jobs/housing proximity, promote transit-oriented development (TOD), and encourage high-density residential/commercial development along transit corridors. These strategies develop more efficient land-use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population. “Intelligent transportation systems” is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and the movement of people, goods, and service.³³

Executive Order B-30-15. Issued by Governor Brown in April 2015, established an additional statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. Reducing GHG emissions by 40 percent below 1990 levels in 2030 and by 80 percent below 1990 levels by 2050 (consistent with Executive Order S-3-05) aligns with scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius.³⁴

Executive Order B-55-18. Issued by Governor Jerry Brown in September 2018, this establishes a statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this executive order, CARB would work with relevant state agencies to develop a framework for implementation and accounting that tracks progress towards this goal, as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

Executive Order S-1-07 (California Low Carbon Fuel Standard). Executive Order S-1-07, the LCFS (issued on January 18, 2007), requires a reduction of at least 10 percent in the carbon intensity of California’s transportation fuels by 2020. Regulatory proceedings and implementation of the LCFS were directed to CARB. The LCFS has been identified by CARB as a discrete early action item in the adopted Climate Change Scoping Plan. The LCFS program was re-adopted in 2015 and will continue to complement other AB 32 measures, transform, and diversify the fuel pool, and is a key part of the State’s petroleum reduction goals for 2030.

California Assembly Bill 32 (California Global Warming Solutions Act of 2006) and Senate Bill 32. The California Global Warming Solutions Act of 2006 (also known as AB 32) commits the state to achieving the following:

- By 2010, reduce to 2000 GHG emission levels;³⁵ and

³³ CalEPA, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 58.

³⁴ California Air Resources Board, Frequently Asked Questions about Executive Order B-30-15, 2030 Carbon Target and Adaptation FAQs, April 29, 2015.

³⁵ The 2010 target to reduce GHG emissions to 2000 levels was not met. Source: Rubin, Thomas A., “Does California Really Need Major Land Use and Transportation Changes to Meet Greenhouse Gas Emissions Targets?”, July 3, 2013.

- By 2020, reduce to 1990 levels.

To achieve these goals, which are consistent with the California CAT GHG emissions reduction targets for 2010 and 2020, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources consistent with the CAT strategies, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. To achieve the reduction targets, AB 32 requires CARB to adopt rules and regulations in an open public process that achieve the maximum technologically feasible and cost-effective GHG emissions reductions.³⁶

Senate Bill (SB) 32, signed September 8, 2016, updates AB 32 (the Global Warming Solutions Act) to include an emissions reductions goal for 2030. Specifically, SB 32 requires the state board to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

Assembly Bill 197. Assembly Bill (AB) 197, signed September 8, 2016, is a bill linked to SB 32 that prioritizes efforts to cut GHG emissions in low-income or minority communities. AB 197 requires CARB to make available, and update at least annually, on its Internet Web site the emissions of greenhouse gases, criteria pollutants, and toxic air contaminants for each facility that reports to CARB and air districts. In addition, AB 197 adds two Members of the Legislature to the CARB board as ex officio, non-voting members and creates the Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the Legislature and the houses of the Legislature concerning the state's programs, policies, and investments related to climate change.

Senate Bill 350. Senate Bill (SB) 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 is the implementation of some of the goals of Executive Order B-30-15. The objectives of SB 350 are: (1) to increase the procurement of electricity from renewable sources from 33 percent to 50 percent by December 31, 2030; and (2) to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.³⁷

Senate Bill 1368. Senate Bill (SB) 1368, signed September 29, 2006, is a companion bill to AB 32 that requires the CPUC and the CEC to establish GHG emission performance standards for the generation of electricity. These standards also generally apply to power that is generated outside of California and imported into the state. SB 1368 provides a mechanism for reducing the emissions of electricity

³⁶ CARB's list of discrete early action measures that could be adopted and implemented before January 1, 2010, was approved on June 21, 2007. The three adopted discrete early action measures are: (1) a low-carbon fuel standard, which reduces carbon intensity in fuels statewide; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance; and (3) increased methane capture from landfills, which includes requiring the use of state-of-the-art capture technologies.

³⁷ Senate Bill 350 (2015–2016 Reg, Session) Stats 2015, ch. 547.

providers, thereby assisting CARB to meet its mandate under AB32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard, which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO₂ per MWh. Furthermore, on May 23, 2007, the CEC adopted regulations that establish and implement an identical Emissions Performance Standard of 1,100 pounds of CO₂ per MWh (see CEC Order No. 07-523-7).

Assembly Bill 1493 (Pavley I). Assembly Bill (AB) 1493, passed in 2002, requires the development and adoption of regulations to achieve “the maximum feasible reduction of greenhouse gases” emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state. CARB originally approved regulations to reduce GHG emissions from passenger vehicles in September 2004, with the regulations to take effect in 2009. On September 24, 2009, CARB adopted amendments to these “Pavley” regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016.³⁸ Although setting emission standards on automobiles is solely the responsibility of the USEPA, the federal CAA allows California to set state-specific emission standards on automobiles if the state first obtains a waiver from the USEPA. The USEPA granted California that waiver on July 1, 2009. A comparison between the AB 1493 standards and the Federal CAFE standards was completed by CARB and the analysis determined that California emission standards are 16 percent more stringent through the 2016 model year and 18 percent more stringent for 2020 model year.³⁹ California is also committed to further strengthening these standards beginning with 2020 model year vehicles to obtain a 45-percent GHG reduction in comparison to the 2009 model year.

Senate Bill 97. SB 97, passed in August 2007, is designed to work in conjunction with CEQA and AB 32. SB 97 requires the Office of Planning and Research (OPR) to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including, but not limited to, the effects associated with transportation and energy consumption. The Draft Guidelines Amendments for Greenhouse Gas Emissions (Guidelines Amendments) were adopted on December 30, 2009 and address the specific obligations of public agencies when analyzing GHG emissions under CEQA to determine a project’s effects on the environment.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in the Guidelines Amendments.⁴⁰ The Guidelines Amendments require a lead agency to make a good-faith effort, based on the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The Guidelines Amendments give discretion to the lead agency whether to: (1) use a model or methodology to quantify GHG emissions

³⁸ California Air Resources Board, Clean Car Standards—Pavley, Assembly Bill 1493, www.arb.ca.gov/cc/ccms/ccms.htm, accessed April 2020.

³⁹ California Air Resources Board, “Comparison of Greenhouse Gas Reductions for all Fifty United States under CAFE Standards and ARB Regulations Adopted Pursuant to AB 1493”, January 23, 2008.

⁴⁰ See 14 Cal. Code Regs. §§ 15064.7 (generally giving discretion to lead agencies to develop and publish thresholds of significance for use in the determination of the significance of environmental effects), 15064.4 (giving discretion to lead agencies to determine the significance of impacts from GHG emissions).

resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. Furthermore, the Guidelines Amendments identify the following three factors that should be considered in the evaluation of the significance of GHG emissions:

1. The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.⁴¹

The administrative record for the Guidelines Amendments also clarifies “that the effects of greenhouse gas emissions are cumulative and should be analyzed in the context of CEQA’s requirements for cumulative impact analysis.”⁴²

In December 2018, the Governor’s Office of Planning and Research (OPR) released a CEQA and Climate Change Advisory (Discussion Draft) updates the 2009 guidance for project-level analyses. It reaffirms the discretion that lead agencies have in establishing an appropriate methodology and determining significance.

Senate Bill 743. This 2013 legislation updates the way transportation impacts are measured in California, focusing on vehicle miles traveled (VMT) rather than level of service as the main measure of transportation impacts. It calls on decisionmakers throughout the State to focus on reducing overall VMT and the GHG emissions from such vehicle activity. Traffic studies in the City of Los Angeles began formally analyzing projects in this fashion effective July 1, 2020.

Senate Bill 375. Acknowledging the relationship between land use planning and transportation sector GHG emissions, Senate Bill (SB) 375 was passed by the State Assembly on August 25, 2008 and signed by the Governor on September 30, 2008. This legislation links regional planning for housing and transportation with the GHG reduction goals outlined in AB 32. Reductions in GHG emissions would be achieved by, for example, locating employment opportunities close to transit. Under SB 375, each Metropolitan Planning Organization (MPO) would be required to adopt a Sustainable Community Strategy (SCS) to encourage compact development that reduce passenger VMT and trips so that the region will meet a target, created by CARB, for reducing GHG emissions. If the SCS is unable to achieve the regional GHG emissions reduction targets, then the MPO is required to prepare an alternative planning strategy that shows how the GHG emissions reduction target could be achieved through alternative development patterns, infrastructure, and/or transportation measures.

⁴¹ 14 Cal. Code Regs. § 15064.4(b).

⁴² Letter from Cynthia Bryant, Director of the Governor’s Office of Planning and Research to Mike Chrisman, California Secretary for Natural Resources, dated April 13, 2009.

Assembly Bill 1279. This 2022 legislation creates a legally binding goal that California achieve carbon neutrality by 2045. It would also require the State to reduce GHG emissions by 85 percent below 1990 levels by 2045.

Climate Change Scoping Plan. The Climate Change Scoping Plan is a GHG emissions reduction roadmap developed and updated by CARB at least once every five years, as required by AB 32. It lays out the transformations needed across various sectors to reduce GHG emissions and reach the state's climate targets. CARB published the Final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan Update) in November 2022, as the third update to the initial plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 target of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business-as-usual activities. The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG targets. The 2013 Scoping Plan Update (adopted in 2014) assessed progress toward achieving the 2020 target and made the case for addressing short-lived climate pollutants (SLCPs). The 2017 Scoping Plan Update, shifted focus to the newer Senate Bill (SB) 32 goal of a 40 percent reduction below 1990 levels by 2030 by laying out a detailed cost-effective and technologically feasible path to this target, and also assessed progress towards achieving the AB 32 goal of returning to 1990 GHG levels by 2020. The 2020 goal was ultimately reached in 2016, four years ahead of the schedule called for under AB 32.

The 2022 Scoping Plan Update is the most comprehensive and far-reaching Scoping Plan developed to date and identifies a technologically feasible, cost-effective, and equity-focused path to achieve new targets for carbon neutrality by 2045 and to reduce anthropogenic GHG emissions to at least 85 percent below 1990 levels, while also assessing the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan. The 2030 target is an interim but important steppingstone along the critical path to the broader goal of deep decarbonization by 2045. The relatively longer path assessed in the 2022 Scoping Plan Update incorporates, coordinates, and leverages many existing and ongoing efforts to reduce GHGs and air pollution, while identifying new clean technologies and energy. Given the focus on carbon neutrality, the 2022 Scoping Plan Update also includes discussion for the first time of the natural and working lands sectors as sources for both sequestration and carbon storage, and as sources of emissions as a result of wildfires.

The 2022 Scoping Plan Update reflects existing and recent direction in the Governor's Executive Orders and State Statutes, which identify policies, strategies, and regulations in support of and implementation of the Scoping Plan. Among these include Executive Order B-55-18 and AB 1279 (The California Climate Crisis Act), which identify the carbon neutrality and GHG emissions reduction targets for 2045 incorporated into the Scoping Plan.

Achieving the targets described in the 2022 Scoping Plan Update will require continued commitment to and successful implementation of existing policies and programs and identification of new policy tools and technical solutions to go further, faster. California's Legislature and state agencies will continue to

collaborate to achieve the state’s climate, clean air, equity, and broader economic and environmental protection goals. It will be necessary to maintain and strengthen this collaborative effort, and to draw upon the assistance of the federal government, regional and local governments, tribes, communities, academic institutions, and the private sector to achieve the state’s near-term and longer-term emission reduction goals and a more equitable future for all Californians. The Scoping Plan acknowledges that the path forward is not dependent on one agency, one state, or even one country. However, the State can lead by engaging Californians and demonstrating how actions at the state, regional, and local levels of governments, as well as action at community and individual levels, can contribute to addressing the challenge.

Aligning local jurisdiction action with state-level priorities to tackle climate change and the outcomes called for in the 2022 Scoping Plan Update is critical to achieving the statutory targets for 2030 and 2045. The 2022 Scoping Plan Update discusses the role of local governments in meeting the State’s GHG emissions reductions goals. Local governments have the primary authority to plan, zone, approve, and permit how and where land is developed to accommodate population growth, economic growth, and the changing needs of their jurisdictions. They also make critical decisions on how and when to deploy transportation infrastructure, and can choose to support transit, walking, bicycling, and neighborhoods that do not force people into cars. Local governments also have the option to adopt building ordinances that exceed statewide building code requirements and play a critical role in facilitating the rollout of Zero-Emissions Vehicle (ZEV) infrastructure. As a result, local government decisions play a critical role in supporting state-level measures to contain the growth of GHG emissions associated with the transportation system and the built environment – the two largest GHG emissions sectors over which local governments have authority. The City has taken the initiative in combating climate change by developing programs and regulations such as the Green New Deal and Green Building Code. Each of these is discussed further below.

Cap-and-Trade Program. The original *Climate Change Scoping Plan* identified a cap-and-trade program as one of the strategies for California to reduce GHG emissions. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap can trade permits to emit GHG emissions within the overall limit.

The Program is designed to reduce GHG emissions from major sources, such as refineries and power plants, (deemed “covered entities”). “Covered entities” subject to the Cap-and-Trade Program are sources that emit more than 25,000 metric tons CO₂e (MTCO₂e) per year. Triggering of the 25,000 MTCO₂e per year “inclusion threshold” is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Mandatory Reporting Rule or MRR).

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or in part (if eligible) and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender an allowance for each metric ton CO₂e of GHG they emit.

The Cap-and-Trade Program provides a firm cap, ensuring that the 2030 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any source. Rather, GHG emissions reductions are only guaranteed on a cumulative basis. As summarized by CARB in the First Update:

The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced.

For example, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a commensurate reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative.

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its 2030 GHG emissions reduction mandate.

The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the “capped sectors.” Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. [...]⁴³

Overall, the Cap-and-Trade Program will achieve aggregate, rather than site-specific or project-level, GHG emissions reductions. Also, due to the regulatory framework adopted by CARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the state's emissions forecasts and the effectiveness of direct regulatory measures. The Cap-and-Trade Program covered approximately 450 businesses responsible for about 85 percent of California's GHG emissions.⁴⁴

⁴³ California Air Resources Board, First Update, May 2014, p. 88.

⁴⁴ Center for Climate and Energy Solutions, California Cap-and-Trade, <https://www.c2es.org/content/california-cap-and-trade/>, accessed April 2020.

The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.⁴⁵ Furthermore, the Cap-and-Trade Program also covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e., delivered into commerce). Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of GHG emissions from CEQA projects associated with vehicle-miles traveled (VMT) are covered by the Cap-and-Trade Program.

Assembly Bill 398 was enacted in 2017 to extend the Cap-and-Trade Program from January 1, 2021, through December 31, 2030. As part of AB 398, refinements were made to the Cap-and-Trade program to establish updated protocols and allocation of proceeds to reduce GHG emissions.

California Renewables Portfolio Standard. The California RPS program (2002, SB 1078) required that 20 percent of the available energy supplies are from renewable energy sources by 2017. In 2006, SB 107 accelerated the 20 percent mandate to 2010. These mandates apply directly to investor-owned utilities. On April 12, 2011, California Governor Jerry Brown signed into law SB 2X, which modified California's RPS program to require that both public and investor-owned utilities in California receive at least 33 percent of their electricity from renewable sources by the year 2020. California SB 2X also requires regulated sellers of electricity to meet an interim milestone of procuring 25 percent of their energy supply from certified renewable resources by 2016. These levels of reduction are consistent with the Los Angeles Department of Water and Power's (LADWP) commitment to achieve 35 percent renewables by 2020.

LADWP indicates that 31 percent of its electricity came from renewable resources in 2018. Therefore, under SB 2X, LADWP is required to increase its electricity from renewable resources by an additional two percent to comply with the RPS of 33 percent.⁴⁶

Advanced Clean Cars Regulations. In 2012, CARB approved the Advanced Clean Cars (ACC) program, a new emissions-control program for model years 2015–2025.⁴⁷ The components of the Advance Clean Car program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero- Emission Vehicle

⁴⁵ While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, fuel suppliers did not have a compliance obligation (i.e., they were not fully regulated) until 2015.

⁴⁶ LADWP, 2018 Power Content Label update, https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-power/a-p-powercontentlabel.jsessionid=dJLKfT5pp6iLZJIZtVTTIVVItXW1VPLLqnnKXLLSpkTGLbn6nh6n!56480797?_afLoop=49111251050871&_afWindowMode=0&_afWindowId=null#%40%3F_afWindowId%3Dnull%26_afLoop%3D49111251050871%26_afWindowMode%3D0%26_adf.ctrl-state%3Ddmbiw8w82_4.

⁴⁷ California Air Resources Board, California's Advanced Clean Cars Program, www.arb.ca.gov/msprog/acc/acc.htm, accessed April 2020.

(ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.⁴⁸

On September 23, 2020, Governor Gavin Newsom signed Executive Order No. N-79-20 that phases out sales of new gas-powered passenger cars by 2035 in California with an additional ten-year transition period for heavy vehicles. The state would not restrict used car sales, nor forbid residents from owning gas-powered vehicles. In accordance with the Executive Order, CARB is developing a 2020 Mobile Source Strategy, a comprehensive analysis that presents scenarios for possible strategies to reduce the carbon, toxic and unhealthy pollution from cars, trucks, equipment, and ships. The strategies will provide important information for numerous regulations and incentive programs going forward by conveying what is necessary to address the aggressive emission reduction requirements.

In November 2022, the ACC II regulations took effect, setting annual ZEV and plug-in hybrid vehicle sales requirements for model years 2026 to 2035 (ZEV program) and increasingly more stringent exhaust and evaporative emission standards (LEV program) to ensure automakers phase out new sales of internal combustion engine vehicles.

California Appliance Efficiency Regulations (Title 20, Sections 1601 through 1608). The 2014 Appliance Efficiency Regulations, adopted by the CEC, include standards for new appliances (e.g., refrigerators) and lighting, if they are sold or offered for sale in California. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

California Building Energy Efficiency Standards (Title 24, Part 6). California's Energy Efficiency Standards for Residential and Nonresidential Buildings, located at Title 24, Part 6 of the California Code of Regulations and commonly referred to as "Title 24," were established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.⁴⁹ The 2022 standards continue to improve upon previous standards for new construction of, and additions and alterations to, residential and non-residential buildings and became effective January 1, 2023. Compliance with Title 24 is enforced through the building permit process. Key changes included encouraging heat pump technology for space and water heating, setting electric-ready requirements for single-family homes, expanding solar photovoltaic system and battery storage standards, and strengthening ventilation standards to improve indoor air quality.

⁴⁸ Ibid.

⁴⁹ California Energy Commission, 2019 Building Energy Efficiency Standards, <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>, accessed April 2020.

California Green Building Standards (CALGreen Code). The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11) are mandatory green building standards for new structures. They focus on measures to reduce water consumption, GHG emissions, and materials and waste. These codes are updated every three years, with the 2022 CalGreen code updates effective January 1, 2023. New requirements address requirements for Level 2 electric vehicle chargers and use of solar photovoltaic shade structures instead of shade trees. Voluntary measures focus on higher EV charging requirements for parking facilities.

Regulatory Framework: Regional

South Coast Air Quality Management District. The South Coast Air Quality Management District (SCAQMD) adopted a “Policy on Global Warming and Stratospheric Ozone Depletion” on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase out the use and corresponding emissions of chlorofluorocarbons, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons by the year 2000;
- Develop recycling regulations for hydrochlorofluorocarbons (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and
- Support the adoption of a California GHG emission reduction goal.

Southern California Association of Governments. To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2020-2045 RTP/SCS on September 3, 2020, calling for \$639 billion in transportation investments and reducing VMT by 19 percent per capita from 2005 to 2035. The updated plan accommodates 21.3 percent growth in population from 2016 (3,933,800) to 2045 (4,771,300) and a 15.6 percent growth in jobs from 2016 (1,848,300) to 2045 (2,135,900). The updated RTP/SCS calls for several land use-based strategies to accommodate growth, minimize criteria pollutant emissions, and achieve climate change objectives:

- Decreasing drive-along work commutes by three percent
- Reducing per capita VMT by five percent and vehicle hours traveled per capita by nine percent
- Increasing transit commuting by two percent
- Reducing travel delay per capita by 26 percent
- Creating 264,500 new jobs annually
- Reducing greenfield development by 29 percent by focusing on smart growth

- Locating six more percent household growth in High Quality Transit Areas (HQTAs), which concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability.
- Locating 15 percent more jobs in HQTAs

The 2020-2045 RTP/SCS calls for a 19 percent reduction in per capita GHG emissions by 2035 from 2005 levels. This is intended to be consistent with CARB’s performance targets during this same period. The bulk of these reductions are to come from transportation investments, pricing strategies, TDM strategies, and land use programs. On October 30, 2020, CARB accepted the RTP/SCS quantification of GHG emissions on October 30, 2020 (Executive Order G-20-239, SCAG 2020 SCS ARB Acceptance of GHG Quantification Determination).

Regulatory Framework: Local

City of Los Angeles Green Building Code. On December 15, 2011, the Los Angeles City Council approved Ordinance No. 181,481, which amended Chapter IX of the Los Angeles Municipal Code (LAMC), referred to as the Los Angeles Green Building Code, by adding a new Article 9 to incorporate various provisions of the 2010 CALGreen Code. On December 20, 2016, the Los Angeles City Council approved Ordinance No. 184,692, which further amended Chapter IX of the LAMC, by amending certain provisions of Article 9 to reflect local administrative changes and incorporating by reference portions of the 2016 CALGreen Code. The Los Angeles Green Building Code incorporates by reference the mandatory requirements of the California Green Building Standards Code.

City of Los Angeles Green New Deal. The April 2019 Green New Deal is designed to create sustainability-based performance targets through 2050 to advance economic, environmental, and equity objectives. It was the first four-year update to the City’s first Sustainable City pLAn that was released in 2015. It augments, expands, and elaborates the City’s vision for a sustainable future and tackles the climate emergency with accelerated targets and new aggressive goals.

While not solely focused on climate change, reduction of GHG emissions is one of eight benefits that help define its strategies and goals. These include reducing GHG emissions through near-term outcomes:

- Reduce potable water use per capita by 22.5 percent by 2025; 25 percent by 2035; and maintain or reduce 2035 per capita water use through 2050.
- Reduce building energy use per square feet for all building types 22 percent by 2025; 34 percent by 2035; and 44 percent by 2050 (from a baseline of 68 mBTU/sf in 2015).
- All new buildings will be net zero carbon by 2030 and 100 percent of buildings will be net zero carbon by 2050.
- Increase cumulative new housing unit construction to 150,000 by 2025; and 275,000 units by 2035.

- Ensure 57 percent of new housing units are built within 1,500 feet of transit by 2025; and 75 percent by 2035.
- Increase the percentage of all trips made by walking, biking, micro-mobility/ matched rides, or transit to at least 35 percent by 2025, 50 percent by 2035, and maintain at least 50 percent by 2050.
- Reduce VMT per capita by at least 13 percent by 2025; 39 percent by 2035; and 45 percent by 2050.
- Increase the percentage of electric and zero emission vehicles in the city to 25 percent by 2025; 80 percent by 2035; and 100 percent by 2050.
- Increase landfill diversion rate to 90 percent by 2025; 95 percent by 2035 and 100 percent by 2050.
- Reduce municipal solid waste generation per capita by at least 15 percent by 2030, including phasing out single-use plastics by 2028 (from a baseline of 17.85 lbs. of waste generated per capita per day in 2011).
- Eliminate organic waste going to landfill by 2028.
- Reduce urban/rural temperature differential by at least 1.7 degrees by 2025; and 3 degrees by 2035.
- Ensure the proportion of Angelenos living within 1/2 mile of a park or open space is at least 65 percent by 2025; 75 percent by 2035; and 100 percent by 2050.

Traffic Study Policies and Procedures. The City of Los Angeles Department of Transportation (LADOT) has developed the Transportation Assessment Guidelines (TAG) (July 2020) to provide the public, private consultants, and City staff with standards, guidelines, objectives, and criteria to be used in the preparation of a transportation impact study. The TAG is consistent with the City’s goals to emphasize the importance of sustainability, smart growth, and reduction of GHG emissions in addition to traditional traffic flow considerations when evaluating and mitigating impacts to the transportation system because of land use policy decisions. The TAG prioritizes transportation demand management strategies and multi-modal strategies over automobile-centric solutions when mitigating project-related impacts to the City’s transportation system. Through acknowledgement of an imminent update that will identify VMT reduction thresholds, the TAG stands as an implementing mechanism of the City’s strategy to conform to the mandates and requirements of AB 32, SB 375, and SB 743.

Existing Conditions

Existing Statewide GHG Emissions. GHG emissions are the result of both natural and human-influenced activities. Regarding human-influenced activities, motor vehicle travel, consumption of fossil fuels for power generation, industrial processes, heating and cooling, landfills, agriculture, and wildfires are the primary sources of GHG emissions. Without human intervention, Earth maintains an approximate balance between the emission of GHG emissions into the atmosphere and the storage of GHG emissions in oceans and terrestrial ecosystems. Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal), have contributed to the rapid increase in atmospheric levels of GHG emissions over the last 150 years.

As reported by the CEC, California contributes approximately one percent of global and 8.2 percent of national GHG emissions.⁵⁰ California represents approximately 12 percent of the national population. Approximately 80 percent of GHGs in California are CO₂ produced from fossil fuel combustion. The current California GHG inventory compiles statewide anthropogenic GHG emissions and carbon sinks/storage from years 2000 through 2019.⁵¹ It includes estimates for CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. The GHG inventory for California for years 2010 through 2019 is presented in Table 3. As shown therein, the GHG inventory for California in 2019 was 418.2 million MTCO_{2e}.

Table 3
California GHG Inventory
(metric tons of carbon dioxide equivalent [MTCO_{2e}])

	2013	2014	2015	2016	2017	2018	2019
Transportation	161.2	162.6	166.2	169.8	171.2	169.6	166.1
Electric Power	91.7	92.5	90.3	89.0	88.8	89.2	88.2
Industrial	16.8	17.7	18.6	19.2	20.0	20.4	20.6
Commercial & Residential	91.4	88.9	84.8	68.6	62.1	63.1	58.8
Agriculture	161.2	162.6	166.2	169.8	171.2	169.6	166.1
High GWP	91.4	88.9	84.8	68.6	62.1	63.1	58.8
Recycling & Waste	91.7	92.5	90.3	89.0	88.8	89.2	88.2
Total	447.5	443.0	440.7	429.1	424.6	425.1	418.2
<i>Source: California Air Resources Board (2021). California Greenhouse Gas Emission Inventory - 2021 Edition. Data available at: https://ww3.arb.ca.gov/cc/inventory/data/data.htm</i>							

⁵⁰ California Energy Commission, Tracking Progress, Greenhouse Gas Emission Reductions. <https://www.energy.ca.gov/data-reports/tracking-progress>. Accessed August 2022.

⁵¹ A carbon inventory identifies and quantifies sources and sinks of greenhouse gases. Sinks are defined as a natural or artificial reservoir that accumulates and stores some carbon-containing chemical compound for an indefinite period.

Existing Project Site Emissions. The Project Site is currently vacant of any improvements aside from an unused surface parking lot and remnants of a former restaurant. As such, there are no anthropogenic emissions of GHG emissions that are generated at the Project Site.

Project Impact Analysis

Methodology

Amendments to CEQA Guidelines Section 15064.4 were adopted to assist lead agencies in determining the significance of the impacts of GHG emissions. Consistent with existing CEQA practice, Section 15064.4 gives lead agencies the discretion to determine whether to assess those emissions quantitatively or qualitatively. If a qualitative analysis is used, in addition to quantification, this section recommends certain qualitative factors that may be used in the determination of significance (i.e., the extent to which a project may increase or reduce GHG emissions compared to the existing environment; whether the project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a reduction or mitigation of GHG emissions).

The City has not adopted a numerical significance threshold for assessing impacts related to GHG emissions and has not formally adopted a local plan for reducing GHG emissions. In addition, SCAQMD, OPR, CARB, CAPCOA, or any other state or regional agency has adopted a numerical significance threshold for assessing GHG emissions that is applicable to the Project. Since there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions impacts. This evaluation of consistency with such plans is the sole basis for determining the significance of the Project's GHG-emissions-related impacts on the environment.

For information purposes and as required by CEQA, the analysis also calculates the amount of GHG emissions that would be attributable to the Project using recommended air quality models, as described below. The primary purpose of quantifying the Project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the Project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the significance of the Project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the Project.

Consistency with Applicable Plans and Policies

The Project's GHG emissions impacts are evaluated by assessing the Project's consistency with applicable statewide, regional, and local GHG emissions reduction strategies. The Project has been evaluated later in this section for consistency with the Climate Change Scoping Plan and subsequent updates, SCAG's 2020–2045 RTP/SCS, and the City's Green New Deal.

OPR encourages lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. On a statewide level, the 2008 Climate Change Scoping Plan and subsequent updates provide measures to achieve AB 32 and SB 32 targets. On a regional level, SCAG's 2020–2045 RTP/SCS contains measures to achieve VMT reductions required under SB 375. The City does not have a programmatic mitigation plan to tier from, such as a GHG Emissions Reduction Plan, as recommended in the relevant amendments to the CEQA Guidelines. However, the City has the Green New Deal and Green Building Code that encourage and require applicable projects to implement energy efficiency measures. The Green New Deal is a mayoral initiative and not an adopted plan. However, it includes short-term and long-term aspirations pertaining to climate change and this analysis addresses consistency with these strategies and goals. Thus, if the Project is designed in accordance with these policies and regulations, the Project would result in a less-than-significant impact, because the Project would be consistent with the overarching state regulations on GHG emissions reduction (i.e., AB 32, SB 32, AB 100, AB 1493, and SB 375). A consistency analysis is provided and describes the Project's compliance with or conflict with performance-based standards included in the regulations outlined in the applicable portions of the Climate Change Scoping Plan, 2020–2045 RTP/SCS, and the City's Green New Deal.

2022 Scoping Plan Update

Appendix D, Local Actions, of the 2022 Scoping Plan Update includes “recommendations intended to build momentum for local government actions that align with the state's climate goals, with a focus on local GHG reduction strategies (commonly referred to as climate action planning) and approval of new land use development projects, including through environmental review under the California Environmental Quality Act (CEQA).”

The state encourages local governments to adopt a CEQA-qualified climate action plan (CAP) addressing the three priority areas, including transportation electrification, VMT reduction, and building decarbonization. However, as not all jurisdictions have sufficient resources (e.g., technical expertise, staffing, funding, etc.) to do so, jurisdictions that wish to take meaningful climate action (such as preparing a non-CEQA-qualified CAP or as individual measures) aligned with the state's climate goals in the absence of a CEQA-qualified CAP should also look to the three priority areas when developing local climate plans, measures, policies, and actions. “By prioritizing climate action in these three priority areas, local governments can address the largest sources of GHGs within their jurisdiction.”

The state also recognizes in Appendix D, Local Actions, of the Scoping Plan that each community or local area has distinctive situations, and local jurisdictions must balance the need for housing while demonstrating that a project is in alignment with the state's climate goals. Jurisdictions should avoid creating targets that are impossible to meet as a basis to determine significance. Ultimately, targets that make it more difficult to achieve statewide goals by prohibiting or complicating projects that are needed to support the state's climate goals, like infill development, low-income housing, or solar arrays, are not consistent with the state's goals. The state also recognizes the lead agencies' discretion to develop evidence-based approaches for determining whether a project would have a potentially significant impact on GHG emissions.

Quantification of Emissions

In view of the above considerations, the City has determined to quantify the Project's total annual GHG emissions, taking into account the regulatory GHG emission reduction measures that would be incorporated into the Project's design as required by the City.

This analysis quantifies the Project's annual GHG emissions and compares them to a Project without Reduction Features scenario, as defined by CARB's most updated projections for AB/SB 32.78 The Project without Reduction Features scenario does not account for energy efficiency measures that would exceed the Title 24 Building Standards Code. This comparison is being done for informational purposes only, including disclosing the relative carbon efficiency of the Project. The City, as lead agency, is basing its determination of the significance of the Project's GHG emissions in relation to the Project's location and design and its consistency with state, regional, and City regulatory schemes.

Project GHG Emissions

The California Climate Action Registry (Climate Registry) General Reporting Protocol provides basic procedures and guidelines for calculating and reporting GHG emissions from a number of general and industry-specific activities.⁵² The General Reporting Protocol is based on the "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" developed by the World Business Council for Sustainable Development and the World Resources Institute through "a multi-stakeholder effort to develop a standardized approach to the voluntary reporting of GHG emissions."⁵³ Although no numerical thresholds of significance have been developed, and no specific protocols are available for land use projects, the General Reporting Protocol provides a basic framework for calculating and reporting GHG emissions from the project. The information provided in this section is consistent with the General Reporting Protocol's reporting requirements.

The General Reporting Protocol recommends the separation of GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include the following:

- Scope 1: Direct, onsite combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).
- Scope 2: Indirect, offsite emissions associated with purchased electricity or purchased steam.
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy (e.g., energy used to convey, treat, and distribute water and wastewater).⁵⁴

The General Reporting Protocol provides a range of basic calculations methods. However, the General Reporting Protocol calculations are typically designed for existing buildings or facilities. These

⁵² California Climate Action Registry, General Reporting Protocol Version 3.1, January 2009.

⁵³ Ibid.

⁵⁴ Embodied energy is a scientific term that refers to the quantity of energy required to manufacture and supply to the point of use a product, material, or service.

retrospective calculation methods are not directly applicable to planning and development situations where buildings do not yet exist.

CARB recommends consideration of indirect emissions to provide a more complete picture of the GHG emissions footprint of a facility. Annually reported indirect energy usage aids the conservation awareness of a facility and provides information to CARB to be considered for future strategies.⁵⁵ For example, CARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the AB 32 reporting requirements. Additionally, OPR has noted that lead agencies “should make a good-faith effort, based on available information, to calculate, model, or estimate... GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities.”⁵⁶ Therefore, direct and indirect emissions have been calculated for the Project.

A fundamental difficulty in the analysis of GHG emissions is the global nature of the existing and cumulative future conditions. Changes in GHG emissions can be difficult to attribute to a particular planning program or project because the planning effort or project may cause a shift in the locale for some type of GHG emissions, rather than causing “new” GHG emissions. As a result, there is an inability to conclude whether a project’s GHG emissions represent a net global increase, reduction, or no change in GHG emissions that would exist if the project were not implemented. The analysis of the Project’s GHG emissions is particularly conservative in that it assumes all of the GHG emissions are new additions to the atmosphere.

The California Emissions Estimator Model® (CalEEMod) is a statewide 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. CalEEMod was developed in collaboration with the air districts of California, who provided data (e.g., emission factors, trip lengths, meteorology, source inventory) to account for local requirements and conditions. The model is considered by SCAQMD to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.⁵⁷

Construction

The Project’s construction emissions were calculated using CalEEMod Version 2022.1.1.5. Details of the modeling assumptions and emission factors are provided in the Technical Appendix. CalEEMod calculates emissions from off-road equipment usage and on-road vehicle travel associated with haul, delivery, and construction worker trips. GHG emissions during construction were forecasted based on the proposed construction schedule and included the mobile-source and fugitive dust emissions factors derived from CalEEMod.

⁵⁵ California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32), Planning and Technical Support Division Emission Inventory Branch, October 19, 2007.

⁵⁶ OPR Technical Advisory, p. 5.

⁵⁷ California Air Pollution Control Officers Association, California Emissions Estimator Model, CalEEMod™, www.caleemod.com, accessed May 25, 2016.

The calculations of the emissions generated during Project construction activities reflect the types and quantities of construction equipment that would be used to remove existing pavement, grade, and excavate the Project Site; construct the proposed building and related improvements; and plant new landscaping within the Project Site.

In accordance with SCAQMD's guidance, GHG emissions from construction were amortized (i.e., averaged annually) over the lifetime of the Project. Because emissions from construction activities occur over a relatively short-term period of time, they contribute a relatively small portion of the overall lifetime GHG emissions for the Project. In addition, GHG emissions reduction measures for construction equipment are relatively limited. Thus, SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime so that GHG emissions reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies.⁵⁸ As a result, the Project's total construction GHG emissions were divided by 30 to determine approximate annual construction emissions estimate comparable to operational emissions.

Operation

Similar to construction, CalEEMod is used to calculate potential GHG emissions generated by new land uses on the Project Site, including area sources, electricity, natural gas, mobile sources, stationary sources (i.e., emergency generators), solid waste generation and disposal, and water usage/wastewater generation.

Area source emissions include landscaping equipment that are based on the size of the land uses (e.g., square footage or dwelling unit), the GHG emission factors for fuel combustion, and the global warming potential (GWP) values for the GHG emissions emitted.

GHG emissions associated with electricity demand are based on the size of the land uses, the electrical demand factors for the land uses, the GHG emission factors for the electricity utility provider, and the GWP values for the GHG emissions emitted. As with electricity, the emissions of GHG emissions associated with natural gas combustion are based on the size of the land uses, the natural gas combustion factors for the land uses in units of million British thermal units (MMBtu), the GHG emission factors for natural gas combustion, and the GWP values for the GHG emissions emitted.

Mobile source GHG emissions are calculated based on an estimate of the Project's annual VMT, which is derived using CalEEMod based on the trip generation provided in the Transportation Study prepared for the Project. The CalEEMod-derived VMT values account for the daily and seasonal variations in trip frequency and length associated with new employee and visitor trips to and from the Project Site and other activities that generate a vehicle trip.

Stationary source GHG emissions are based on proposed stationary sources (i.e., emergency generators) that would be provided on the Project Site.

⁵⁸ SCAQMD Governing Board Agenda Item 31, December 5, 2008.

GHG emissions associated with solid waste disposal are based on the size of the Project's proposed land uses, the waste disposal rate for the land uses, the waste diversion rate, the GHG emission factors for solid waste decomposition, and the GWP values for the GHG emissions emitted.

GHG emissions related to water usage and wastewater generation are based on the size of the land uses, the water demand factors, the electrical intensity factors for water supply, treatment, and distribution, electrical intensity factors for wastewater treatment, the GHG emission factors for the electricity utility provider, and the GWP values for the GHG emissions emitted.

The analysis of Project GHG emissions at buildout uses assumptions in CARB's EMFAC2021 model and also takes into account actions and mandates expected to be in force in 2024 (e.g., Pavley I Standards, full implementation of California's 33 percent RPS by 2030 and 50 percent by 2050 and the California LCFS). In addition, because mobile source GHG emissions are directly dependent on the number of vehicle trips, a decrease in the number of project-generated trips as a result of project features (e.g., close proximity to transit) would provide a proportional reduction in mobile source GHG emissions compared to a generic project without such locational benefits. Calculation of Project GHG emissions conservatively did not include actions and mandates that are not already in place but are expected to be enforced in 2024 (e.g., Pavley II, which could further reduce GHG emissions from use of light-duty vehicles by 2.5 percent). Similarly, emissions reductions regarding Cap-and-Trade were not included in this analysis as they applied to other future reductions in non-transportation sectors. As for the Cap-and-Trade program's benefits for the transportation sector, the analysis utilizes CARB's assumptions in EMFAC2021 for any short-term reductions in GHG emissions. By not speculating on potential regulatory conditions, the analysis takes a conservative approach that likely overestimates the Project's GHG emissions at buildout, because the state is expected to implement a number of policies and programs aimed at reducing GHG emissions from the land use and transportation sectors to meet the state's long-term climate goals.

There are no GHG emissions thresholds adopted by the SCAQMD that are applicable to the Project. In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. Within its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target to determine the significance for commercial/residential projects that emit greater than 3,000 MTCO_{2e} per year. Under this proposal, such commercial and residential projects would have been assumed to have a less than significant impact on climate change. However, this proposed screening threshold was not adopted by the SCAQMD.

Thresholds of Significance

State CEQA Guidelines Appendix G

In accordance with Appendix G of the State CEQA Guidelines (Appendix G), a project would have a significant impact related to GHG emissions if the project would do the following:

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

- b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG emissions.**

The Project would comply with all applicable state and local regulatory requirements, including the provisions set forth in the City's Green Building Ordinance.

Project Impacts

Consistency with Applicable Plans and Policies

The discussion below describes the extent the Project complies with or exceeds the performance-based standards included in the regulations outlined in the *Climate Change Scoping Plan* and the 2020-2045 RTP/SCS, each of which identify GHG-emissions-reducing measures that directly and indirectly apply to the Project. This analysis also evaluates the Project's consistency with City plans and programs that generally address climate change. As shown herein, the Project would be consistent with the applicable GHG emissions reduction plans and policies.

Statewide: Climate Change Scoping Plan

As discussed above, jurisdictions that want to take meaningful climate action (such as preparing a non-CEQA-qualified CAP or as individual measures) aligned with the state’s climate goals in the absence of a CEQA-qualified CAP should also look to the three priority areas. To assist local jurisdictions, the 2022 Scoping Plan Update presents a non-exhaustive list of impactful GHG emissions reduction strategies that can be implemented by local governments within the three priority areas (transportation electrification, VMT reduction, and building decarbonization).⁵⁹ A detailed assessment of goals, plans, policies implemented by the City that would support the GHG emissions reduction strategies in the three priority areas is provided below.

Transportation Electrification

The priority GHG emissions reduction strategies for local government climate action related to transportation electrification are discussed below and would support the Scoping Plan action to have 100 percent of all new passenger vehicles to be zero-emission by 2035.

- Convert local government fleets to ZEV

CARB approved the Advanced Clean Cars II rule which codifies Executive Order N-79-20 and requires 100 percent of new cars and light trucks sold in California be zero-emission vehicles by 2035. The state has also adopted AB 2127, which requires the CEC to analyze and examine charging needs to support California’s EVs in 2030. This report would help decision-makers allocate resources to install new EV chargers where they are needed most.

The City of LA Green New Deal (Sustainable City pLAn 2019) identifies a number of measures to reduce VMT and associated GHG emissions. Such measures that would support the local reduction strategy include converting all City fleet vehicles to zero-emission where technically feasible by 2028. Starting in 2021, all vehicle procurement will follow a “zero emission first” policy for City fleets. The Green New Deal also establishes a target to increase the percentage of zero-emission vehicles to 25 percent by 2025, 80 percent by 2035, and 100 percent by 2050. In order to achieve this goal, the City would build 20 Fast Charging Plazas throughout the City. The City would also install 28,000 publicly available chargers by 2028 to encourage the adoption of ZEVs.

The City’s goals of converting the municipal fleet to zero emissions and installation of EV chargers throughout the City will be consistent with the Scoping Plan goals of transitioning to EVs. Although this measure mainly applies to City fleets, the Project would include four EV-ready parking spaces, which would support zero-emissions vehicles in general.

- Implement Complete Streets policies and investments, consistent with general plan circulation element requirements

Mobility Plan 2035 established a “Complete Streets” planning framework which resulted in the City of Los Angeles Complete Streets Design Guide in 2015 consistent with California’s Complete

⁵⁹ Table 1 of Appendix D 2022 Scoping Plan Update, November 2022.

Streets Act of 2008. A supplemental update to the Complete Streets Design Guide was adopted in 2020.

The Complete Streets Design Guide provides a number of measures to increase public access to electric shuttles, car sharing and walking. The Design Guide establishes guidelines for establishing on-street parking for car sharing. The City has also established BlueLA which is a car-sharing network consisting of more than 100 electric vehicles located throughout the City. In addition, under the Green New Deal, the City would install 28,000 publicly available chargers by 2028 and introduce 135 new electric DASH buses.

This reduction strategy mainly applies to City traffic circulation. However, the Project would include reconstruction of the sidewalk along the Project Site's frontage on Ventura Boulevard that would contribute to the City's goal of encouraging the use of alternative modes of transportation. Therefore, the Project would not conflict with the implementation of Complete Streets policies.

- Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, micro-transit, etc.
- Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking
- Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing the allowable density of a neighborhood)
- Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements).

These reduction strategies are supported through the implementation of SB 375 which requires integration of planning processes for transportation, land use and housing and generally encourages jobs/housing proximity, promotes transit-oriented development (TOD), and encourages high-density residential/commercial development along transit corridors. To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2020–2045 RTP/SCS. The 2020–2045 RTP/SCS' "Core Vision" prioritizes the maintenance and management of the region's transportation network, expanding mobility choices by co-locating housing, jobs, and transit, and increasing investment in transit and complete streets. Refer to Table 4 below for additional discussion of the Project's consistency with the 2020-2045 RTP/SCS.

On a local level, the City has developed the Complete Streets Design Guide which provides a number of reduction strategies to increase public access to electric shuttles, car sharing and walking. The City has also established BlueLA, which is a car sharing network consisting of more than 100 electric vehicles located throughout the City. In addition, under the Green New Deal, the City would install 28,000 publicly available chargers by 2028 and introduce 135 new electric DASH buses.

The Project represents development within an existing urbanized area that would concentrate new development consistent with the overall growth pattern encouraged in the 2020-2045 RTP/SCS. The Project's proximity to existing residential neighborhoods and sources of employment and shopping would allow for reduced VMT and associated GHG emissions, given that users of the proposed self-storage facility would only have to drive a short distance to the facility and/or could stop by the facility on the way to/from work/shopping. Therefore, the Project would be consistent with these reduction strategies.

Building Decarbonization

The priority GHG emission reduction strategies for local government climate action related to electrification are discussed below and would support the Scoping Plan actions regarding meeting increased demand for electrification without new fossil gas-fire resources and all electric appliances beginning in 2026.

- Adopt all-electric new construction reach codes for residential and commercial uses

California's transition away from fossil fuel-based energy sources will bring the project's GHG emissions associated with building energy use down to zero as our electric supply becomes 100 percent carbon-free. California has committed to achieving this goal by 2045 through SB 100, the 100 Percent Clean Energy Act of 2018. SB 100 strengthened the State's Renewables Portfolio Standard (RPS) by requiring that 60 percent of all electricity provided to retail users in California come from renewable sources by 2030 and that 100 percent come from carbon-free sources by 2045. The land use sector will benefit from RPS because the electricity used in buildings will be increasingly carbon-free, but implementation does not depend (directly, at least) on how buildings are designed and built.

The City has adopted an All-Electric Buildings Ordinance effective April 1, 2023 that will reduce GHG emissions related to natural gas combustion. Under this ordinance, all building permit applications for newly constructed buildings are required to be all-electric with some exceptions such as cooking within restaurant uses. Space heating, water heating, and cooking for non-restaurant uses are required to be powered by electricity. In future years, the LADWP will be required to increase the amount of renewable energy in the power mix to comply with SB 100 requirements. The combination of the All-Electric ordinance and increasing availability of renewable energy will serve to reduce GHG emissions from sources traditionally powered by natural gas.

The Project would be required to comply with the City's All-Electric ordinance. Therefore, the Project would be consistent and not conflict with the City's adopted All-Electric Ordinance.

- Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers)

This reduction strategy would support the Scoping Plan action regarding electrification of appliances in existing residential buildings. The City and LADWP have established rebate programs to promote use of energy-efficient products and home upgrades. Under the LADWP's Consumer Rebate Program (CRP), residential customers would receive rebates for energy-efficient upgrades such as Cool Roofs, Energy Star Windows, HVAC upgrades, pool pumps, and insulation upgrades. Such upgrades would serve to reduce wasteful energy and water usage and associated GHG emissions.

The Project would not involve retrofit of existing buildings and would be completely new construction. However, the Project would incorporate modern HVAC equipment, which has increasing lower GHG emissions, and energy-saving technologies and appliances. Therefore, the Project would be consistent and not conflict with policies to implement energy efficiency retrofits.

Regional: 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

Table 4 provides a comparison of the Project against the GHG-related performance measures of the 2020-2045 RTP/SCS.

**Table 4
Consistency with the 2020 RTP/SCS**

Objectives	Consistency Analysis ^a
Increase percent of the region's total employment growth occurring within HQTAs.	Consistent. The Project is an infill development that would create more service-related jobs, consistent with the 2020 RTP/SCS policies and would focus on job growth on the Ventura Boulevard and an HQTA.
Decrease total acreage of greenfield or otherwise rural land uses converted to urban use.	Consistent. The Project is an infill development that would reduce the potential for development in greenfield or rural areas on the fringes of Southern California.
Decrease daily vehicle miles driven per person.	Consistent. The Project is an infill development in the midst of heavy transit infrastructure that would reduce daily VMT per capita. This would reduce potential driving distances for those seeking storage and retail facilities. This includes access to Metro local bus service.
Decrease average travel time to work (all modes)	Consistent. The Project is an infill development in the dense Ventura Boulevard corridor that will reduce the rate of growth in auto traffic and congestion by virtue of its heavy transit and active transportation mode share given its location along the Ventura Boulevard corridor. Because the Project's location will attract travel to and from the Ventura Boulevard corridor and local community, average travel time to work should be reduced when compared to an urban sprawl location.
Increase percentage of trips using either walking or biking (by trip type)	Consistent. The Project is an infill development located on the Ventura Boulevard corridor and in proximity to existing residential uses and sources of employment and shopping. The Project includes reconstruction of the sidewalk along the

Objectives	Consistency Analysis ^a
	Project Site frontage on Ventura Boulevard that would allow for improved pedestrian access to the Project. Also, the Project would include 16 short-term bicycle parking spaces and 24 long-term bicycle parking spaces, which would allow employees to have the option of using cycling as a form of transportation to/from the Project.
Reduce per capita GHG emissions (from 2005 levels)	Consistent. Since 2005, the City has implemented several changes to the City's Green Building Code to comply with the various Assembly Bills that have been passed by the state to reduce GHG emissions. The Project would comply with the City's Green Building Code, and thus would reduce GHG emissions from 2005 levels.

Locally, the City has a number of conservation-based plans, programs, and requirements that also indirectly produce GHG emissions reductions. While these are not considered climate action plans, the Project's consistency with these local initiatives is summarized.

Local: City of Los Angeles General Plan Air Quality Element

The Project would be consistent with the City's General Plan, specifically its 1989 Air Quality Element. While this Element did not explicitly address control of greenhouse gases, global climate change, or resiliency objectives, it did identify several goals focused on criteria pollutant emissions that would be effective in reducing carbon-based emissions that contribute to climate change. Table 5 summarizes the Project's general consistency with this policy document.

Table 5
Consistency with the City of Los Angeles Air Quality Element

Goal	Consistency Analysis
1. Good air quality and mobility in an environment of continued population growth and healthy economy.	Consistent. The Project is an infill development in the dense Ventura Boulevard corridor that would accommodate resident and commercial business needs by providing local storage options and retail services while minimizing congestion impacts on the region because of its proximity to public transit and density of population and jobs.
2. Less reliance on single-occupant vehicles with fewer commute and non-work trips.	Consistent. The Project is an infill development in the dense Ventura Boulevard corridor that will reduce

	reliance on the auto because of its proximity to public transit and general density of population and jobs.
3. Minimal impact of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality.	Consistent. The Project is an infill development in the dense Ventura Boulevard corridor that would be consistent with the Element’s focus on growing near transit facilities. It is served by Metro’s local bus services.
<i>Source: DKA Planning, 2023.</i>	

Local: City of Los Angeles Green New Deal/Sustainability pLAN

The Sustainable City pLAN was a mayoral initiative in 2015 and includes both short-term and long-term aspirations through 2035 in various topic areas, including: water, solar power, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development, mobility and transit, and air quality, among others.⁶⁰

The Green New Deal, a 2019 mayoral initiative that updates the Sustainable City pLAN, includes both short-term and long-term aspirations through 2035 for water, solar power, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development, mobility and transit, and air quality, among others.⁶¹ Targets include ensuring 75 percent of new housing units within 1,500 feet of transit by 2046, reducing vehicle miles traveled per capita by 45 percent by 2050, and moving toward 100 percent zero emission vehicles by 2050.

Although the Green New Deal is not an adopted plan or directly applicable to private development projects, the Project would benefit from local access to Metro bus service. Further, the Project would comply with CALGreen and would comply with the City’s Solid Waste Management Policy Plan, the RENEW LA Plan, and the Exclusive Franchise System Ordinance (Ordinance No. 182,986) in furtherance of the aspirations included in the Green New Deal with regard to energy-efficient buildings and waste and landfills. The Project would also provide secure short- and long-term bicycle storage areas for employees and visitors. Therefore, the Project would be consistent with the Green New Deal, and impacts would be less than significant.

Conclusion

In summary, the plan consistency analysis provided above demonstrates that the Project complies with the applicable plans, policies, regulations and GHG emissions reduction actions/strategies outlined in the *Climate Change Scoping Plan and Update*, the 2020-2045 RTP/SCS, the City’s General Plan Air Quality Element, and the Green New Deal/Sustainable City pLAN. Consistency with the above plans, policies, regulations, and GHG emissions reduction actions/strategies would reduce the Project’s incremental contribution of GHG emissions. Thus,

⁶⁰ City of Los Angeles, Sustainable City pLAN, 2019.
⁶¹ City of Los Angeles, Green New Deal, 2019.

the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHG emissions. Furthermore, because the Project is consistent and does not conflict with these plans, policies, and regulations, the Project's incremental increase in GHG emissions as described above would not result in a significant impact on the environment. Therefore, Project-specific impacts with regard to climate change would be less than significant.

Project Emissions

In support of the consistency analysis above that describes the Project's compliance with, or exceedance of performance-based standards included in the regulations and policies outlined in the applicable portions of the *Climate Change Scoping Plan*, the 2020-2045 RTP/SCS, the City's General Plan Air Quality Element, and the Green New Deal/Sustainable City pLAN, quantitative calculations are provided below.

The Project would generate direct and indirect GHG emissions as a result of different types of emissions sources, including the following:

- Construction: emissions associated with demolition of the existing uses and parking areas, shoring, excavation, grading, and construction-related equipment and vehicular activity;
- Area source: emissions associated with landscape equipment;
- Energy source (building operations): emissions associated with electricity and natural gas use for space heating and cooling, water heating, energy consumption, and lighting;
- Stationary source: emissions associated with stationary equipment (e.g., emergency generators);
- Mobile source: emissions associated with vehicles accessing the Project Site;
- Solid Waste: emissions associated with the decomposition of the waste, which generates methane based on the total amount of degradable organic carbon; and
- Water/Wastewater: emissions associated with energy used to pump, convey, deliver, and treat water.

The Project would generate an incremental contribution to and a cumulative increase in GHG emissions. A specific discussion regarding potential GHG emissions associated with the construction and operational phases of the Project is provided below.

Construction

Project construction is anticipated to be completed in 2024 with occupancy in 2025. A summary of construction details (e.g., schedule, equipment mix, and vehicular trips) and CalEEMod

modeling output files are provided in the Technical Appendix. The GHG emissions associated with construction of the Project were calculated for each year of construction activity.

Construction of the Project is estimated to generate a total of 690 MTCO₂e (Table 6). As recommended by the SCAQMD, the total GHG construction emissions were amortized over the 30-year lifetime of the Project (i.e., total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate that can be added to the Project's operational emissions) in order to determine the Project's annual GHG emissions inventory.⁶² This results in annual Project construction emissions of 37 MTCO₂e. A complete listing of the construction equipment by on-site and off-site activities, duration, and emissions estimation model input assumptions used in this analysis is included within the emissions calculation worksheets that are provided in the Technical Appendix.

**Table 6
Combined Construction-Related Emissions (MTCO₂e)**

Year	MTCO₂e^a
2023	341
2024	623
2025	139
Total	1,103
Amortized Over 30 Years	37
<i>a CO₂e was calculated using CalEEMod version 2022.1.1.5. Detailed results are provided in the Technical Appendix.</i> <i>Source: DKA Planning, 2023.</i>	

Operation

Area Source Emissions

Area source emissions were calculated using the CalEEMod emissions inventory model, which includes landscape maintenance equipment, use of consumer products, and other everyday sources. As shown in Table 7, the Project would result in three MTCO₂e per year from area sources.

**Table 7
Annual GHG Emissions Summary (Buildout)^a
(metric tons of carbon dioxide equivalent [MTCO₂e])**

Year	MTCO₂e^a
Area ^b	3

⁶² SCAQMD Governing Board Agenda Item 31, December 5, 2008.

Energy ^c (electricity and natural gas)	970
Mobile	496
Solid Waste ^d	62
Water/Wastewater ^e	129
Refrigerants	7
Construction	37
Total Emissions	1,704
^a CO ₂ e was calculated using CalEEMod and the results are provided in the Technical Appendix. ^b Area source emissions are from landscape equipment and other operational equipment only; hearths omitted. ^c Energy source emissions are based on CalEEMod default electricity and natural gas usage rates. ^d Solid waste emissions are calculated based on CalEEMod default solid waste generation rates. ^e Water/Wastewater emissions are calculated based on CalEEMod default water consumption rates. Source: DKA Planning, 2023.	

Electricity and Natural Gas Generation Emissions

GHG emissions are emitted as a result of activities in buildings when electricity and natural gas are used as energy sources. Combustion of any type of fuel emits CO₂ and other GHG emissions directly into the atmosphere; when this occurs in a building, it is a direct emission source associated with that building. GHG emissions 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.

Electricity and natural gas emissions were calculated for the Project using the CalEEMod emissions inventory model, which multiplies an estimate of the energy usage by applicable emissions factors chosen by the utility company. GHG emissions from electricity use are directly dependent on the electricity utility provider. In this case, GHG emissions intensity factors for LADWP were selected in CalEEMod. The carbon intensity ((pounds per megawatt an hour (lbs/MWh)) for electricity generation was calculated for the Project buildout year based on LADWP projections. A straight-line interpolation was performed to estimate the LADWP carbon intensity factor for the Project buildout year. LADWP’s carbon intensity projections also take into account SB 350 RPS requirements for renewable energy.

This approach is conservative, given the 2018 chaptering of SB 100 (De Leon), which requires electricity providers to provide renewable energy for at least 60 percent of their delivered power by 2030 and 100 percent use of renewable energy and zero-carbon resources by 2045. SB 100 also increases existing renewable energy targets, called Renewables Portfolio Standard (RPS), to 44 percent by 2024 and 52 percent by 2027.

The 2022 Title 24 standards contain more substantial energy efficiency requirements for new construction, emphasizing the importance of building design and construction flexibility to

establish performance standards that substantially reduce energy consumption for water heating, lighting, and insulation for attics and walls.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building, such as in plug-in appliances. CalEEMod calculates energy use from systems covered by Title 24 (e.g., HVAC system, water heating system, and lighting system); energy use from lighting; and energy use from office equipment, appliances, plug-ins, and other sources not covered by Title 24 or lighting.

CalEEMod electricity and natural gas usage rates are based on the CEC-sponsored California Commercial End-Use Survey (CEUS) and the California Residential Appliance Saturation Survey (RASS) studies.⁶³ The data are specific for climate zones; therefore, Zone 11 was selected for the Project Site based on the zip code tool.

As shown in Table 7, Project GHG emissions from electricity and natural gas usage would result in a total of 970 MTCO_{2e} per year.

Mobile Source Emissions

Mobile-source emissions were calculated using the SCAQMD-recommended CalEEMod emissions inventory model. CalEEMod calculates the emissions associated with on-road mobile sources associated with residents, employees, visitors, and delivery vehicles visiting the Project Site based on the number of daily trips generated and VMT.

Mobile source operational GHG emissions were calculated using CalEEMod and are based on the Project trip-generation estimates. To calculate daily trips, the square footage for the proposed self-storage facility and the 1,400 square feet of commercial use were multiplied by the applicable trip-generation rates based on the Institute of Transportation Engineers (ITE)'s *Trip Generation, 10th Edition*.

The Project represents an infill development within an urbanized area that would concentrate self-storage uses within an HQTAs.⁶⁴ The Project Site is located in the dense Ventura Boulevard corridor with proximity to Metro local bus services. The Project would provide bicycle storage

⁶³ California Energy Commission, Commercial End-Use Survey, March 2006, and California Residential Appliance Saturation Survey, October 2010.

⁶⁴ The Project Site is also located in Transit Priority Area as defined by Public Resources Code Section 21099. Public Resources Code Section 21099 defines a “transit priority area” as an area within 0.5 miles of a major transit stop that is “existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations.” Public Resources Code Section 21064.3 defines “major transit stop” as “a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.” Also refer to the City’s ZIMAS System regarding the location of the Project Site within a Transit Priority Area.

areas for Project employees and visitors. The Project would also incorporate characteristics that would reduce trips and VMT as compared to standard ITE trip generation rates. The Project characteristics listed below are consistent with the CAPCOA guidance document, *Quantifying Greenhouse Gas Mitigation Measures*, which provides emission reduction values for transportation related design techniques.⁶⁵ These techniques would reduce vehicle trips and VMT associated with the Project relative to the standard ITE trip generation rates, which would result in a comparable reduction in VMT and associated GHG emissions. Techniques applicable to the Project include the following (a brief description of the Project's relevance to the measure is also provided):

- **CAPCOA Measure LUT-1 – Increase Density:** Increased density, measured in terms of persons, jobs, or dwelling units per unit area, reduces emissions associated with transportation as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies, such as enhanced transit services.
- **CAPCOA Measure LUT-3 – Increase Diversity of Urban and Suburban Developments (Mixed-Use):** The Project would introduce new uses on the Project Site, including new self-storage and retail uses that support residences and commercial uses. The increases in land use diversity on the Project Site would reduce vehicle trips and VMT by encouraging visitors to walk and use non-automotive forms of transportation (i.e., public transit, biking), which would result in corresponding reductions in transportation-related emissions.
- **CAPCOA Measure LUT-4 – Increase Destination Accessibility:** The Project Site is located in the dense Ventura Boulevard corridor, a regional job center, also easily accessible by public transportation. Access to multiple destinations, and commercial and retail uses in proximity to the Project Site would reduce vehicle trips and VMT compared to the statewide average and encourage walking and non-automotive forms of transportation and would result in corresponding reductions in transportation-related emissions as a result of the Project.
- **CAPCOA Measure LUT-5 – Increase Transit Accessibility:** The Project would be located near several Metro bus route Line 150. The Project would also provide bicycle parking spaces to encourage utilization of alternative modes of transportation.

CalEEMod calculates VMT based on the type of land use, trip purpose, and trip type percentages for each land use subtype in the project (primary, diverted, and pass-by). As shown in Table 7, the Project GHG emissions from mobile sources would result in a total of 496 MTCO_{2e} per year. This estimate reflects reductions attributable to the Project's characteristics (e.g., infill project near transit that supports multi-modal transportation options), as described above.

⁶⁵ CAPCOA, *Quantifying Greenhouse Gas Mitigation Measures*, 2010.

Solid Waste Generation Emissions

Emissions related to solid waste were calculated using the CalEEMod emissions inventory model, which multiplies an estimate of the waste generated by applicable emissions factors provided in Section 2.4 of the USEPA's AP-42, Compilation of Air Pollutant Emission Factors. CalEEMod solid waste generation rates for each applicable land use were selected for this analysis. As shown in Table 7, the Project scenario is expected to result in a total of 62 MTCO₂e per year from solid waste.⁶⁶

Water Usage and Wastewater Generation Emissions

GHG emissions are related to the energy used to convey, treat, and distribute water, and treat wastewater. Thus, these emissions are generally indirect emissions from the production of electricity to power these systems. Three processes are necessary to supply potable water; these include (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.

Emissions related to water usage and wastewater generation were calculated for the Project using the CalEEMod emissions inventory model, which multiplies an estimate of the water usage by the applicable energy intensity factor to determine the embodied energy necessary to supply potable water.⁶⁷ GHG emissions are then calculated based on the amount of electricity consumed multiplied by the GHG emissions intensity factors for the utility provider. In this case, embodied energy for Southern California supplied water and GHG emissions intensity factors for LADWP were selected in CalEEMod. Water usage rates were calculated consistent with the requirements under City Ordinance No. 184,248, 2022 California Plumbing Code (which is based on the 2021 Uniform Plumbing Code), 2022 CALGreen, Los Angeles Plumbing Code, and Los Angeles Green Building Code, and reflect an approximately 20-percent reduction as compared to the base demand.

LADWP's programs includes programs designed to reduce indoor water consumption and wastewater generation by 20 percent. These include the 2022 requirements for installation of the latest ultra-high efficiency plumbing fixtures, the standards that promote increasing water-resistant turf and incorporating rainfall capture techniques in project designs, aggressive outdoor water consumption programs through its Landscape ordinance, and water recycling programs designed to increase recycled water to 59,000 acre-feet by 2035.

⁶⁶ AB 341 (2012) increased the Statewide waste diversion goal from 50 to 75 percent from baseline rates established by CalRecycle by 2020 and beyond. Further, SB 1383 (2016) requires jurisdictions to reduce 75 percent of organic waste disposal in landfills by 2030.

⁶⁷ The intensity factor reflects the average pounds of CO₂e per megawatt generated by a utility company.

As shown in Table 7, Project GHG emissions from water/wastewater usage would result in a total of 129 MTCO₂e per year.

Combined Construction and Operational Emissions

As shown in Table 7, when taking into consideration implementation of project design features, including the requirements set forth in the City's Green Building Code and the full implementation of current state mandates such as solar panels, LID building requirements, EV chargers with parking and climate-controlled HVAC, the GHG emissions for the Project would equal 37 MTCO₂e annually (as amortized over 30 years) during construction.

Estimated Reduction of Project Related GHG Emissions Resulting from Consistency with Plans

As noted earlier, one approach to demonstrating a project's consistency with GHG plans is to show how a project will reduce its incremental contribution through a Project Without Reduction Features comparison. The analysis in this section includes potential emissions under a Project Without Reduction Features scenario and from the Project at build-out based on actions and mandates in force in 2025.

As shown in Table 8, the emissions for the Project and its associated CARB 2025 Project Without Reduction Features scenario are estimated to be 1,704 and 2,617 MTCO₂e per year, respectively, which shows the Project would reduce emissions by 34.9 percent from CARB's 2025 Project Without Reduction Features scenario.

The analysis in this section uses the 2017 Scoping Plan's statewide goals as one approach to evaluate the Project's incremental contribution to climate change. The methodology is to compare the Project's emissions as proposed to the Project's emissions as if the Project were built using a Project Without Reduction Features approach in terms of design, methodology, and technology. This means the Project's emissions were calculated as if the Project was constructed with project design features, such as solar panels, LID building requirements, EV chargers with parking and climate-controlled HVAC, to reduce GHG emissions that are not required by state or local code and with several regulatory measures adopted in furtherance of AB 32.

While the AB 32 Scoping Plan's cumulative statewide objectives were not intended to serve as the basis for project-level assessments, this analysis finds that its Project Without Reduction Features comparison based on the Scoping Plan is appropriate, because the Project would contribute to statewide GHG emissions reduction goals. Specifically, the Project's mixed-use nature and location in an existing urban setting provide opportunities to reduce transportation-related emissions. First, it would capture vehicle travel on-site that would have normally been destined for off-site locations. This produces substantial reductions in the amount of vehicle trips and VMT that no longer are made. Second, it would eliminate many vehicle trips, because travel to and from the Project Site could be captured by public transit and active transportation instead. Finally, it would attract existing trips on the street network that would divert to the proposed development.

**Table 8
Estimated Reduction of Project-Related GHG Emissions Resulting from Consistency
with Plans**

Scenario and Source	Project Without Reduction Features Scenario*	As Proposed Scenario	Reduction from Project Without Reduction Features Scenario	Change from Project Without Reduction Features Scenario
Area Sources	3	3	-	0%
Energy Sources	1,672	970	-702	-42%
Mobile Sources	707	496	-211	-30%
Waste Sources	62	62	-	0%
Water Sources	129	129	-	0%
Refrigerants	7	7	-	0%
Construction	37	37	-	0%
Total Emissions	2,617	1,704	-913	-34.9%
<i>Daily construction emissions amortized over 30-year period pursuant to SCAQMD guidance. Annual construction emissions derived by taking total emissions over duration of activities and dividing by construction period. * Project Without Reduction Features scenario does not assume 30% reduction in in mobile source emissions from Pavley emission standards (19.8%), low carbon fuel standards (7.2%), vehicle efficiency measures 2.8%); does not assume 42% reduction in energy production emissions from the State's renewables portfolio standard (33%), natural gas extraction efficiency measures (1.6%), and natural gas transmission and distribution efficiency measures (7.4%). Source: DKA Planning, 2023.</i>				

Post-2020 Analysis

Recent studies show that the state’s existing and proposed regulatory framework will put the state on a pathway to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050 if additional appropriate reduction measures are adopted.⁶⁸ Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the state to meet the 2050 target. After the findings of these studies, SB 32 was passed on

⁶⁸ Energy and Environmental Economics (E3). “Summary of the California State Agencies’ PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios” (April 2015); Greenblatt, Jeffrey, Energy Policy, “Modeling California Impacts on Greenhouse Gas Emissions” (Vol. 78, pp. 158–172). The California Air Resources Board, California Energy Commission, California Public Utilities Commission, and the California Independent System Operator engaged E3 to evaluate the feasibility and cost of a range of potential 2030 targets along the way to the state’s goal of reducing GHG emissions to 80 percent below 1990 levels by 2050. With input from the agencies, E3 developed scenarios that explore the potential pace at which emission reductions can be achieved, as well as the mix of technologies and practices deployed. E3 conducted the analysis using its California PATHWAYS model. Enhanced specifically for this study, the model encompasses the entire California economy with detailed representations of the buildings, industry, transportation, and electricity sectors.

September 8, 2016, and would require the state board to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. As discussed above, the new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

As discussed above, SCAG's 2020-2045 RTP/SCS establishes a regulatory framework for achieving GHG reductions from the land use and transportation sectors pursuant to SB 375 and the state's long-term climate policies. The 2020-2045 RTP/SCS ensures VMT reductions and other measures that reduce regional emissions from the land use and transportation sectors.

The Project is the type of land use development that is encouraged by the RTP/SCS to reduce VMT and expand multi-modal transportation options for the region to achieve the GHG reductions from the land use and transportation sectors required by SB 375, which, in turn, advances the state's long-term climate policies. By furthering implementation of SB 375, the Project supports regional land use and transportation GHG reductions consistent with state climate targets for 2020 and beyond. In addition, the Project would be consistent with the Actions and Strategies set forth in the 2020-2045 RTP/SCS. Therefore, the Project would be consistent with the 2020-2045 RTP/SCS.

Conclusion

Given the Project's consistency with state, SCAG, and City GHG emissions reduction goals and objectives, the Project is consistent with applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs. In the absence of adopted standards and established significance thresholds, and given this consistency, it is concluded that the Project's incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable.

Cumulative Impacts

As explained above, the analysis of a project's GHG emissions is inherently a cumulative impacts analysis, because climate change is a global problem, and the emissions from any single project alone would be negligible. Accordingly, the analysis above took into account the potential for the Project to contribute to the cumulative impact of global climate change.

The analysis shows that the Project is consistent with CARB's *Climate Change Scoping Plan*, particularly its emphasis on the identification of emission reduction opportunities that promote economic growth while achieving greater energy efficiency and accelerating the transition to a low-carbon economy. The analysis also shows that the Project would be consistent with the 2020-2045 RTP/SCS, which would serve to reduce regional GHG emissions from the land use and transportation sectors by 2020 and 2035. In addition, the Project would comply with the LA Green Plan, which emphasizes improving energy conservation and energy efficiency, increasing renewable energy generation, and changing transportation and land use patterns to reduce auto

dependence. Furthermore, the Project would generally comply with the aspirations of the City's Air Quality Element and Green New Deal/Sustainable City pLAn, which includes specific targets related to housing and development, and mobility and transit. Given the Project's consistency with statewide, regional, and local plans adopted for the reduction of GHG emissions, it is concluded that the Project's incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable. For these reasons, the Project's cumulative contribution to global climate change is less than significant.

TECHNICAL APPENDIX



DOUGLASKIM+ASSOCIATES,LLC

GREENHOUSE GAS EMISSIONS OVERVIEW

20401 Ventura Boulevard (Future) Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	20401 Ventura Boulevard (Future)
Lead Agency	City of Los Angeles
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.2
Location	20401 Ventura Blvd, Woodland Hills, CA 91364, USA
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3818
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Industrial Park	158	1000sqft	0.64	158,352	9,282	0.00	—	—
Parking Lot	42.0*	Space	0.23	0.00	0.00	0.00	—	—
Strip Mall	1.40	1000sqft	0.03	1,400	0.00	—	—	—

*Note: The current version of the Project includes 22 vehicle parking spaces, and the emissions associated with this reduction would be less than those disclosed in these modeling results.

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	—	3,380	3,380	0.14	0.17	6.34	3,439
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	—	26,880	26,880	1.52	3.97	1.49	28,103
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	—	3,654	3,654	0.17	0.35	3.21	3,765
Annual (Max)	—	—	—	—	—	—	—
Unmit.	—	605	605	0.03	0.06	0.53	623
Exceeds (Daily Max)	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily - Summer (Max)	—	—	—	—	—	—	—
2024	—	3,338	3,338	0.14	0.16	6.16	3,395
2025	—	3,380	3,380	0.14	0.17	6.34	3,439
Daily - Winter (Max)	—	—	—	—	—	—	—
2023	—	26,880	26,880	1.52	3.97	1.49	28,103
2024	—	26,482	26,482	1.36	3.97	1.49	27,701
2025	—	3,322	3,322	0.14	0.17	0.16	3,376
Average Daily	—	—	—	—	—	—	—
2023	—	1,970	1,970	0.11	0.28	1.75	2,057
2024	—	3,654	3,654	0.17	0.35	3.21	3,765
2025	—	828	828	0.04	0.04	0.65	841
Annual	—	—	—	—	—	—	—
2023	—	326	326	0.02	0.05	0.29	341
2024	—	605	605	0.03	0.06	0.53	623
2025	—	137	137	0.01	0.01	0.11	139

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	177	9,413	9,590	18.5	0.35	53.4	10,209
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	177	9,254	9,431	18.5	0.35	41.5	10,040
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	177	9,278	9,455	18.5	0.35	46.4	10,068
Annual (Max)	—	—	—	—	—	—	—
Unmit.	29.3	1,536	1,565	3.06	0.06	7.68	1,667

Exceeds (Daily Max)	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	—	3,075	3,075	0.15	0.12	12.1	3,127
Area	—	28.6	28.6	< 0.005	< 0.005	—	28.7
Energy	—	5,836	5,836	0.43	0.05	—	5,862
Water	70.4	474	545	7.25	0.18	—	778
Waste	107	0.00	107	10.7	0.00	—	373
Refrig.	—	—	—	—	—	41.2	41.2
Total	177	9,413	9,590	18.5	0.35	53.4	10,209
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	—	2,944	2,944	0.16	0.13	0.31	2,986
Area	—	—	—	—	—	—	—
Energy	—	5,836	5,836	0.43	0.05	—	5,862
Water	70.4	474	545	7.25	0.18	—	778
Waste	107	0.00	107	10.7	0.00	—	373
Refrig.	—	—	—	—	—	41.2	41.2
Total	177	9,254	9,431	18.5	0.35	41.5	10,040

Average Daily	—	—	—	—	—	—	—
Mobile	—	2,948	2,948	0.15	0.13	5.18	2,995
Area	—	19.6	19.6	< 0.005	< 0.005	—	19.6
Energy	—	5,836	5,836	0.43	0.05	—	5,862
Water	70.4	474	545	7.25	0.18	—	778
Waste	107	0.00	107	10.7	0.00	—	373
Refrig.	—	—	—	—	—	41.2	41.2
Total	177	9,278	9,455	18.5	0.35	46.4	10,068
Annual	—	—	—	—	—	—	—
Mobile	—	488	488	0.03	0.02	0.86	496
Area	—	3.24	3.24	< 0.005	< 0.005	—	3.25
Energy	—	966	966	0.07	0.01	—	970
Water	11.7	78.5	90.2	1.20	0.03	—	129
Waste	17.7	0.00	17.7	1.76	0.00	—	61.8
Refrig.	—	—	—	—	—	6.83	6.83
Total	29.3	1,536	1,565	3.06	0.06	7.68	1,667

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	—

Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	51.4	51.4	< 0.005	< 0.005	—	51.5
Demolition	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	8.50	8.50	< 0.005	< 0.005	—	8.53
Demolition	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	137	137	0.01	< 0.005	0.02	138
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	3,717	3,717	0.21	0.59	0.22	3,897
Average Daily	—	—	—	—	—	—	—
Worker	—	8.37	8.37	< 0.005	< 0.005	0.02	8.48
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	224	224	0.01	0.04	0.22	235
Annual	—	—	—	—	—	—	—
Worker	—	1.39	1.39	< 0.005	< 0.005	< 0.005	1.40
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	37.1	37.1	< 0.005	0.01	0.04	38.9

3.3. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	51.7	51.7	< 0.005	< 0.005	—	51.9
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	8.56	8.56	< 0.005	< 0.005	—	8.59
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	68.4	68.4	< 0.005	< 0.005	0.01	69.2
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	4.18	4.18	< 0.005	< 0.005	0.01	4.24
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.70

Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	104	104	< 0.005	< 0.005	—	104
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	17.2	17.2	< 0.005	< 0.005	—	17.3
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	103	103	< 0.005	< 0.005	0.01	104
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	—	25,064	25,064	1.44	3.96	1.48	26,280
Average Daily	—	—	—	—	—	—	—
Worker	—	6.32	6.32	< 0.005	< 0.005	0.01	6.40
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	1,520	1,520	0.09	0.24	1.49	1,595
Annual	—	—	—	—	—	—	—
Worker	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.06
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	252	252	0.01	0.04	0.25	264

3.7. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	104	104	< 0.005	< 0.005	—	104
Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	17.2	17.2	< 0.005	< 0.005	—	17.3

Dust From Material Movement	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	100	100	< 0.005	< 0.005	0.01	102
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	24,668	24,668	1.28	3.96	1.48	25,880
Average Daily	—	—	—	—	—	—	—
Worker	—	6.18	6.18	< 0.005	< 0.005	0.01	6.26
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	1,496	1,496	0.08	0.24	1.49	1,571
Annual	—	—	—	—	—	—	—
Worker	—	1.02	1.02	< 0.005	< 0.005	< 0.005	1.04
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	248	248	0.01	0.04	0.25	260

3.9. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,305	1,305	0.05	0.01	—	1,309

Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	855	855	0.03	0.01	—	858
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	142	142	0.01	< 0.005	—	142
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	945	945	0.04	0.03	3.73	960
Vendor	—	845	845	0.03	0.12	2.29	883
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	896	896	0.04	0.03	0.10	907
Vendor	—	845	845	0.03	0.12	0.06	881
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	596	596	0.03	0.02	1.05	604
Vendor	—	554	554	0.02	0.08	0.65	578
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	98.7	98.7	< 0.005	< 0.005	0.17	100
Vendor	—	91.7	91.7	< 0.005	0.01	0.11	95.7
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	306	306	0.01	< 0.005	—	307
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	50.7	50.7	< 0.005	< 0.005	—	50.9
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	926	926	0.04	0.03	3.39	940
Vendor	—	831	831	0.03	0.12	2.27	869
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	878	878	0.04	0.03	0.09	889
Vendor	—	831	831	0.03	0.12	0.06	867
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	209	209	0.01	0.01	0.34	212
Vendor	—	195	195	0.01	0.03	0.23	204
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—
Worker	—	34.6	34.6	< 0.005	< 0.005	0.06	35.1
Vendor	—	32.3	32.3	< 0.005	< 0.005	0.04	33.7
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	823	823	0.03	0.01	—	826
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	49.6	49.6	< 0.005	< 0.005	—	49.8
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	8.22	8.22	< 0.005	< 0.005	—	8.25
Paving	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	242	242	0.01	0.01	0.89	246
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	—	14.0	14.0	< 0.005	< 0.005	0.02	14.2
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.35
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	23.0	23.0	< 0.005	< 0.005	—	23.1
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—

Off-Road Equipment	—	3.82	3.82	< 0.005	< 0.005	—	3.83
Architectural Coatings	—	—	—	—	—	—	—
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	185	185	0.01	0.01	0.68	188
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	176	176	0.01	0.01	0.02	178
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	30.7	30.7	< 0.005	< 0.005	0.05	31.2
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	5.09	5.09	< 0.005	< 0.005	0.01	5.16
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Trenching (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	207	207	0.01	< 0.005	—	208

Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	—	207	207	0.01	< 0.005	—	208
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	—	36.4	36.4	< 0.005	< 0.005	—	36.5
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	—	6.02	6.02	< 0.005	< 0.005	—	6.04
Onsite truck	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	—	35.3	35.3	< 0.005	< 0.005	0.14	35.8
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	—	33.5	33.5	< 0.005	< 0.005	< 0.005	33.9
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	—	5.95	5.95	< 0.005	< 0.005	0.01	6.04
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	—	0.99	0.99	< 0.005	< 0.005	< 0.005	1.00
Vendor	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	—	4,771	4,771	0.34	0.05	—	4,794
Parking Lot	—	16.6	16.6	< 0.005	< 0.005	—	16.7
Strip Mall	—	26.4	26.4	< 0.005	< 0.005	—	26.5
Total	—	4,814	4,814	0.34	0.05	—	4,837
Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	—	4,771	4,771	0.34	0.05	—	4,794
Parking Lot	—	16.6	16.6	< 0.005	< 0.005	—	16.7
Strip Mall	—	26.4	26.4	< 0.005	< 0.005	—	26.5
Total	—	4,814	4,814	0.34	0.05	—	4,837
Annual	—	—	—	—	—	—	—
Industrial Park	—	790	790	0.06	0.01	—	794
Parking Lot	—	2.75	2.75	< 0.005	< 0.005	—	2.76
Strip Mall	—	4.37	4.37	< 0.005	< 0.005	—	4.39
Total	—	797	797	0.06	0.01	—	801

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	—	1,020	1,020	0.09	< 0.005	—	1,022
Parking Lot	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	2.21	2.21	< 0.005	< 0.005	—	2.22
Total	—	1,022	1,022	0.09	< 0.005	—	1,025
Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	—	1,020	1,020	0.09	< 0.005	—	1,022
Parking Lot	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	2.21	2.21	< 0.005	< 0.005	—	2.22
Total	—	1,022	1,022	0.09	< 0.005	—	1,025
Annual	—	—	—	—	—	—	—
Industrial Park	—	169	169	0.01	< 0.005	—	169
Parking Lot	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	0.37	0.37	< 0.005	< 0.005	—	0.37
Total	—	169	169	0.01	< 0.005	—	170

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—

Landscape Equipment	—	28.6	28.6	< 0.005	< 0.005	—	28.7
Total	—	28.6	28.6	< 0.005	< 0.005	—	28.7
Daily, Winter (Max)	—	—	—	—	—	—	—
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Consumer Products	—	—	—	—	—	—	—
Architectural Coatings	—	—	—	—	—	—	—
Landscape Equipment	—	3.24	3.24	< 0.005	< 0.005	—	3.25
Total	—	3.24	3.24	< 0.005	< 0.005	—	3.25

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	70.2	473	543	7.23	0.18	—	776
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	0.20	1.34	1.53	0.02	< 0.005	—	2.19
Total	70.4	474	545	7.25	0.18	—	778
Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	70.2	473	543	7.23	0.18	—	776
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	0.20	1.34	1.53	0.02	< 0.005	—	2.19
Total	70.4	474	545	7.25	0.18	—	778

Annual	—	—	—	—	—	—	—
Industrial Park	11.6	78.3	89.9	1.20	0.03	—	128
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	0.03	0.22	0.25	< 0.005	< 0.005	—	0.36
Total	11.7	78.5	90.2	1.20	0.03	—	129

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	106	0.00	106	10.6	0.00	—	370
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	0.79	0.00	0.79	0.08	0.00	—	2.77
Total	107	0.00	107	10.7	0.00	—	373
Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	106	0.00	106	10.6	0.00	—	370
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	0.79	0.00	0.79	0.08	0.00	—	2.77
Total	107	0.00	107	10.7	0.00	—	373
Annual	—	—	—	—	—	—	—
Industrial Park	17.5	0.00	17.5	1.75	0.00	—	61.3
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	0.13	0.00	0.13	0.01	0.00	—	0.46
Total	17.7	0.00	17.7	1.76	0.00	—	61.8

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	41.2	41.2
Strip Mall	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	41.2	41.2
Daily, Winter (Max)	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	41.2	41.2
Strip Mall	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	41.2	41.2
Annual	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	6.82	6.82
Strip Mall	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	6.83	6.83

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—

Subtotal	--	--	--	--	--	--	--
Sequestered	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
Removed	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Daily, Winter (Max)	--	--	--	--	--	--	--
Avoided	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
Sequestered	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
Removed	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
Annual	--	--	--	--	--	--	--
Avoided	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
Sequestered	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
Removed	--	--	--	--	--	--	--
Subtotal	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
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Demolition	Demolition	10/1/2023	10/31/2023	5.00	22.0	—
Site Preparation	Site Preparation	11/1/2023	11/30/2023	5.00	22.0	—
Grading	Grading	12/1/2023	1/31/2024	5.00	44.0	—
Building Construction	Building Construction	2/1/2024	4/30/2025	5.00	325	—
Paving	Paving	5/1/2025	5/31/2025	5.00	22.0	—
Architectural Coating	Architectural Coating	2/1/2025	4/30/2025	5.00	63.0	—
Trenching	Trenching	2/1/2024	4/30/2024	5.00	64.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56

Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Trenching	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	41.7	25.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	281	25.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	67.0	18.5	LDA,LDT1,LDT2

Building Construction	Vendor	26.2	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	13.4	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	2.50	18.5	LDA,LDT1,LDT2
Trenching	Vendor	—	10.2	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	239,628	79,876	601

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,883	—
Site Preparation	—	—	0.00	0.00	—
Grading	—	61,585	1.23	0.00	—
Paving	0.00	0.00	0.00	0.00	0.23

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Industrial Park	0.00	0%
Parking Lot	0.23	100%
Strip Mall	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	690	0.05	0.01
2024	0.00	690	0.05	0.01

2025	0.00	690	0.05	0.01
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5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	403 *	400*	370*	145,218*	3,756*	3,732*	3,505*	1,356,601*

*Note: The Project's mobile emissions are based on a conservative, preliminary trip generation estimate that has since been revised to be lower than used in the CalEEMod modeling. Thus, the Project's mobile emissions would be less than disclosed in these results.

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	239,628	79,876	601

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Industrial Park	2,522,349	690	0.0489	0.0069	3,181,586
Parking Lot	8,776	690	0.0489	0.0069	0.00
Strip Mall	13,939	690	0.0489	0.0069	6,894

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Industrial Park	36,618,900	130,176
Parking Lot	0.00	0.00
Strip Mall	103,702	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Industrial Park	196	0.00
Parking Lot	0.00	0.00
Strip Mall	1.47	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.9	annual days of extreme heat
Extreme Precipitation	7.15	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	6.08	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	0	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	0	0	0	N/A
Wildfire	0	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	80.0
AQ-PM	79.2
AQ-DPM	71.4
Drinking Water	83.1
Lead Risk Housing	32.4
Pesticides	13.0
Toxic Releases	54.9
Traffic	98.0
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	57.0
Haz Waste Facilities/Generators	39.8

Impaired Water Bodies	43.8
Solid Waste	0.00
Sensitive Population	—
Asthma	33.9
Cardio-vascular	53.8
Low Birth Weights	32.8
Socioeconomic Factor Indicators	—
Education	21.7
Housing	69.9
Linguistic	57.8
Poverty	23.2
Unemployment	78.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	67.93276017
Employed	42.62799949
Median HI	—
Education	—
Bachelor's or higher	84.66572565
High school enrollment	26.43397921
Preschool enrollment	71.66688053
Transportation	—
Auto Access	39.77928911
Active commuting	34.22302066

Social	—
2-parent households	41.15231618
Voting	58.14192224
Neighborhood	—
Alcohol availability	68.81817015
Park access	14.6413448
Retail density	94.25125112
Supermarket access	68.56152958
Tree canopy	87.73258052
Housing	—
Homeownership	35.63454382
Housing habitability	27.47337354
Low-inc homeowner severe housing cost burden	41.40895676
Low-inc renter severe housing cost burden	18.00333633
Uncrowded housing	64.30129603
Health Outcomes	—
Insured adults	55.46002823
Arthritis	51.7
Asthma ER Admissions	64.5
High Blood Pressure	51.5
Cancer (excluding skin)	18.5
Asthma	72.9
Coronary Heart Disease	51.0
Chronic Obstructive Pulmonary Disease	71.2
Diagnosed Diabetes	84.4
Life Expectancy at Birth	92.3
Cognitively Disabled	56.3

Physically Disabled	68.4
Heart Attack ER Admissions	54.2
Mental Health Not Good	78.4
Chronic Kidney Disease	73.0
Obesity	74.1
Pedestrian Injuries	90.6
Physical Health Not Good	78.6
Stroke	64.5
Health Risk Behaviors	—
Binge Drinking	21.6
Current Smoker	80.3
No Leisure Time for Physical Activity	90.4
Climate Change Exposures	—
Wildfire Risk	3.9
SLR Inundation Area	0.0
Children	68.4
Elderly	28.7
English Speaking	64.6
Foreign-born	62.4
Outdoor Workers	68.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	75.8
Traffic Density	96.5
Traffic Access	68.3
Other Indices	—
Hardship	24.7
Other Decision Support	—

2016 Voting	40.3
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7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	62.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Developer information
Construction: Construction Phases	Developer information
Construction: Off-Road Equipment	Consultant assumptions for trenching

<p>Construction: Dust From Material Movement</p>	<p>Assumes 41,000 CY of soil export. Top ten inches of soil assumed to be topsoil at 56% swell factor (2,221 CY) and remainder dry clay at 50% swell factor (59,365 CY) Note: Soil below topsoil assumed to be dry clay; Source: Lyngso website, https://www.lyngsogarden.com/community-resources/tips-on-modifying-your-california-soil-with-amendments Source: US Department of Transportation Determination of Excavation and Embankment Volumes; https://highways.dot.gov/federal-lands/pddm/dpg/earthwork-design</p>
<p>Construction: Trips and VMT</p>	<p>Assumes 10CY haul truck capacity</p>

20401 Ventura Boulevard Project
 GHG Emissions Impact Compared to "Project Without Reduction Features" Scenario

Source	Without Reduction		Reduction	Change
	Features (2025)	As Proposed (2025)		
Area	3	3	-	0%
Energy	1,672	970	(702)	-42%
Mobile	707	496	(211)	-30%
Waste	62	62	-	0%
Water	129	129	-	0%
Refrigerants	7	7	-	0%
Construction	37	37	-	0%
Total Emissions	2,617	1,704	(913)	-34.9%

Land Use	Without Reduction		Difference
	Features	As Proposed	
Land Use	158,317 sf self-storage	storage and 1,400 sf retail or office	None
Traffic	341 ADT, 3,290 daily VMT*	403 ADT, 3,756 daily VMT*	None
Area	Same as proposed	Project assumptions	None
Energy	No State measures	See below	State measures
Mobile	No State measures	See below	State measures
Waste	Reduce construction w/	Reduce construction w/	None
Water	Project assumptions	Project assumptions	None

*Note: The Project's mobile emissions are based on a conservative, preliminary trip generation estimate that has since been revised to be lower than used in the CalEEMod modeling. Thus, the Project's mobile emissions would be less than disclosed in these results

Mobile source emissions
 Pavley emission standards (19.8% reduction)
 Low carbon fuel standard (7.2% reduction)
 efficiency measures (2.8% reduction)

Energy Production Assumptions
 Natural gas transmission and distribution efficiency measures (7.4% reduction)

Natural gas extraction efficiency measures (1.6% reduction)
 Renewables (electricity) portfolio standard (33% reduction)