Appendix H

Greenhouse Gas Emissions Technical Report

PASEO NORTE SENIOR AFFORDABLE HOUSING PROJECT

Greenhouse Gas Emissions Technical Report

Prepared for
County of San Diego Department of General Services
5560 Overland Avenue, Suite 410
San Diego, CA 92123

November 2023

ESA

PASEO NORTE SENIOR AFFORDABLE HOUSING PROJECT

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Prepared for
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5560 Overland Avenue, Suite 410
San Diego, CA 92123

November 2023

1010 E. Union Street
Suite 203
Pasadena, CA 91106
626.204.6170
esassoc.com

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EXECUTIVE SUMMARY

This report presents an assessment of potential greenhouse gas (GHG) emissions impacts associated with the proposed Paseo Norte Senior Affordable Housing Project (project) in Ramona, California. The project site is located along Main Street between 12th Street and 13th Street in the downtown area of the unincorporated community of Ramona in San Diego County (County). The project site occupies 7.86 acres and is located on assessor's parcel numbers (APNs) 281-182-17 and 281-182-18. The project site is generally bounded by Walnut Street and Santa Maria Creek to the north; the terminus of 12th Street and vacant parcels to the east; vacant land with multiple degraded concrete pads to the south; and Maple Street/13th Street and a salvage yard to the west.

A previously approved Initial Study/Mitigated Negative Declaration (IS/MND), published in 2017, evaluated impacts for the Ramona Intergenerational Community Campus that included the following: (1) a 12,500-square-foot senior facility; (2) a 5,000-square-foot adult day care center; (3) a 14,000-square-foot community gymnasium and teen café; (4) a 20,000-square-foot childcare center; (5) a 10,000-square-foot family resource center; (6) a 3,660-square-foot community support center; (7) approximately 230 parking spaces; and (8) various recreation and infrastructure improvements to support the new facilities. The revised project includes: (1) 100 affordable senior residential units; (2) a 1,800-square-foot senior center (located within the proposed residential building); (3) a 5,000-square-foot Program for All-Inclusive Care for the Elderly (PACE) Wellness Center; (4) 98 parking spaces; and (5) a 4.39-acre public park area (including a multipurpose trail, two pickleball courts, and a tot lot).

The project would result in emissions of greenhouse gases for both the construction phase and operational phase. Construction emissions would include emissions associated with heavy construction equipment and construction workers commuting to and from the site. Operational emissions would be generated from vehicle trips, energy use, water use, and waste generation. While the County adopted a Climate Action Plan (CAP) in 2018, the Superior Court ordered the CAP and EIR to be set aside in 2020. Therefore, it is not appropriate to evaluate consistency with the 2018 CAP or EIR for CEQA purposes. Rather, the analysis relies upon the CARB 2022 Scoping Plan, County's General Plan, and SANDAG 2021 Regional Plan to evaluate whether the proposed project would emit GHGs that may have a significant impact on the environment and achieve GHG emissions reduction targets and to establish consistency with relevant plans and policies. Furthermore, as the County has not adopted any newer guidance on GHG emission thresholds since the publication of the Global Climate Change Evaluation for the Romona Intergenerational Community Campus (2015 technical report) prepared for the 2017 Initial

Study/Mitigated Negative Declaration (IS/MND),[1] this GHG analysis will use the emissions calculated in the 2015 technical report as a reference point for comparison purposes.

The proposed project's GHG emissions at buildout (year 2025) are shown below in **Table ES-1, Summary of Estimated Greenhouse Gas Emissions**.

TABLE ES-1
SUMMARY OF ESTIMATED GREENHOUSE GAS EMISSIONS

Source	CO_2e (MT/year)
Area	1
Electricity	94
Water	12
Waste	43
Motor vehicles	902
Electric Vehicle Charging	2
Amortized Construction	61
Project Total	**1,115**
2015 Technical Report Total	1,700
Difference in Emissions	(585)

NOTE:

[a] The total construction GHG emissions were amortized over 30 years and added to the operational GHG emissions of the proposed project.

SOURCE: ESA, 2023.

The proposed project's GHG emissions would benefit from state and local GHG emission reduction mandates and strategies to achieve a declining trend in post-buildout annual GHG emissions. These reduction mandates and strategies include an aggressive RPS as set by SB 100, increased waste diversion, and would improve building energy efficiency through adherence to the 2022 Title 24 Building Energy Efficiency Standards to reduce energy use. In addition, the proposed project would not conflict with applicable strategies and regulations to reduce GHG emissions in the California Air Resources Board (CARB) 2022 Scoping Plan for Achieving Climate Neutrality, County of San Diego General Plan, and San Diego Association of Governments (SANDAG) 2021 Regional Plan. Thus, the proposed project would not generate GHG emissions that have a significant impact on the environment, and the proposed project would not conflict with an applicable plan, policy or regulation pertaining to reducing GHG emissions. Impacts to GHG emissions would be **less than significant**.

[1] The County is currently reviewing an update to the CAP; however, it has not been released for public review.

PASEO NORTE SENIOR AFFORDABLE HOUSING PROJECT

Greenhouse Gas Emissions Technical Report

1.0 Introduction

This report presents an assessment of potential climate change impacts associated with the proposed Paseo Norte Senior Affordable Housing Project in Ramona, California. The project is within the jurisdiction of the Department of Planning and Development Services in the County of San Diego. The evaluation addresses the potential for greenhouse gas (GHG) emissions during construction and after full buildout of the project.

1.1 Project Location

The project site is located along Main Street between 12th Street and 13th Street in the downtown area of the unincorporated community of Ramona in San Diego County. The project site occupies 7.86 acres and is located on assessor's parcel numbers (APNs) 281-182-17 and 281-182-18. The project site is generally bounded by Walnut Street and Santa Maria Creek to the north; the terminus of 12th Street and vacant parcels to the east; vacant land and the Ramona Branch Library with multiple degraded concrete pads to the south; and Maple Street/13th Street and a salvage yard to the west. The project site is shown in **Figure 1**, **Vicinity Location Map**.

1.2 Project Description

A previously approved Initial Study/Mitigated Negative Declaration (IS/MND), published in 2017, evaluated impacts for the Ramona Intergenerational Community Campus in the same location that included the following: (1) a 12,500-square-foot senior facility; (2) 5,000-square-foot adult day care center; (3) a 14,000-square-foot community gymnasium and teen café; (4) a 20,000-square-foot childcare center; (5) a 10,000-square-foot family resource center; (6) a 3,660-square-foot community support center; (7) approximately 230 parking spaces; and (8) various infrastructure improvements to support the new facilities. While approved, construction of the 2017 project never commenced.

Since approval of the 2017 project, state and county priorities have shifted towards affordable housing projects to help alleviate the existing housing crisis. As a result, the proposed project includes: (1) a 1,800-square-foot senior center; (2) 100 affordable senior residential units; (3) a 5,000-square-foot PACE Wellness Center; (4) 98 parking spaces; and (5) a 4.39-acre public park area. The proposed public park would include open space with shade trees, pickleball courts, and a walking trail located north of the residential and senior center uses. The project's site plan is shown in **Figure 2, Site Plan**. The other components of the 2017 project are no longer part of this project and there are no known plans for these components.

SOURCE: ESRI

Paseo Norte Senior Affordable Housing Project

Figure 1
Vicinity Location Map

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SOURCE: Wakeland, 2022

Paseo Norte Senior Affordable Housing Project

Figure 2
Site Plan

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Project construction would include 500 cubic yards of soil excavation and a maximum of 5,500 cubic yards of imported fill to prepare the vacant site for new development, surface parking, and building construction and architectural coating of up to 100 dwelling units, a senior center, and PACE Wellness Center.

1.3 Existing Conditions

Background and Context

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however, data indicates that the current global conditions differ from past climate changes in rate and magnitude. The current changes in global climate have been attributed to anthropogenic (human-caused) activities by the Intergovernmental Panel on Climate Change.[2] The term GHG refers to gases that trap long-wave radiation or heat in the atmosphere, which heats the surface of the Earth. Without human intervention, the Earth maintains an approximate balance between the GHG emissions in the atmosphere and the storage of GHGs in the oceans and terrestrial ecosystems. GHGs are the result of both natural and anthropogenic activities. 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.

The federal government and State of California recognized that anthropogenic GHG emissions are contributing to changes in the global climate, and that such changes are having and will have adverse effects on the environment, the economy, and public health. While worldwide contributions of GHG emissions are expected to have widespread consequences, it is not possible to link particular changes to the environment of California or elsewhere to GHGs emitted from a particular source or location. In other words, emissions of GHGs have the potential to cause global impacts rather than local impacts. Increased concentrations of GHGs in the Earth's atmosphere have been linked to global climate change and such conditions as rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increased frequency and magnitude of severe weather conditions.[3] Existing climate change models also show that climate warming portends a variety of impacts on agriculture, including loss of microclimates that support specific crops, increased pressure from invasive weeds and diseases, and loss of productivity due to changes in water reliability and availability.[4] In addition, rising temperatures and shifts in microclimates associated with global climate change are expected to increase the frequency and intensity of wildfires.[5]

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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. Available online at: https://www.ipcc.ch/report/ar5/syr/. Accessed September 2023.

3 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. Available online at: https://www.ipcc.ch/report/ar5/syr/. Accessed September 2023.

4 California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update to California's Climate Adaptation Strategy. Available online at: https://files.resources.ca.gov/climate/safeguarding/. Accessed September 2023.

5 United States Environmental Protection Agency (EPA). 2018. Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles, 83 Fed. Reg. 16077. Available online at: https://www.govinfo.gov/content/pkg/FR-2018-04-13/pdf/2018-07364.pdf. Accessed September 2023.

State law defines GHGs to include the following compounds: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).[6] The most common GHG that results from human activity is CO_2, which represents 76 percent of total anthropogenic GHG emissions in the atmosphere (as of 2010 data) (IPCC 2014), followed by CH_4 and N_2O. Scientists have established a Global Warming Potential (GWP) to gauge the potency of each GHG's ability to absorb and re-emit long-wave radiation and these GWP ratios are available from IPCC. The GWP of a gas is determined using CO_2 as the reference gas with a GWP of 1 over 100 years. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. The sum of each GHG multiplied by its associated GWP is referred to as carbon dioxide equivalents (CO_2e). The measurement unit CO_2e is used to report the combined potency of GHG emissions.

Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). In 2007, IPCC updated the GWP values based on the latest science at the time in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 are being used in recent GHG emissions inventories. In 2013, IPCC again updated the GWP values based on the latest science in its Fifth Assessment Report (AR5).[7] However, United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines for national inventories require the use of GWP values from the AR4. To comply with international reporting standards under the UNFCCC, official emission estimates for California and the U.S. are reported using AR4 GWP values. Therefore, statewide and national GHG inventories have not yet updated their GWP values to the AR5 values. By applying the GWP ratios, project-related CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. Compounds that are regulated as GHGs are discussed below and their respective GWPs are summarized in **Table 1**, **Regulated Greenhouse Gas's Reported GWP Values**.

TABLE 1
REGULATED GREENHOUSE GAS'S REPORTED GWP VALUES

Regulated GHG Compound	IPCC SAR GWP	IPCC AR4 GWP	IPCC AR5 GWP
Carbon Dioxide (CO_2)	1	1	1
Methane (CH_4)	21	25	28
Nitrous Oxide (N_2O)	310	298	265
Hydrofluorocarbons (HFCs)	140 to 11,700	124 to 14,800	138 to 12,400
Perfluorocarbons (PFCs)	6,500 to 9,200	7,390 to 17,700	6,630 to 17,400
Sulfur Hexafluoride (SF_6)	23,900	22,800	23,500

SOURCES: Intergovernmental Panel on Climate Change, 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, 2014, https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf. Accessed: September 2023

6 CEQA Guidelines Section 15364.5; Health and Safety Code, Section 38505(g).

7 Intergovernmental Panel on Climate Change. 2013. Fifth Assessment Report, Summary for Policy Makers, pg. 15. Available online at: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf. Accessed September 2023.

Carbon Dioxide (CO_2): CO_2 is the most abundant GHG in the atmosphere and is primarily generated from fossil fuel combustion from stationary and mobile sources. CO_2 is the reference gas (GWP of 1) for determining the GWPs of other GHGs.

Methane (CH_4): CH_4 is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The GWP of CH_4 is 21 in the IPCC SAR, 25 in the IPCC AR4, and 28 in the IPCC AR5.

Nitrous Oxide (N_2O): N_2O produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of N_2O is 310 in the IPCC SAR, 298 in the IPCC AR4, and 265 in the IPCC AR5.

Hydrofluorocarbons (HFCs): HFCs are fluorinated compounds consisting of hydrogen, carbon, and fluorine. They are typically used as refrigerants in both stationary refrigeration and mobile air conditioning systems. The GWPs of HFCs ranges from 140 for HFC-152a to 11,700 for HFC-23 in the IPCC SAR, 124 for HFC-152a to 14,800 for HFC-23 in the IPCC AR4, and 138 for HFC-152a to 12,400 for HFC-23 in the IPCC AR5.

Perfluorocarbons (PFCs): PFCs are fluorinated compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. The GWPs of PFCs range from 6,500 to 9,200 in the IPCC SAR, 7,390 to 17,700 in the IPCC AR4, and 6,630 to 17,400 in the IPCC AR5.

Sulfur Hexafluoride (SF_6): SF_6 is a fluorinated compound consisting of sulfur and fluoride. It is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF_6 has a GWP of 23,900 in the IPCC SAR, 22,800 in the IPCC AR4, and 23,500 in the IPCC AR5.

Greenhouse Gas Emissions Inventory

The California Air Resources Board (CARB) compiles the State's GHG emissions inventory. The most updated inventory is referred to as the 2022 edition, which reports the state's GHG emissions inventory from calendar year 2000–2020. Based on the 2020 GHG inventory data (i.e., the latest year for which data are available from CARB), California emitted 369.2 million metric tons of CO_2e ($MMTCO_2e$) including emissions resulting from imported electrical power.[8]

Between 1990 and 2020, the population of California grew by approximately 9.5 million (from 29.8 to 39.6 million).[9] This represents an increase of approximately 33 percent from 1990 population levels. Despite the population growth, California's net GHG emissions decreased from 1990 (431 $MMTCO_2e$) to 2020 (369.2 $MMTCO_2e$). As of 2016, California has met the 2020

[8] CARB. 2022 edition. California Greenhouse Gas Emissions for 2000 to 2020. Available online at: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed September 2023.

[9] California Department of Finance. 2020. E-5 Population and Housing Estimates for Cities, Counties and the State, 2010-2020. Available Online at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5. Accessed September 2023.

GHG reduction target and stayed below that limit as codified in California Health and Safety Code (HSC), Division 25.5, also known as The Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) as demonstrated by the declining trend coupled with implementation of the State's GHG reduction programs (such as the RPS, Low Carbon Fuel Standard [LCFS], vehicle efficiency standards, and declining caps under the Cap and Trade Program).[10] **Table 2, State of California Greenhouse Gas Emissions**, identifies and quantifies statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2020. As shown in the table, the transportation sector is the largest contributor to statewide GHG emissions at approximately 37 percent in 2020.

TABLE 2
STATE OF CALIFORNIA GREENHOUSE GAS EMISSIONS

Category	Total 1990 Emissions ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2020 Emissions ($MMTCO_2e$)	Percent of Total 2020 Emissions
Transportation	150.7	35%	135.8	37%
Electric Power	110.6	26%	59.5	16%
Commercial	14.4	3%	13.4	4%
Residential	29.7	7%	25.3	7%
Industrial	103.0	24%	73.3	20%
Recycling and Waste [a]	–	–	8.9	2%
High GWP/Non-Specified [b]	1.3	<1%	21.3	6%
Agriculture/Forestry	23.6	6%	31.6	9%
Forestry Sinks	-6.7	–	_ [c]	–
Net Total (IPCC SAR)	**426.6**	**100%**	–	–
Net Total (IPCC AR4) [d]	**431**	**100%**	**369.2**	**100%**

[a] Included in other categories for the 1990 emissions inventory.
[b] High GWP gases are not specifically called out in the 1990 emissions inventory.
[c] Forestry sinks was not calculated for 2016 pending a revised methodology under development.
[d] CARB revised the State's 1990 level GHG emissions using GWPs from the IPCC AR4.

SOURCES: California Air Resources Board. 2007. Staff Report, California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit; California Air Resources Board (2022). California Greenhouse Gas Emission Inventory – 2022 Edition. Data available online at: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed September 2023.

The County reported the County's GHG emissions inventory in 2014, accounting for the GHG emissions from activities within the unincorporated communities of the county and from County operations.[11] **Table 3, County of San Diego Greenhouse Gas Emissions**, identifies and quantifies countywide anthropogenic GHG emissions in 2014 (in units of metric tons of carbon

[10] CARB. 2022 edition. California Greenhouse Gas Emissions for 2000 to 2020. Available online at: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed September 2023.

[11] County of San Diego, County of San Diego, 2014 Greenhouse Emissions Inventory and Projections Prepared by Energy Policy Initiatives Center and Ascent Environmental, Inc., Table 6. Available online at: https://www.sandiegocounty.gov/content/dam/sdc/pds/advance/cap/publicreviewdocuments/PostBOSDocs/CAP%20Appendix%20A%20%20-%202014%20Inventory%20and%20Projections.pdf. Accessed September 2023.

dioxide equivalents [$MTCO_2e$]).[12] As shown in the table, the transportation sector is the largest contributor to statewide GHG emissions at 45 percent in 2014.

TABLE 3
COUNTY OF SAN DIEGO GREENHOUSE GAS EMISSIONS

Category	Total 2014 Emissions ($MTCO_2e$)	Percent of Total 2014 Emissions
On-Road Transportation	1,456,060	45%
Electricity	760,638	24%
Solid Waste	338,107	11%
Natural Gas	290,712	9%
Agriculture	163,696	5%
Water	134,269	4%
Off-Road Transportation	36,927	1%
Wastewater	21,183	1%
Propane	9,914	<1
Total (IPCC AR4)	**3,211,505**	**100%**

NOTE: Totals may not add up due to rounding
SOURCE: Data modeled by Ascent Environmental in 2017.

Effects of Global Climate Change

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, IPCC's AR5 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 GHG concentrations and other anthropogenic forc[es] together."[13] 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.[14] According to CARB, the potential impacts in California due to global climate change may include: loss in snow pack, 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 seawater intrusion into the

12 To compare emissions between Table 2 and Table 3, the values in Table 3 must be divided by 1,000,000.

13 Intergovernmental Panel on Climate Change. 2013. Fifth Assessment Report, Summary for Policy Makers, pg. 15. Available online at: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf. Accessed September 2023.

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

Sacramento and San Joaquin Deltas and associated levee systems, and increased pest infestation.[15] 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.

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy* as a response to the Governor's Executive Order (EO) S-13-2008.[16] In 2014, the CNRA rebranded the first update of the 2009 adaptation strategy as the *Safeguarding California Plan.*[17] A 2018 update to *Safeguarding California* builds from the 2009 document to guide California towards improved climate resiliency.[18] *Safeguarding California* lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the 2009 *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. The website, known as Cal-Adapt, became operational in 2011.[19] The information provided on the Cal-Adapt website represents a projection of potential future climate scenarios comprised of local average values for temperature, sea-level rise, snowpack, and other data representative of a variety of models and scenarios, including potential social and economic factors. According to the Cal-Adapt website, the portion of the state in which the project site is located could result in an average increase in temperature of approximately 5.6°F to 79.8°F by 2070–2099, compared to the baseline 1961–1990 period (74.2°F historical annual mean).

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 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.[20] 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.

15 United States Global Change Research Program. 2018. Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II. Available online at: https://nca2018.globalchange.gov/. Accessed September 2023.

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

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

18 California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update to California's Climate Adaptation Strategy. Available online at: https://www.slc.ca.gov/sea-level-rise/safeguarding-california-plan-2018-update/. Accessed September 2023.

19 The Cal-Adapt website address is: http://cal-adapt.org.

20 California Environmental Protection Agency. 2013. Preparing California for Extreme Heat: Guidance and Recommendations. Available online at: https://toolkit.climate.gov/reports/preparing-california-extreme-heat-guidance-and-recommendations. Accessed September 2023.

Water Supply

There is a high degree of uncertainty with respect to the overall impact of global climate change on future water supplies in California. Studies indicate considerable variability in predicting precise impacts of climate change on California hydrology and water resources. Increasing uncertainty in the timing and intensity of precipitation will challenge the operational flexibility of California's water management systems. 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, reductions in spring runoff and higher evapotranspiration because of higher temperatures could reduce the amount of water available for recharge.[21]

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 saltwater 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.[22]

Agriculture

California has a massive agricultural industry that represents 11.3 percent of total U.S. agricultural revenue. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, a changing climate presents significant risks to agriculture due to "potential changes to water quality and availability; changing precipitation patterns; extreme weather events including drought, severe storms, and floods; heat stress; decreased chill hours; shifts in pollinator lifecycles; increased risks from weeds, pest and disease; and disruptions to the transportation and energy infrastructure supporting agricultural production"[23]

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°F–11.5°F (1.1°C–6.4°C) by 2100, with significant regional

[21] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update to California's Climate Adaptation Strategy. Available online at: https://www.slc.ca.gov/sea-level-rise/safeguarding-california-plan-2018-update/. Accessed September 2023.

[22] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update to California's Climate Adaptation Strategy. Available online at: https://www.slc.ca.gov/sea-level-rise/safeguarding-california-plan-2018-update/. Accessed September 2023.

[23] California Natural Resources Agency. 2018. Safeguarding California Plan: 2018 Update to California's Climate Adaptation Strategy. Available online at: https://www.slc.ca.gov/sea-level-rise/safeguarding-california-plan-2018-update/. Accessed September 2023.

variation.[24] 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. With climate change, ecosystems and wildlife will be challenged by the spread of invasive species, barriers to species migration or movement in response to changing climatic conditions, direct impacts to species health, and mismatches in timing between seasonal life-cycle events such as species migration and food availability.[25]

1.4 Existing Site Emissions

The project site is currently vacant; therefore, all project related emissions are considered net new.

2.0 Regulatory Setting

2.1 Federal

Clean Air Act

In *Massachusetts v. Environmental Protection Agency* (2007) 549 U.S. 497, the U.S. Supreme Court held in April of 2007 that the United States Environmental Protection Agency (USEPA) has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) on December 7, 2009. The Endangerment Finding is required before the USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA administrator found that GHG emissions from new motor vehicle and new motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Light-Duty Vehicle GHG and Fuel Efficiency Standards

In August 2012, the USEPA and U.S. Department of Transportation adopted standards for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2020, vehicles are required to achieve a combined standard of 41.7 mpg and 213 grams of CO_2 per mile. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the EPA, a model year

[24] National Research Council. 2010. Advancing the Science of Climate Change. Available online at: https://www.nationalacademies.org/our-work/americas-climate-choices-panel-on-advancing-the-science-of-climate-change. Accessed September 2023.

[25] California Natural Resources Agency. 2014. Safeguarding California: Reducing Climate Risk, an Update to the 2009 California Climate Adaptation Strategy.

2025 vehicle would emit one-half of the GHG emissions of a model year 2010 vehicle. In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022–2025. On April 2, 2018, the USEPA administrator signed the Mid-term Evaluation Final Determination that finds that the model years 2022–2025 GHG standards are not appropriate in light of the record before the USEPA and, therefore, should be revised. While not a final USEPA action, the Mid-term Evaluation Final Determination initiates a rulemaking process whose outcome will be the final agency action, however until that rulemaking has been completed, the current standards remain in effect.[26]

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.
- 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.
- While superseded by the USEPA and 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 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.[27]

Voluntary Programs

The USEPA is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for

[26] United States Environmental Protection Agency (EPA). 2018. Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles, 83 Fed. Reg. 16077. Available online at: https://www.govinfo.gov/content/pkg/FR-2018-04-13/pdf/2018-07364.pdf. Accessed September 2023.

[27] 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.

energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

2.2 State

California Air Resources Board

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

On July 26, 2007, CARB adopted emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. This regulation aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. Additionally, in 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection h). In April 2014, amendments to the Truck and Bus Regulation were approved by CARB to help ensure that the air quality benefits originally envisioned by the regulation will be achieved, by providing some additional compliance flexibility and options to vehicle owners. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies. Starting January 1, 2020, Senate Bill (SB) 1 only allows vehicles compliant with this regulation to be registered by the California Department of Motor Vehicles (DMV). By January 1, 2023, nearly all trucks and buses will be required to have 2010 or newer model year engines to reduce particulate matter (PM) and oxides of nitrogen (NO_X) emissions.[28]

[28] CARB. Truck and Bus Regulation. Available online at: https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation/about. Accessed September 2023.

California Greenhouse Gas Reduction Targets

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed EO S-3-05, which proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce snowpack in the Sierra Nevada Mountains, could further exacerbate California's air quality problems, and could potentially cause a rise in sea levels. In an effort to avoid or reduce the impacts of climate change, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. EOs are binding on state agencies only.

Executive Order B-30-15

On April 29, 2015, Governor Brown issued EO B-30-15, which established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030, ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets, and directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Executive Order B-55-18

EO B-55-18 was signed by Governor Brown on September 10, 2018. The order establishes an additional statewide policy to achieve carbon neutrality by 2045 and maintain net negative emissions thereafter. As per EO B-55-18, CARB is directed to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal and to ensure future Climate Change Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

California Global Warming Solutions Act of 2006

Assembly Bill 32

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

Senate Bill 32

In 2016, the California State Legislature adopted SB 32 and its companion bill AB 197, and both were signed by Governor Brown (Office of Governor Edmund G. Brown Jr. 2016). SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40

percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

2008 Climate Change Scoping Plan

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC Section 38561 [h]). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap. The initial scoping plan was approved in 2008 and contained a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives.[29]

2014 Scoping Plan Update

The first update to the Scoping Plan was approved by CARB in May 2014 and built upon the initial Scoping Plan with new strategies and recommendations.[30] As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. CARB also updated the State's projected 2020 emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy.

2017 Climate Change Scoping Plan

CARB adopted the 2017 Climate Change Scoping Plan at a public meeting held in December 2017.[31] The 2017 Scoping Plan outlines the strategies the state will implement to achieve the 2030 GHG reduction target of 40 percent below 1990 levels by 2030 established by SB 32. The 2017 Scoping Plan is also intended to "substantially advance" toward the EO S-3-05 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels by 2050.

The 2017 Scoping Plan builds on the Cap-and-Trade Regulation, the Low Carbon Fuel Standard (LCFS), improved vehicle, truck and freight movement emissions standards, increasing renewable energy, and strategies to reduce methane emissions from agricultural and other wastes by using it to meet our energy needs. The 2017 Scoping Plan also comprehensively addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered a number of different alternatives to achieve the 2030 GHG reduction goal. The "Scoping Plan Scenario" was ultimately adopted and relies on the continuation of ongoing and statutorily required programs and continuation of the Cap-and-Trade Program. The

[29] California Air Resources Board. 2009. Final Scoping Plan. Available online at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents. Accessed September 2023.

[30] California Air Resources Board. Final 2013 Scoping Plan Update and Appendices. Available online at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2013-scoping-plan-documents. Accessed September 2023.

[31] California Air Resources Board. 2017. California's 2017 Climate Change Scoping Plan. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf. Accessed September 2023.

Scoping Plan Scenario was modified from the January 2017 Proposed Scoping Plan to reflect AB 398, including removal of the 20 percent GHG reduction measure for refineries.[32]

CARB states that the Scoping Plan Scenario "is the best choice to achieve the State's climate and clean air goals."[33] Under the Scoping Plan Scenario, the majority of the reductions would result from continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (i.e., utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived climate pollutant strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan.

2022 Scoping Plan

CARB adopted the Final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) in December 2022[34] as the third update to the initial plan adopted in 2008. The 2022 Scoping Plan is the most comprehensive and far-reaching Scoping Plan developed to date. It 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.[35] The 2030 target is an interim but important stepping stone along the critical path to the broader goal of deep decarbonization by 2045. The relatively longer path assessed in the 2022 Scoping Plan 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 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.

Assembly Bill 1279

AB 1279, the California Climate Crisis Act, establishes the policy of the State to achieve carbon neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990 levels. The bill requires CARB to ensure that Scoping Plan updates identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO_2 removal solutions and carbon capture, utilization, and storage (CCUS) technologies. This bill is reflected directly in the 2022 Scoping Plan.

[32] California Air Resources Board. 2017. California's 2017 Climate Change Scoping Plan. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf. Accessed September 2023.

[33] California Air Resources Board. 2017. California's 2017 Climate Change Scoping Plan. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf. Accessed September 2023.

[34] CARB, 2022 Scoping Plan, December 2022.

[35] CARB, California's 2017 Climate Change Scoping Plan, 2017, ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf.

Senate Bill 375

SB 375 was signed into law in 2008 and is intended to provide a means for achieving AB 32 GHG emissions target reduction goals from cars and light trucks through long-range regional growth strategies and transportation plans. SB 375 is directed toward California's 18 metropolitan planning organizations (MPOs). The San Diego Association of Governments (SANDAG) is San Diego County's MPO. Under SB 375, each MPO is required to develop a "Sustainable Communities Strategy," a newly required element of the Regional Transportation Plan (RTP). SB 375 does not take over local planning functions, and a Sustainable Communities Strategy does not in any way supersede a General Plan, specific plan, or local zoning ordinance. Additionally, SB 375 does not require any consistency between the Sustainable Communities Strategy and these planning and development regulatory documents. However, the MPOs are required to develop the Sustainable Communities Strategies through integrated land use and transportation planning and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035.

Title 24, Part 6, California Code of Regulations (2005)

In 2005, California adopted new energy efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. This program has been partially responsible for keeping California's per capita energy use approximately flat over the past 30 years.

Title 24, Part 11, California Code of Regulations (2022)

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality." The CALGreen Code was updated in 2022 to include new mandatory measures for residential and non-residential uses including energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The new measures took effect on January 1, 2023.[36]

Renewables Portfolio Standard

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, EO S-14-08 was signed, which expands the State's RPS to 33 percent renewable power by 2020. Pursuant to EO S-21-09, CARB was also preparing regulations to supplement the RPS with a Renewable Energy Standard that would result in a total renewable energy requirement for utilities of 33 percent by 2020. On April 12, 2011, SB X1-2 was signed to increase California's RPS to 33 percent by 2020. SB 350 (Chapter 547, Statues of 2015) further

[36] California Green Building Standards Code – CALGreen. Available online at: https://www.dgs.ca.gov/BSC/CALGreen. Accessed September 2023.

increased the RPS to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. SB 350 was signed into law on October 7, 2015.

On September 10, 2018, Governor Jerry Brown signed SB 100, which further increased California's RPS and requires retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030, and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045.

Assembly Bill 341

In 2011, AB 341 established the policy goal of no less than 75 percent of solid waste generated be source reduced, recycled or composted by the year 2020.

Senate Bill 1383

This bill creates goals for short-lived climate pollutant (SLCP) reductions in various industry sectors. The SLCPs included under this bill—including methane, fluorinated gases, and black carbon—are GHGs that are much more potent than carbon dioxide and can have detrimental effects on human health and climate change. SB 1383 requires the CARB to adopt a strategy to reduce methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The methane emission reduction goals include a 75 percent reduction in the level of statewide disposal of organic waste from 2014 levels by 2025.

2.3 Regional

County of San Diego General Plan

The County has adopted its General Plan Update, which provides smart growth and land use planning principles designed to reduce vehicle miles traveled (VMT) and result in a reduction in GHG emissions.[37] As discussed in the General Plan Update, climate change and GHG reduction policies are addressed in plans and programs in multiple elements of the General Plan. The strategies for reduction of GHG emissions in the General Plan Update are as follows:

- Strategy A-1: Reduce vehicle trips generated, gasoline/energy consumption, and greenhouse gas emissions.
- Strategy A-2: Reduce non-renewable electrical and natural gas energy consumption and generation (energy efficiency).
- Strategy A-3: Increase generation and use of renewable energy sources.
- Strategy A-4: Reduce water consumption.
- Strategy A-5: Reduce and maximize reuse of solid wastes.
- Strategy A-6: Promote carbon dioxide consuming landscapes.
- Strategy A-7: Maximize preservation of open spaces, natural areas, and agricultural lands.

[37] County of San Diego. County of San Diego General Plan. Available online at: https://www.sandiegocounty.gov/pds/generalplan.html. Accessed September 2023.

The General Plan Update also includes climate adaptation strategies to deal with potential adverse effects of climate change. The climate adaptation strategies include the following:

- Strategy B-1: Reduce risk from wildfire, flooding, and other hazards resulting from climate change.
- Strategy B-2: Conserve and improve water supply due to shortages from climate change.
- Strategy B-3: Promote agricultural lands for local food production.
- Strategy B-4: Provide education and leadership.

The County has also implemented a number of outreach programs such as the Green Building Program, lawn mower trade-in program, and reduction of solid waste by recycling to reduce air quality impacts as well as GHG emissions.

The County's General Plan includes its Conservation and Open Space Element, with policies that are designed to reduce the emissions of criteria air quality pollutants, emissions of greenhouse gases, and energy use in buildings and infrastructure, while promoting the use of renewable energy sources, conservation, and other methods of efficiency. While the proposed project includes the addition of affordable housing, it also includes elements of the 2017 project, including the senior center and open space uses adjacent to the Santa Maria Creek. The following lists the applicable General Plan Goals and policies.

- General Plan Goals COS-1 and COS-2, designed to promote an interconnected preserve system and sustainability of the natural environment.
- General Plan Goal COS-14, Sustainable Land Development
  - General Plan Policy COS-14.10: Low-Emission Construction Vehicles and Equipment. Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.
- General Plan Goal COS-15, Sustainable Architecture and Buildings. Building design and construction techniques that reduce emissions of criteria pollutants and GHGs, while protecting public health and contributing to a more sustainable environment.
- General Plan Goal COS-16, Sustainable Mobility. Transportation and mobility systems that contribute to environmental and human sustainability and minimize GHG and other air pollutant emissions.
- General Plan Goal COS-17, Sustainable Solid Waste Management. Perform solid waste management in a manner that protects natural resources from pollutants while providing sufficient, long term capacity through vigorous reduction, reuse, recycling, and composting programs.
  - General Plan Policy CO2-17-2: Construction and Demolition Waste. Require recycling, reduction and reuse of construction and demolition debris.
- General Plan Goal COS-18, Sustainable Energy. Energy systems that reduce consumption of non-renewable resources and reduce GHG and other air pollutant emissions while minimizing impacts to natural resources and communities.
- General Plan Goal COS-19, Sustainable Water Supply. Conservation of limited water supply supporting all uses including urban, rural, commercial, industrial, and agricultural uses.

In addition, on April 1, 2020, the County of San Diego enacted changes to its Construction and Demolition (C&D) Ordinance to reach its waste diversion goals. The update is intended to increase C&D diversion from landfills, conserve landfill capacity and comply with waste diversion requirements of the State's CALGreen Code. The key changes to the C&D Ordinance include:

- The square footage for covered C&D projects was lowered from 40,000 square feet to those greater than 5,000 square feet and now includes grading and land clearing projects.
- All applicable C&D projects are required to reach a 65 percent overall recycling rate, including 90 percent diversion of inert materials (concrete, asphalt, dirt, etc.).
- Major grading projects must recycle or reuse 100 percent of excavated soils, trees, stumps, rocks and vegetation.
- A fully refundable performance guarantee of $0.40 per square foot is required for applicable C&D projects. Grading projects are not required to place a deposit.
- All projects covered by the C&D Ordinance are required to submit a Debris Management Plan, maintain a Daily Log on-site and submit a Debris Management Report within 180 days of project completion that details levels of recycling diversion obtained.
- A phased approach in lowering the threshold for applicable projects was built into the implementation of the ordinance. Additional changes will take effect on January 1, 2021.

San Diego Association of Governments

San Diego Association of Governments (SANDAG) is the federally designated metropolitan planning organization (MPO) for San Diego County region and is responsible for transportation planning. On October 9, 2015, the SANDAG Board of Directors adopted San Diego Forward: The Regional Plan (Regional Plan).[38] This plan combines the Regional Comprehensive Plan (RCP) with the 2050 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), which was adopted in 2012.The Regional Plan identifies the five following strategies to move the San Diego region toward sustainability:

- Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.
- Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.
- Invest in a transportation network that gives people transportation choices and reduces GHG.
- Address the housing needs of all economic segments of the population.
- Implement the Regional Plan through incentives and collaboration.

As of December 10, 2021, SANDAG Board of Directors adopted the 2021 Regional Plan. The 2021 Regional Plan provides a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education,

[38] SANDAG. San Diego Forward: The Regional Plan. Available online at: https://www.sdforward.com/. Accessed January 2022.

healthcare, and other community resources. The 2021 Regional Plan sets a vision for "A fast, fair, and clean transportation system and a resilient region." This vision can be achieved through the following three goals: [39]

- The efficient movement of people and goods
- Access to affordable, reliable, and safe mobility options
- Healthier air and reduced GHG emissions

3.0 Significance Thresholds

A significant impact would occur to GHG emissions if the proposed project would:

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

The 2015 GHG technical report prepared for the previous project relied on the County's 2015 GHG Guidance, which requires an evaluation of whether the project would conform with the GHG reduction targets set forth in the 2011 Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document.[40] Based on the County's Guidance and the 2011 Supplement, a 16 percent reduction in GHG emissions would be required to meet the target of reducing emissions to 1990 levels by 2020.

While San Diego County adopted a Climate Action Plan (CAP) in 2018, which includes strategies and measures to reduce GHG emissions, the Superior Court ordered the CAP and EIR to be set aside in 2020. The County has appealed this ruling. Therefore, it is not appropriate to evaluate consistency with the 2018 CAP or EIR for CEQA purposes. Rather, the analysis relies upon the CARB 2022 Scoping Plan, County's General Plan, and SANDAG 2021 Regional Plan to evaluate whether the proposed project would emit GHGs that may have a significant impact on the environment and achieve GHG emissions reduction targets and to establish consistency with relevant plans and policies. Furthermore, as the County has not adopted any newer guidance on GHG emission thresholds since the publication of the Global Climate Change Evaluation for the Romona Intergenerational Community Campus (2015 technical report) prepared for the 2017 Initial Study/Mitigated Negative Declaration (IS/MND),[41] this GHG analysis will use the emissions calculated in the 2015 technical report as a reference point for comparison.

[39] SANDAG. 2021 Regional Plan. Available online at: https://www.sandag.org/regional-plan/2021-regional-plan/final-2021-regional-plan. Accessed September 2023.

[40] CARB. August 19, 2011. Attachment D Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document. Available online at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/document/final_supplement_to_sp_fed.pdf. Accessed September 2023.

[41] The County is currently reviewing an update to the CAP; however, it has not been released for public review.

4.0 Methodology

GHG emissions associated with the proposed project were estimated separately for five categories of emissions: (1) construction; (2) energy use, including electricity usage; (3) water consumption and wastewater treatment; (4) solid waste handling; and (5) transportation. Similar to the 2015 technical report, this inventory assumes that the proposed project is constructed and operated consistent with the parameters of CARB's 2011 Supplement and the County's 2015 GHG Guidance. The methodology to evaluate potential impacts to climate change that may result from the construction and long-term operations of the project is presented below.

4.1 Existing Greenhouse Gas Emissions

The project site is currently undeveloped and therefore all emissions were considered net new to be conservative.

4.2 Construction Greenhouse Gas Emissions

Construction GHG emissions include emissions from heavy construction equipment, truck traffic, and worker trips. Emissions were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1, based on the anticipated construction schedule to full buildout in year 2025. In accordance with County of San Diego Planning and Development Services requirements, all construction equipment was assumed to meet USEPA Tier 3 emission standards. Emissions from on-road vehicles were estimated outside of CalEEMod using emission factors from the CARB On Road Vehicle Emissions Factor Model version 2021 (EMFAC2021) for haul and material vendor trucks and worker vehicles. Activities parameters, such as number of pieces of equipment and equipment usage hours were based on CalEEMod defaults. The project would require 500 cubic yards of soil excavation and a maximum of 5,500 cubic yards of imported fill. Emissions from project construction activities were estimated based on the construction phase in which the activity would be occurring.

Project construction is estimated to start in winter 2024 but may commence at a later date. If this occurs, construction impacts would be lower than those analyzed here due to the use of a more energy-efficient and cleaner burning construction vehicle fleet mix, pursuant to state regulations that require vehicle fleet operators to phase-in less polluting heavy-duty equipment. As a result, should project construction commence at a later date than analyzed in this analysis, GHG impacts would be lower than the impacts disclosed herein.

For the purposes of the analysis, construction emissions were amortized over 30 years in accordance with the SCAQMD guidance, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, which recognizes that construction-related GHG emissions from projects "occur over a relatively short-term period of time" and that "they contribute a relatively small portion of the overall lifetime project GHG emissions."[42] In

[42] South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf?sfvrsn=2. Accessed September 2023.

accordance with SCAQMD guidance, GHG emissions from construction have been amortized (i.e., averaged annually) over the lifetime of the Project. The SCAQMD defines the lifetime of a project as 30 years. [43] Therefore, the project's total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate comparable to operational emissions.

4.3 Operational Greenhouse Gas Emissions

Operational GHG emissions were calculated using CalEEMod with adjustments to account for site-specific conditions. The project would be designed with an all-electric building design and project buildings would not utilize natural gas or include natural gas infrastructure.

In addition, the project would be constructed to incorporate low-flow plumbing fixtures and appliances and water-efficient irrigation. The carbon intensity factor was also adjusted to be consistent with SB 100, which represents the State's most current RPS law, with an emission factor of 438.02 pounds (lbs) per megawatt-hours (MWh) for year 2025 scaled proportionately based on the future year renewable energy targets of 44 percent by 2024 and at least 52 percent by 2027. Operational GHG emissions includes area source emissions for landscaping equipment and architectural coatings; energy use emissions for both electricity use; transportation; water conveyance, treatment, distribution, end use, and wastewater treatment; and solid waste. For transportation, the 2015 technical report calculated a total annual vehicle miles travelled of 3,807,278 miles. Comparatively, the proposed project would result in 2,422,909 total annual miles. Similar to construction, operational emissions from on-road vehicles were estimated outside of CalEEMod using EMFAC2021. All vehicle types would visit the project site. Therefore, this assessment uses the San Diego Air Basin's motor vehicle fleet mix and the fleet average calendar year emissions factors from EMFAC2021 to estimate mobile source GHG emissions. In addition, emissions from electric vehicle charging were calculated by multiplying the number of parking spaces by the average daily charge to obtain the annual electricity demand. The electricity demand was multiplied by the electricity emissions factor which yielded the total GHG emissions per year. See Project Assumptions in **Appendix A** for calculation methodology. Solid waste diversion is assumed to be 60 percent based upon actual diversion in the unincorporated county in 2018.[44]

This GHG analysis compares the newly defined project emissions to the project emissions from the 2015 technical report for a similar but less intensive development. The 2015 technical report found that the project would be consistent with applicable plans, policies, and regulations adopted for regulation of GHG emissions and that the project emissions would be reduced to below the level of significance as compared to "business as usual" levels. As a result, if the project results in fewer emissions compared to the 2015 technical report, then the project would achieve the GHG reduction targets and be less than significant for CEQA purposes.

[43] SCAQMD, Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, 2008, p. 5.

[44] County of San Diego. Solid Waste. Available online at: https://www.sandiegocounty.gov/content/sdc/sustainability/Measures/solidwaste.html. Accessed September 2023.

5.0 Environmental Impacts

5.1 Impacts Analysis

Impact 5-1: Would the proposed project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact 5-2: Would the proposed project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Summary of 2015 Technical Report

Based on the County's Guidance and the 2011 Supplement, a 16 percent reduction in GHG emissions was required to meet the target of reducing emissions to 1990 levels by 2020 between an unmitigated and mitigated scenario. The unmitigated scenario refers to the baseline conditions without implementation of project design features and other regulatory requirements that would reduce GHG emissions beyond CARB's 2011 Scoping Plan base assumptions. The project scenario that was compared to the unmitigated scenario incorporated the following regulatory measures would be implemented beyond CARB's 2011 Scoping Plan base assumptions:

- Pavley I Standards – 14.15 percent reduction for light-duty vehicles
- Low Carbon Fuel Standard – 10 percent reduction in emissions from vehicles; Advanced Clean Cars – 3 percent reduction in emissions from passenger vehicles by 2020
- Renewables Portfolio Standard – 33 percent renewables
- Installation of low-flow fixtures in the project.
- Building as a "net zero" building (the project would generate no GHG emissions from the use of electricity or natural gas in the building)
- Solid waste was assumed to be reduced following the solid waste diversion goal of 75 percent established in California by AB 341. GHG emissions were reduced by 20 percent for solid waste handling based on standard County assumptions. The project will encourage recycling at the commercial uses.

The previous project scenario resulted in emissions that totaled 1,700 $MTCO_2e$/year as compared to the baseline scenario of 2,161 $MTCO_2e$/year. The previous project in the 2015 technical report met the significance threshold by reducing operational GHG emissions by 21.3 percent. The 2015 technical report concluded the previous project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. As stated above in Section 3.0, *Significance Thresholds*, since the County has not adopted any newer guidance on GHG emission thresholds since the publication of the 2015 technical report, this GHG analysis will use the emissions calculated in the 2015 technical report as a reference point to establish whether the proposed project would achieve the GHG reduction targets and be less than significant for CEQA purposes.

Proposed Project Results

As described in **Table 4, Estimated Project Construction GHG Emissions**, (see Appendix A, for additional details), the total construction related GHG emissions would be 1,819 $MTCO_2e$.

These construction emissions are amortized over 30 years and added to operational emissions per SCAQMD Guidance.[45] The total operational GHG emissions, including the amortized construction emissions, in the project buildout year of 2025 would be 1,165 $MTCO_2e$ for the proposed project per **Table 5, Estimated Project Operational GHG Emissions**, (see Appendix A, for additional details).

TABLE 4
ESTIMATED PROJECT CONSTRUCTION GHG EMISSIONS ($MTCO_2E$)

Year	Emissions
2024	835
2025	984
TOTAL[1]	**1,819**
Amortized Construction Emissions[2]	61

1 Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A.

2 Construction emissions are amortized over 30 years in accordance with SCAQMD guidance.

MT=metric tons; CO_2e=carbon dioxide equivalent

SOURCE: ESA, 2023.

TABLE 5
ESTIMATED PROJECT OPERATIONAL GHG EMISSIONS ($MTCO_2E$)

Emission Sources	CO_2e (MT/year)
Area	1
Electricity[3]	94
Water	12
Waste	43
Motor vehicles	902
Electric Vehicle Charging	2
Amortized Construction[2]	61
Project Total[1]	**1,115**
2015 Technical Report Total	1,700
Difference in Emissions	(585)

1 Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A.

2 Construction emissions are amortized over 30 years in accordance with SCAQMD guidance.

3 Building energy emissions (electricity) are included in the calculations. SDG&E is estimated to have a 46.67% renewable electricity in the project buildout year of 2025 based upon linear interpolation of existing data and future RPS mandate.

MT=metric tons; CO2e=carbon dioxide equivalent

SOURCE: ESA, 2023.

45 South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf?sfvrsn=2. Accessed September 2023.

The proposed project's GHG emissions would benefit from state and local GHG emission reduction mandates and strategies to achieve a declining trend in post-buildout annual GHG emissions. These reduction mandates and strategies include an aggressive RPS as set by SB 100, increased waste diversion, and improved building energy efficiency through adherence to the 2022 Title 24 Building Energy Efficiency Standards to reduce energy use. The RPS requires electricity supplied by the local utility to increase the proportion of renewable energy to 60 percent by the end of 2030 and to plan for 100 percent by the end of 2045. SDG&E is estimated to have a 46.67 percent renewable energy resources in the project buildout year of 2025 based upon linear interpolation of existing data and future RPS mandate. Per SB 100, SDG&E would be required to increase its renewable electricity to 60 percent by 2030 and to plan for 100 percent by 2045. Thus, the project's building energy-related GHG emissions would be reduced through SDG&E's renewable energy supply at project buildout and further declining post-buildout. With respect to waste diversion, the proposed project would be required to comply with the County's Construction and Demolition (C&D) Ordinance, which requires all projects within unincorporated San Diego County to recycle 65 percent of all materials, including 90 percent of inert materials, such as concrete, asphalt and dirt.[46] The project would also be required to comply with the County's Solid Waste Ordinance, which was updated in 2021 to incorporate state laws regarding recycling and organics recycling.[47] Public Resources Code (PRC) Division 30, Part 3 Chapter 12.8, Section 42649 et seq. requires businesses that produce four cubic yards or more of solid waste per week or multifamily residential dwellings of five units or more to arrange for recycling services consistent with state or local laws. In addition, PRC Division 30, Part 3 Chapter 12.9, Section 42649.8 et seq. includes requirements for organic waste recycling. The project's compliance with the updated County C&D and Solid Waste Ordinances would reduce the project's waste-related GHG emissions. The proposed project would implement additional sustainability features such as using low-flow fixtures (faucets, toilets, and showers) and water efficient landscaping. The proposed project would be constructed to achieve GreenPoint Rated certification, which would document its consistency with environmental standards for sustainability and efficiency. As discussed above, the analysis relies upon the CARB 2022 Scoping Plan, County's General Plan, and SANDAG 2021 Regional Plan to establish consistency with relevant plans and policies for evaluating the significance of GHGs. This analysis is provided below under the subheading, *Consistency with Plans*.

2030 GHG Emissions

Annual proposed project GHG emissions for year 2030 would be approximately 1,046 $MTCO_2e$/year. The proposed project would benefit from a 60 percent RPS target in 2030, a cleaner vehicle fleet mix, and all the same sustainability features implemented in the project's buildout year. Therefore, the proposed project would generate GHG emissions on a declining trend consistent with post-buildout GHG emissions reduction mandates and strategies for achieving the 2030 target.

[46] San Diego County Department of Public Works. 2021. New Construction and Demolition Requirements. Effective January 1, 2021.

[47] San Diego County Department of Public Works. 2021. https://www.sandiegocounty.gov/content/sdc/dpw/recycling/multifamily.html. Accessed November 2023.

2050 GHG Emissions

Annual proposed project GHG emissions for year 2050 would be approximately 859 $MTCO_2e$/year, based on available modeling tools that do not fully account for future reductions in emissions, particularly for mobile sources (i.e., EMFAC2021 does not fully account for the transition to electric vehicles by 2050). The proposed project would benefit from a carbon neutral grid in 2050, a cleaner vehicle fleet mix, and all the same sustainability features implemented in the project's buildout year. Therefore, the proposed project would generate GHG emissions on a declining trend consistent with post-buildout GHG emissions reduction mandates and strategies, including a carbon neutral grid, for achieving the 2050 target.

Consistency with Plans

A significant impact would occur if the proposed project would generate GHG emissions, either directly or indirectly, that conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. Consistency is evaluated with regard to CARB's 2022 Scoping Plan, County of San Diego General Plan, and SANDAG 2021 Regional Plan.

CARB's 2022 Scoping Plan

The 2022 Scoping Plan presents a non-exhaustive list of impactful GHG reduction strategies that can be implemented by local governments within the three priority areas (Priority GHG Reduction Strategies for Local Government Climate Action Priority Areas).[48] A detailed assessment of goals, plans, policies implemented by the County which would support the GHG reduction strategies in the three priority areas is provided below. In addition, further details are provided regarding the correlation between these reduction strategies and applicable actions included in Table 2-1 (page 72) of the Scoping Plan (Actions for the Scoping Plan Scenario). Based on the discussions below, the project would not conflict with applicable 2022 Scoping Plan strategies and regulations to reduce GHG emissions.

Transportation Electrification

The priority GHG 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 (see Table 2-1 of the Scoping Plan).

The 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 electric vehicles in 2030 and to support decision-makers allocation of resources to install new electric vehicle chargers where they are needed most.

The project would include electric vehicle parking spaces equipped with electric vehicle charging spaces (EVCS), which would assist with reducing transportation emissions. The project would provide 98 parking spaces. For modeling purposes, it was assumed that the project would provide 93 standard and five EVCS parking spaces based on Title 24 and CALGreen Code requirements.

[48] CARB, 2022 Scoping Plan for Achieving Climate Neutrality, Table 1 of Appendix D, November 2022.

This would support the electrification of transportation-related sources of emissions and would reduce vehicle and equipment emissions. Thus, the project would not conflict with this strategy.

Vehicle Miles Traveled Reduction

The priority GHG reduction strategies for local government climate action related to vehicle miles traveled (VMT) reduction are discussed below and would support the Scoping Plan action to reduce VMT per capita 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045.

The proposed project would generate a total of 567 vehicle trips during weekdays. The proposed project would support reducing VMT given its location near existing public transit bus routes along Main Street from North County Transit District and Metropolitan Transit System. Furthermore, the project's residential uses would be 100 percent affordable units, which supports VMT reduction strategies and associated transportation GHG emissions reductions. The California Air Pollution Control Officers Association (CAPCOA) published its *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*, the purpose of which is to provide local governments with accurate, reliable, and standardized emission reduction quantification methods for land use, climate action, and long-term planning.[49] The handbook includes VMT and GHG reduction measure, T-4 (Integrate Affordable and Below Market Rate Housing), which states that affordable "housing provides greater opportunity for lower income families to live closer to job centers and achieve a jobs/housing match near transit. It is also an important strategy to address the limited availability of affordable housing that might force residents to live far away from jobs or school, requiring longer commutes."[50] The project's 100 percent affordable units would have access to the existing public transit bus routes along Main Street from North County Transit District and Metropolitan Transit System. As such, the project would not conflict with this strategy.

Building Decarbonization

The priority GHG 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 (residential) and 2029 (commercial) (see Table 2-1 of the 2022 Scoping Plan).

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 the State's 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 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

[49] CAPCOA, Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, December 2021.

[50] CAPCOA, Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, page 80, December 2021.

increasingly carbon-free, but implementation does not depend (directly, at least) on how buildings are designed and built.

Although this GHG reduction measure is aimed primarily at jurisdictions and not individual projects, the project would be required to comply with applicable local requirements for building energy efficiency and electrification and would adhere to applicable CALGreen (Title 24) requirements for energy efficiency and electrification of new buildings. As previously stated, the project would include five electric vehicle parking spaces equipped with EVCS. This would support the electrification of the project.

Based on the above, the project would not conflict with 2022 this strategy and would be **less than significant**.

County of San Diego General Plan

The General Plan includes strategies applicable to the proposed project such as reduce non-renewable electrical and natural gas energy consumption and generation (energy efficiency), reduce water consumption, and reduce and maximize reuse of solid wastes. As stated above, the proposed project would comply with current 2022 Title 24 Building Energy Efficiency Standards and would benefit from utility-provider efforts towards increasing the portion of electricity provided from renewable resources get consistent with SB 100, with an emission factor of 438.02 lbs/MWh for year 2025 scaled proportionately based on the future year renewable energy targets of 44 percent by 2024 and at least 52 percent by 2027. The proposed project would be constructed to achieve GreenPoint Rated certification. In addition, the proposed project would be constructed to incorporate low-flow plumbing fixtures and appliances and water-efficient irrigation and would be served by a solid waste collection and recycling service that include mixed waste processing, and that yields waste diversion of at least 60 percent. [51] Therefore, impacts would be **less than significant**.

SANDAG 2021 Regional Plan

The 2021 Regional Plan lays out a framework to achieve the three main goals: 1) efficient movement of people and goods; 2) access to affordable, reliable, and safe mobility options, and; 3) healthier air and reduced GHG emissions. The proposed project would comply with current 2022 Title 24 Building Energy Efficiency Standards and would benefit from utility-provider efforts towards increasing the portion of electricity provided from renewable resources get consistent with SB 100. The proposed project would be constructed to achieve GreenPoint Rated certification. As the proposed project would place a senior center and PACE Wellness Center alongside senior residential housing, it would provide medical, recreational, and transportation services to residents living within the project site as well as the surrounding community. This would reduce both the number of trips and trip lengths consistent with the goals in the 2021 Regional Plan and allow for an aging in place opportunity. Therefore, impacts would be **less than significant**.

[51] County of San Diego. Solid Waste. Available online at: https://www.sandiegocounty.gov/content/sdc/sustainability/Measures/solidwaste.html. Accessed September 2023.

In conclusion, as described above, the proposed project would not generate GHG emissions that have a significant impact on the environment, and the proposed project would not conflict with an applicable plan, policy or regulation pertaining to reducing GHG emissions. Impacts to GHG emissions would be **less than significant**.

5.2 Level of Significance before Mitigation

Implementation of the proposed project would not result in a significant impact on GHG/climate change; therefore, no mitigation measures are proposed.

5.3 Environmental Mitigation Measures

No mitigation measures are proposed.

5.4 Level of Significance after Mitigation

No significant impacts on GHG/climate change have been identified.

5.5 Cumulative Impacts

Analysis of GHG emissions is cumulative in nature because impacts are caused by cumulative global emissions and climate change impacts related to GHG emissions do not necessarily occur in the same area as the project is located. Given that the proposed project would generate GHG emissions that would not result in a significant impact and would not conflict with applicable reduction plans and policies, and given that GHG emission impacts are cumulative in nature, the proposed project's incremental contribution to cumulatively significant GHG emissions would be less than significant.

Impact Analysis

Although the proposed project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. The state has mandated a goal of reducing statewide emissions to 40 percent below 1990 levels by 2030, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Currently, there are no applicable CARB, SDAPCD, or County of San Diego significance thresholds or specific reduction targets, and no approved policy or guidance to assist in determining significance at the project or cumulative levels. Additionally, there is currently no generally accepted methodology to determine whether GHG emissions associated with a specific project represent new emissions or existing, displaced emissions. Therefore, consistent with

CEQA Guidelines Section 15064h(3),[52] the County, as lead agency, has determined that the proposed project's contribution to cumulative GHG emissions and global climate change would be less than significant if the project is consistent with the applicable regulatory plans and policies to reduce GHG emissions: the 2022 Scoping Plan, County of San Diego General Plan, and SANDAG 2021 Regional Plan.

As described above, implementation of the proposed project's regulatory requirements and project design features, including state mandates, would contribute to GHG reductions. The proposed project would achieve a declining trend in post-buildout annual GHG emissions as a result of reduction mandates and strategies including an aggressive RPS as set by SB 100, increased waste diversion, improved building energy efficiency through adherence to the 2022 Title 24 Building Energy Efficiency Standards to reduce energy use, and transportation strategies to reduce tailpipe GHG emissions and VMT. As discussed above, the proposed project would not conflict with applicable strategies for local development projects outlined in CARB's 2022 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. In addition, as recommended by CARB's 2022 Scoping Plan, the proposed project would implement "green building" features as a framework for achieving GHG emissions reductions as new buildings would be designed to comply with County of San Diego requirements and the CALGreen Code.

The proposed project also would not conflict with County of San Diego General Plan as discussed above, which includes strategies applicable to the project to reduce non-renewable electrical and natural gas energy consumption and generation, reduce water consumption, and reduce and maximize reuse of solid wastes. As stated above, the proposed project would comply with current 2022 Title 24 Building Energy Efficiency Standards and would benefit from utility-provider efforts towards increasing the portion of electricity provided from renewable resources consistent with SB 100, with an emission factor of 438.02 lbs/MWh for year 2025 scaled proportionately based on the future year renewable energy targets of 44 percent by 2024 and at least 52 percent by 2027. In addition, the proposed project would be constructed to incorporate low-flow plumbing fixtures and appliances and water-efficient irrigation and would be served by a solid waste collection and recycling service that includes mixed waste processing, and that yields waste diversion of at least 60 percent. [53]

Furthermore, the proposed project would not conflict with the 2021 Regional Plan, which lays out a framework to achieve efficient movement of people and goods, provide access to affordable,

[52] As indicated above, the CEQA Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."

[53] County of San Diego. Solid Waste. Available online at: https://www.sandiegocounty.gov/content/sdc/sustainability/Measures/solidwaste.html. Accessed September 2023.

reliable, and safe mobility options, and provide healthier air and reduced GHG emissions. The proposed project would place a senior center and PACE Wellness Center alongside senior residential housing in proximity to transit, which would provide medical, recreational, and transportation services to residents living within the project site as well as the surrounding community. This would reduce both the number of trips and trip lengths consistent with the goals in the 2021 Regional Plan.

Therefore, as discussed above, the proposed project would not generate GHG emissions that would have a significant impact and would not conflict with applicable GHG reduction plans and policies. In addition, while the proposed project is not directly subject to the Cap-and-Trade Program, that program would indirectly reduce the project's GHG emissions by regulating "covered entities" that affect the project's GHG emissions, including energy, mobile, and construction emissions. More importantly, the Cap-and-Trade Program will backstop the GHG reduction plans and policies applicable to the project in that the Cap-and-Trade Program will be responsible for relatively more emissions reductions if California's direct regulatory measures reduce GHG emissions less than expected. The Cap-and-Trade Program will ensure that the GHG reduction targets of AB 32 and SB 32 are met.

The 2022 Scoping Plan Scenario identifies the need to accelerate AB 32's 2030 target, from 40 to 48 percent below 1990 levels. The Cap-and-Trade regulation continues to play a large factor in the reduction of near-term emissions for meeting the 2030 reduction target. Every sector of the economy will need to begin to transition in this decade to meet these GHG reduction goals and achieve carbon neutrality no later than 2045. Even though the 2022 Scoping Plan and supporting documentation do not provide an exact regulatory and technological roadmap to achieve the 2050 goal, they demonstrate 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.

Thus, based on the above, the proposed project's contribution to cumulative GHG emissions would not be significant and would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. In the absence of adopted standards and established significance thresholds, and given this consistency, the proposed project's impacts would not be cumulatively considerable and, therefore, proposed project's cumulative impacts to GHG emissions would be **less than significant**.

Mitigation Measures

Cumulative impacts regarding GHG emissions were determined to be less than significant without mitigation. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Cumulative impacts regarding GHG emissions were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

Appendix A

Project Emissions Calculation Worksheets

A-1 Project Assumptions

Paseo Norte Apartment Project

Construction Assumptions

Project Land Uses

Project Site Acreage	7.86 acres

Land Use[1]	CalEEMod Land Use	CalEEMod Landuse Type	Size	Metric	Building SF	Building Metrics	Lot Acreage	Notes
PACE Wellness Center	Commercial	Medical Office Building	5	SF	5,000	SF	0.110	Updated based on email from PM 8.3.2023
Parking	Parking	Parking Lot	98	spaces	0.88	acres	0.880	Updated based on email from PM 8.3.2023
Outdoor Area	Recreational	City Park	4.39	Acre	4.39	acres	4.390	Previously calculated
Senior Center	Recreational	Health Club	1.8	SF	1,800	SF	0.045	Updated based on email from PM 8.3.2023
Residential	Residential	Apartments Mid Rise	100	DU	75,700	SF	2.432	Updated based on email from PM 8.3.2023
							7.86	

Notes

1 *Land use acreage is an estimate of the total site acreage of 7.85 acres*

Construction Schedule[1]

Phase Name	CalEEMod Phase Type	Start Date	End Date	Total Days	Workers per day	Daily One-way Worker Trips	Trip Length[2]	Vendor Trips per day	Daily One-Way Vendor Trips	Trip Length[2]	Total Haul Trucks	Daily One-way Haul Trips	Trucks per day	Trip Length[2]
Site Preparation	Site Preparation	1/1/2024	1/31/2024	27	9	18	11.97	0	0	7.63	0	0	0	20
Grading	Grading	2/1/2024	2/29/2024	25	10	20	11.97	0	0	7.63	429	858	18	20
Building Construction	Building Construction	3/1/2024	11/30/2025	548	115	230	11.97	26	52	7.63	0	0	0	20
Paving	Paving	3/1/2025	11/30/2025	235	8	16	11.97	1	2	7.63	0	0	0	20
Architectural Coating	Architectural Coating	7/1/2025	11/30/2025	131	23	46	11.97	5	10	7.63	0	0	0	20

Note: Same as 2017 MND but pushed forward to Winter 2024

Assume 6 days/week per client

Note: Workers are the same as 2017 MND

Note: Defaults for building construction. Concrete vendor trips are in paving phase. Architectural coating trips are 20% of building construction trips.

Note: Haul trips based on excavation quantity.

Notes

1 *Based on data needs request and 2017 MND*

2 *Trip Lengths based on CalEEMod defaults*

CalEEMod Default Trips	Workers Trip/Day	Vendor Trip/Day	Haul Truck Trip/Day	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Notes
Site Preparation	18	0	0	11.97	7.63	20	*CalEEMod Defaults*
Grading	20	0	18	11.97	7.63	20	*CalEEMod Defaults*
Building Construction	230	52	0	11.97	7.63	20	*CalEEMod Defaults*
Paving	16	2	0	11.97	7.63	20	*CalEEMod Defaults*
Architectural Coating	46	10	0	11.97	7.63	20	*CalEEMod Defaults*

Paseo Norte Apartment Project

Construction Equipment

Phase Name	Equipment	Equipment Amount[1]	Hours per Day	Tier
Site Preparation	Rubber Tired Dozer	3	8	Tier 3
	Tractors/Loaders/Backhoes	4	8	Tier 3
Grading/Excavation	Graders	1	8	Tier 3
	Excavators	1	8	Tier 3
	Tractors/Loaders/Backhoes	3	8	Tier 3
	Rubber Tired Dozers	1	8	Tier 3
Building Construction	Forklifts	3	8	Tier 3
	Generator Sets	1	8	Tier 3
	Cranes	1	7	Tier 3
	Welders	1	8	Tier 3
	Tractors/Loaders/Backhoes	3	7	Tier 3
Paving	Pavers	2	8	Tier 3
	Paving Equipment	2	8	Tier 3
	Rollers	2	8	Tier 3
Architectural Coatings	Air Compressors	1	6	Tier 3

Notes:

1. CalEEMod Defaults. Equipment Mix-Using defaults as no further data is provided. Tier 3 is required by the County.

Paseo Norte Apartment Project

Excavation

Land Use Excavation/ Grading Quantities[1]	Export (CY)	Import (CY)
Excavation	500	5,500

Grading/Excavation	Export (CY)	Import (CY)
Entire Site Development	6,000	
Total Volume	**6,000**	

Grading/Excavation	Total	Notes
Haul Truck Capacity (CY)	14	*Assumption*
Total Haul Trucks	429	*Calculation*
Total One-way Haul Trips	858	*Calculation*
Duration (days)	25	*Haul Days*
Daily Haul Trucks	18	*Calculation*

Source: *Construction data needs*

Paseo Norte Apartment Project

concrete quantities to be estimated from site plan

Land Use	Concrete Volume (CY)	Concrete Truck Capacity (CY)	Total Trucks Needed (Vendor Trips)
Project	691	10	69

Land Use	Total Trucks
Project	69
Duration (days)	235
Maximum trucks per day	1.00
Maximum truck trips per day	2.00

Notes:

1 Assume 56,000 SF of surface parking at 4 in depth for a total of 18,667 CF or 691 CY

Paseo Norte Apartment Project
Operational GHG Analysis - Year 2025

Estimated Electricity demand from Electric Vehicle Supply Equipment (EVSE)

Land Use Type	Number of Parking Spaces	Number of Parking Spaces with EV Chargers	Average Charge (kWh/day) [a]	Days/Year	Electricity Demand (kWh/yr)	Electricity Demand (MWh/yr)
Total	**98**	**5**	**4.4**	**365**	8,030	8.03

Electricity Emission Factor (MT CO2/MWh)	Electricity Emission Factor (lbs CO2/MWh)	Total EV Charging GHG Emissions Per Year
0.20	438.02	1.60

(MT CH4/MWh)	(lbs CH4/MWh)
1.32E-05	0.029

(MT N2O/MWh)	(lbs N2O/MWh)
2.80E-06	0.00617

Notes:

a. Estimated based on reference sources listed below.

Sources:

US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions.
Available at: https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html.

US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace.
Available at: https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf.

UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs.
Available at: http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf.

2019 Calgreen Building Standards Code, Title 24 Part 11
Available: https://library.municode.com/ca/long_beach/codes/municipal_code?nodeId=TIT18LOBEBUSTCO_CH18.47GRBUSTCO_18.47.050AMCASE5.106.5.3.3TA5.106.5.3.WNOEVCHSPCHSTCA

A-2 CalEEMod Outputs

Paseo Norte Project Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Paseo Norte Project
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	3.40
Location	1275 Main St, Ramona, CA 92065, USA
County	San Diego
City	Unincorporated
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6112
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.18

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

Medical Office Building	5.00	1000sqft	0.11	5,000	0.00	0.00	—	—
Parking Lot	98.0	Space	0.88	0.00	0.00	0.00	—	—
City Park	4.39	Acre	4.39	0.00	4.39	4.39	—	—
Health Club	1.80	1000sqft	0.04	1,800	890	0.00	—	—
Apartments Mid Rise	100	Dwelling Unit	2.43	75,700	0.00	0.00	279	—

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.75	21.5	25.9	0.04	0.96	0.00	0.96	0.88	0.00	0.88	—	4,043	4,043	0.16	0.03	0.00	4,057
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.75	24.0	28.3	0.05	0.96	7.67	8.61	0.88	3.94	4.78	—	5,296	5,296	0.21	0.04	0.00	5,314
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.98	15.2	18.4	0.03	0.67	0.76	1.23	0.61	0.38	0.81	—	2,902	2,902	0.12	0.02	0.00	2,912
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.36	2.78	3.36	0.01	0.12	0.14	0.22	0.11	0.07	0.15	—	480	480	0.02	< 0.005	0.00	482

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.44	11.8	14.3	0.02	0.50	0.00	0.50	0.46	0.00	0.46	—	2,398	2,398	0.10	0.02	0.00	2,406
2025	4.75	21.5	25.9	0.04	0.96	0.00	0.96	0.88	0.00	0.88	—	4,043	4,043	0.16	0.03	0.00	4,057
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.90	24.0	28.3	0.05	0.94	7.67	8.61	0.84	3.94	4.78	—	5,296	5,296	0.21	0.04	0.00	5,314
2025	4.75	21.5	25.9	0.04	0.96	0.00	0.96	0.88	0.00	0.88	—	4,043	4,043	0.16	0.03	0.00	4,057
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.42	11.2	13.6	0.02	0.47	0.76	1.23	0.43	0.38	0.81	—	2,317	2,317	0.09	0.02	0.00	2,325
2025	1.98	15.2	18.4	0.03	0.67	0.00	0.67	0.61	0.00	0.61	—	2,902	2,902	0.12	0.02	0.00	2,912
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.08	2.05	2.48	< 0.005	0.09	0.14	0.22	0.08	0.07	0.15	—	384	384	0.02	< 0.005	0.00	385
2025	0.36	2.78	3.36	0.01	0.12	0.00	0.12	0.11	0.00	0.11	—	480	480	0.02	< 0.005	0.00	482

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.08	2.48	28.6	0.06	0.07	4.69	4.75	0.06	1.19	1.25	82.8	6,501	6,584	8.61	0.23	21.2	6,888

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.47	2.63	21.0	0.05	0.06	4.69	4.75	0.06	1.19	1.25	82.8	6,233	6,316	8.62	0.24	1.21	6,604
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.72	2.64	24.0	0.05	0.06	4.68	4.74	0.06	1.19	1.25	82.8	6,279	6,362	8.62	0.24	9.54	6,658
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.86	0.48	4.37	0.01	0.01	0.85	0.87	0.01	0.22	0.23	13.7	1,040	1,053	1.43	0.04	1.58	1,102

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.60	2.18	22.5	0.05	0.04	4.69	4.73	0.04	1.19	1.23	—	5,582	5,582	0.24	0.20	20.5	5,669
Area	2.47	0.06	5.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.4	16.4	< 0.005	< 0.005	—	16.4
Energy	0.01	0.24	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	868	868	0.07	0.01	—	871
Water	—	—	—	—	—	—	—	—	—	—	8.14	34.8	42.9	0.84	0.02	—	69.9
Waste	—	—	—	—	—	—	—	—	—	—	74.7	0.00	74.7	7.46	0.00	—	261
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Total	5.08	2.48	28.6	0.06	0.07	4.69	4.75	0.06	1.19	1.25	82.8	6,501	6,584	8.61	0.23	21.2	6,888
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.55	2.39	20.8	0.05	0.04	4.69	4.73	0.04	1.19	1.23	—	5,331	5,331	0.25	0.21	0.53	5,402
Area	1.91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.01	0.24	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	868	868	0.07	0.01	—	871
Water	—	—	—	—	—	—	—	—	—	—	8.14	34.8	42.9	0.84	0.02	—	69.9
Waste	—	—	—	—	—	—	—	—	—	—	74.7	0.00	74.7	7.46	0.00	—	261
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Total	4.47	2.63	21.0	0.05	0.06	4.69	4.75	0.06	1.19	1.25	82.8	6,233	6,316	8.62	0.24	1.21	6,604
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.52	2.37	20.9	0.05	0.04	4.68	4.72	0.04	1.19	1.23	—	5,369	5,369	0.25	0.21	8.86	5,447
Area	2.19	0.03	2.94	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.08	8.08	< 0.005	< 0.005	—	8.11
Energy	0.01	0.24	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	868	868	0.07	0.01	—	871
Water	—	—	—	—	—	—	—	—	—	—	8.14	34.8	42.9	0.84	0.02	—	69.9
Waste	—	—	—	—	—	—	—	—	—	—	74.7	0.00	74.7	7.46	0.00	—	261
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Total	4.72	2.64	24.0	0.05	0.06	4.68	4.74	0.06	1.19	1.25	82.8	6,279	6,362	8.62	0.24	9.54	6,658
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.46	0.43	3.81	0.01	0.01	0.85	0.86	0.01	0.22	0.22	—	889	889	0.04	0.04	1.47	902
Area	0.40	0.01	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.34	1.34	< 0.005	< 0.005	—	1.34
Energy	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	144	144	0.01	< 0.005	—	144
Water	—	—	—	—	—	—	—	—	—	—	1.35	5.76	7.11	0.14	< 0.005	—	11.6
Waste	—	—	—	—	—	—	—	—	—	—	12.4	0.00	12.4	1.24	0.00	—	43.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	0.86	0.48	4.37	0.01	0.01	0.85	0.87	0.01	0.22	0.23	13.7	1,040	1,053	1.43	0.04	1.58	1,102

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	24.0	28.3	0.05	0.94	—	0.94	0.84	—	0.84	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	1.78	2.09	< 0.005	0.07	—	0.07	0.06	—	0.06	—	392	392	0.02	< 0.005	—	393
Dust From Material Movement	—	—	—	—	—	0.57	0.57	—	0.29	0.29	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.32	0.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.9	64.9	< 0.005	< 0.005	—	65.1
Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.3. Grading (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.53	14.1	17.8	0.03	0.60	—	0.60	0.54	—	0.54	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	2.77	2.77	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.97	1.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	203	203	0.01	< 0.005	—	203
Dust From Material Movement	—	—	—	—	—	0.19	0.19	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.18	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	33.5	33.5	< 0.005	< 0.005	—	33.7
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.5. 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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	11.8	14.3	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	11.8	14.3	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	8.49	10.3	0.02	0.36	—	0.36	0.33	—	0.33	—	1,723	1,723	0.07	0.01	—	1,729
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	1.55	1.88	< 0.005	0.07	—	0.07	0.06	—	0.06	—	285	285	0.01	< 0.005	—	286
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.7. 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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	11.8	14.3	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	11.8	14.3	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	9.27	11.2	0.02	0.40	—	0.40	0.36	—	0.36	—	1,881	1,881	0.08	0.02	—	1,887
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	1.69	2.05	< 0.005	0.07	—	0.07	0.07	—	0.07	—	311	311	0.01	< 0.005	—	312
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.9. Paving (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.32	8.62	10.6	0.01	0.39	—	0.39	0.36	—	0.36	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	8.62	10.6	0.01	0.39	—	0.39	0.36	—	0.36	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	5.55	6.82	0.01	0.25	—	0.25	0.23	—	0.23	—	973	973	0.04	0.01	—	976
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.01	1.25	< 0.005	0.05	—	0.05	0.04	—	0.04	—	161	161	0.01	< 0.005	—	162
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

3.11. 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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	3.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	3.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.39	0.35	< 0.005	0.02	—	0.02	0.02	—	0.02	—	47.9	47.9	< 0.005	< 0.005	—	48.1
Architectural Coatings	1.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.07	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.93	7.93	< 0.005	< 0.005	—	7.96
Architectural Coatings	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	—
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Medical Office Building	0.78	0.54	5.44	0.01	0.01	1.06	1.07	0.01	0.27	0.28	—	1,273	1,273	0.06	0.05	4.64	1,294
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	0.01	0.10	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	23.2	23.2	< 0.005	< 0.005	0.08	23.6
Health Club	0.22	0.15	1.50	< 0.005	< 0.005	0.29	0.30	< 0.005	0.07	0.08	—	351	351	0.02	0.01	1.28	357
Apartments Mid Rise	1.59	1.49	15.5	0.04	0.03	3.32	3.35	0.03	0.84	0.87	—	3,935	3,935	0.16	0.14	14.5	3,994
Total	2.60	2.18	22.5	0.05	0.04	4.69	4.73	0.04	1.19	1.23	—	5,582	5,582	0.24	0.20	20.5	5,669
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	0.76	0.59	5.16	0.01	0.01	1.06	1.07	0.01	0.27	0.28	—	1,216	1,216	0.07	0.05	0.12	1,234
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	0.01	0.09	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	22.2	22.2	< 0.005	< 0.005	< 0.005	22.5
Health Club	0.21	0.16	1.43	< 0.005	< 0.005	0.29	0.30	< 0.005	0.07	0.08	—	336	336	0.02	0.01	0.03	340
Apartments Mid Rise	1.56	1.63	14.2	0.04	0.03	3.32	3.35	0.03	0.84	0.87	—	3,757	3,757	0.16	0.15	0.38	3,805
Total	2.55	2.39	20.8	0.05	0.04	4.69	4.73	0.04	1.19	1.23	—	5,331	5,331	0.25	0.21	0.53	5,402
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	0.14	0.11	0.94	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.05	—	203	203	0.01	0.01	0.33	206
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.69	3.69	< 0.005	< 0.005	0.01	3.75

Health Club	0.04	0.03	0.26	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	56.0	56.0	< 0.005	< 0.005	0.09	56.8
Apartments Mid Rise	0.28	0.29	2.60	0.01	0.01	0.60	0.61	0.01	0.15	0.16	—	626	626	0.03	0.02	1.04	635
Total	0.46	0.43	3.81	0.01	0.01	0.85	0.86	0.01	0.22	0.22	—	889	889	0.04	0.04	1.47	902

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	99.6	99.6	0.01	< 0.005	—	100
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	40.3	40.3	< 0.005	< 0.005	—	40.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Health Club	—	—	—	—	—	—	—	—	—	—	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	407	407	0.03	< 0.005	—	409
Total	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	0.01	—	569
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	99.6	99.6	0.01	< 0.005	—	100

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	40.3	40.3	< 0.005	< 0.005	—	40.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Health Club	—	—	—	—	—	—	—	—	—	—	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	407	407	0.03	< 0.005	—	409
Total	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	0.01	—	569
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	6.67	6.67	< 0.005	< 0.005	—	6.70
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Health Club	—	—	—	—	—	—	—	—	—	—	—	3.21	3.21	< 0.005	< 0.005	—	3.22
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	67.4	67.4	0.01	< 0.005	—	67.7
Total	—	—	—	—	—	—	—	—	—	—	—	93.7	93.7	0.01	< 0.005	—	94.2

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	51.3	51.3	< 0.005	< 0.005	—	51.5

Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Health Club	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.3	23.3	< 0.005	< 0.005	—	23.3
Apartments Mid Rise	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	227	227	0.02	< 0.005	—	227
Total	0.01	0.24	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	301	301	0.03	< 0.005	—	302
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	51.3	51.3	< 0.005	< 0.005	—	51.5
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Health Club	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.3	23.3	< 0.005	< 0.005	—	23.3
Apartments Mid Rise	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	227	227	0.02	< 0.005	—	227
Total	0.01	0.24	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	301	301	0.03	< 0.005	—	302
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.50	8.50	< 0.005	< 0.005	—	8.52
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Health Club	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.86	3.86	< 0.005	< 0.005	—	3.87

Apartment Mid Rise	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.6	37.6	< 0.005	< 0.005	—	37.7
Total	< 0.005	0.04	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.9	49.9	< 0.005	< 0.005	—	50.0

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.56	0.06	5.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.4	16.4	< 0.005	< 0.005	—	16.4
Total	2.47	0.06	5.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.4	16.4	< 0.005	< 0.005	—	16.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.01	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.34	1.34	< 0.005	< 0.005	—	1.34
Total	0.40	0.01	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.34	1.34	< 0.005	< 0.005	—	1.34

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	1.20	5.13	6.33	0.12	< 0.005	—	10.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Health Club	—	—	—	—	—	—	—	—	—	—	0.20	0.95	1.16	0.02	< 0.005	—	1.83
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	6.73	28.7	35.4	0.69	0.02	—	57.7
Total	—	—	—	—	—	—	—	—	—	—	8.14	34.8	42.9	0.84	0.02	—	69.9

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	1.20	5.13	6.33	0.12	< 0.005	—	10.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Health Club	—	—	—	—	—	—	—	—	—	—	0.20	0.95	1.16	0.02	< 0.005	—	1.83
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	6.73	28.7	35.4	0.69	0.02	—	57.7
Total	—	—	—	—	—	—	—	—	—	—	8.14	34.8	42.9	0.84	0.02	—	69.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	0.20	0.85	1.05	0.02	< 0.005	—	1.71
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Health Club	—	—	—	—	—	—	—	—	—	—	0.03	0.16	0.19	< 0.005	< 0.005	—	0.30
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	1.11	4.75	5.87	0.11	< 0.005	—	9.55
Total	—	—	—	—	—	—	—	—	—	—	1.35	5.76	7.11	0.14	< 0.005	—	11.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	29.1	0.00	29.1	2.91	0.00	—	102
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.20	0.00	0.20	0.02	0.00	—	0.71
Health Club	—	—	—	—	—	—	—	—	—	—	5.53	0.00	5.53	0.55	0.00	—	19.3
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	39.9	0.00	39.9	3.98	0.00	—	139
Total	—	—	—	—	—	—	—	—	—	—	74.7	0.00	74.7	7.46	0.00	—	261
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	29.1	0.00	29.1	2.91	0.00	—	102
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.20	0.00	0.20	0.02	0.00	—	0.71
Health Club	—	—	—	—	—	—	—	—	—	—	5.53	0.00	5.53	0.55	0.00	—	19.3
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	39.9	0.00	39.9	3.98	0.00	—	139
Total	—	—	—	—	—	—	—	—	—	—	74.7	0.00	74.7	7.46	0.00	—	261
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Medical Office Building	—	—	—	—	—	—	—	—	—	—	4.82	0.00	4.82	0.48	0.00	—	16.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.03	0.00	0.03	< 0.005	0.00	—	0.12
Health Club	—	—	—	—	—	—	—	—	—	—	0.92	0.00	0.92	0.09	0.00	—	3.20
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	6.60	0.00	6.60	0.66	0.00	—	23.1
Total	—	—	—	—	—	—	—	—	—	—	12.4	0.00	12.4	1.24	0.00	—	43.3

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.54	0.54
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.68	0.68

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.54	0.54
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.68	0.68
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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
Site Preparation	Site Preparation	1/1/2024	1/31/2024	6.00	27.0	—
Grading	Grading	2/1/2024	2/29/2024	6.00	25.0	—
Building Construction	Building Construction	3/1/2024	11/30/2025	6.00	548	—

Paving	Paving	3/1/2025	11/30/2025	6.00	235	—
Architectural Coating	Architectural Coating	7/1/2025	11/30/2025	6.00	131	—

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
Site Preparation	Rubber Tired Dozers	Diesel	Tier 3	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 3	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Tier 3	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 3	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 3	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Tier 3	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 3	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 3	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	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	153,293	51,098	10,200	3,400	2,300

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	20.3	0.00	—
Grading	500	5,500	12.5	0.00	—
Paving	0.00	0.00	0.00	0.00	0.88

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Medical Office Building	0.00	0%
Parking Lot	0.88	100%

City Park	0.00	0%
Health Club	0.00	0%
Apartments Mid Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	460	0.03	< 0.005
2025	0.00	438	0.03	< 0.005

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
Medical Office Building	188	188	188	68,620	1,502	1,502	1,502	548,072
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	3.42	3.42	3.42	1,250	27.3	27.3	27.3	9,982
Health Club	51.9	51.9	51.9	18,935	414	414	414	151,233
Apartments Mid Rise	324	324	324	118,260	4,695	4,695	4,695	1,713,622

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)
153292.5	51,098	10,200	3,400	2,300

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Medical Office Building	82,973	438	0.0330	0.0040	160,115
Parking Lot	33,580	438	0.0330	0.0040	0.00
City Park	0.00	438	0.0330	0.0040	0.00
Health Club	16,152	438	0.0330	0.0040	72,656
Apartments Mid Rise	339,087	438	0.0330	0.0040	707,844

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Medical Office Building	627,403	0.00
Parking Lot	0.00	0.00
City Park	0.00	146

Health Club	106,458	13,300
Apartments Mid Rise	3,513,307	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Medical Office Building	54.0	—
Parking Lot	0.00	—
City Park	0.38	—
Health Club	10.3	—
Apartments Mid Rise	73.9	—

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
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Health Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Health Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

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

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

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

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

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	23.0	annual days of extreme heat
Extreme Precipitation	6.25	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	20.1	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2

Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	70.5
AQ-PM	8.95
AQ-DPM	15.0
Drinking Water	9.19
Lead Risk Housing	43.6
Pesticides	30.9
Toxic Releases	7.66
Traffic	18.6
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	74.7

Impaired Water Bodies	0.00
Solid Waste	83.3
Sensitive Population	—
Asthma	17.3
Cardio-vascular	48.5
Low Birth Weights	89.8
Socioeconomic Factor Indicators	—
Education	51.0
Housing	39.7
Linguistic	31.3
Poverty	44.9
Unemployment	25.2

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	42.28153471
Employed	45.27139741
Median HI	36.03233671
Education	—
Bachelor's or higher	29.0645451
High school enrollment	4.658026434
Preschool enrollment	29.56499423
Transportation	—
Auto Access	27.46054151
Active commuting	51.64891569

Social	—
2-parent households	53.18875914
Voting	65.85397151
Neighborhood	—
Alcohol availability	34.18452457
Park access	18.46528936
Retail density	35.95534454
Supermarket access	64.51944052
Tree canopy	6.210701912
Housing	—
Homeownership	43.80854613
Housing habitability	40.54921083
Low-inc homeowner severe housing cost burden	61.01629668
Low-inc renter severe housing cost burden	46.47760811
Uncrowded housing	25.1764404
Health Outcomes	—
Insured adults	41.04965995
Arthritis	0.0
Asthma ER Admissions	83.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	33.4
Cognitively Disabled	64.4

Physically Disabled	26.6
Heart Attack ER Admissions	59.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	43.7
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	8.3
SLR Inundation Area	0.0
Children	14.1
Elderly	61.9
English Speaking	52.0
Foreign-born	29.7
Outdoor Workers	20.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	86.1
Traffic Density	8.4
Traffic Access	23.0
Other Indices	—
Hardship	67.8
Other Decision Support	—

2016 Voting	68.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	27.0
Healthy Places Index Score for Project Location (b)	32.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
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	Construction Data Updates please see Project Assumptions updated 9.5.2023
Construction: Construction Phases	Project Assumptions 8.30.2023
Construction: Dust From Material Movement	Project Assumptions 8.30.2023
Construction: Trips and VMT	Mobile Emissions calculated outside of caleemod
Operations: Vehicle Data	Trip Generation 9.1.2023
Operations: Hearths	no woodstoves or fireplaces

Characteristics: Utility Information	SDG&E CO2 intensity factor
Construction: Off-Road Equipment	Project Assumption 8.30.2023
Construction: Electricity	CO2 Intensity Factors updated

A-3 Construction Mobile Emissions

Paseo Norte Project

Paseo Norte Project

Total Emissions

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Idling per Day (minutes)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10 Dust	PM10 Exh	Total PM10	PM2.5 Dust	PM2.5 Exh	Total PM2.5	(MT/yr) Total CO2e
Site Preparation	2024															
Total Haul Trips	0															
Hauling	0	27	8	20	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	27	8	7.63	6.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	18	27	8	11.97	0	0.06	0.05	0.63	0.00	0.15	0.00	0.15	0.04	0.00	0.04	1.91
						0.06	**0.05**	**0.63**	**0.00**	**0.15**	**0.00**	**0.15**	**0.04**	**0.00**	**0.04**	**1.91**
Grading	2024															
Total Haul Trips	858															
Hauling	35	25	8	20	15	0.12	4.40	2.29	0.03	0.64	0.04	0.69	0.17	0.04	0.21	32.60
Vendor	0	25	8	7.63	6.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	20	25	8	11.97	0	0.07	0.05	0.70	0.00	0.17	0.00	0.17	0.04	0.00	0.04	1.97
						0.19	**4.46**	**2.99**	**0.03**	**0.81**	**0.04**	**0.85**	**0.21**	**0.04**	**0.25**	**34.56**
Building Construction	2024															
Total Haul Trips	0															
Hauling	0	262	8	20	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	262	8	7.63	6.9	0.08	2.43	1.38	0.01	0.34	0.02	0.36	0.09	0.02	0.11	177.05
Worker	230	262	8	11.97	0	0.75	0.63	8.03	0.02	1.92	0.01	1.93	0.48	0.01	0.49	236.85
						0.83	**3.06**	**9.41**	**0.03**	**2.26**	**0.03**	**2.29**	**0.57**	**0.03**	**0.59**	**413.90**
Building Construction	2025															
Total Haul Trips	0															
Hauling	0	286	8	20	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	286	8	7.63	6.9	0.08	2.31	1.34	0.01	0.34	0.02	0.36	0.09	0.02	0.11	189.89
Worker	230	286	8	11.97	0	0.71	0.58	7.53	0.02	1.92	0.01	1.93	0.48	0.01	0.49	251.64
						0.79	**2.89**	**8.87**	**0.03**	**2.26**	**0.03**	**2.28**	**0.56**	**0.03**	**0.59**	**441.53**
Paving	2025															
Total Haul Trips	0															
Hauling	0	235	8	20	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	2	235	8	7.63	6.9	0.00	0.09	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	6.00
Worker	16	235	8	11.97	0	0.05	0.04	0.52	0.00	0.13	0.00	0.13	0.03	0.00	0.03	14.38
						0.05	**0.13**	**0.58**	**0.00**	**0.15**	**0.00**	**0.15**	**0.04**	**0.00**	**0.04**	**20.38**
Architectural Coating	2025															
Total Haul Trips	0															
Hauling	0	131	8	20	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	10	131	8	7.63	6.9	0.02	0.44	0.26	0.00	0.07	0.00	0.07	0.02	0.00	0.02	16.73
Worker	46	131	8	11.97	0	0.14	0.12	1.51	0.00	0.38	0.00	0.39	0.10	0.00	0.10	23.05
						0.16	**0.56**	**1.76**	**0.01**	**0.45**	**0.01**	**0.45**	**0.11**	**0.01**	**0.12**	**39.78**

Paseo Norte Project
Running Emissions

		Running Emissions Factor (grams/mile)						Running Emissions Factor (grams/mile)		
		ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM2.5_RUNEX	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX
2021	2021Hauling Hauling	0.051266089	2.935664711	0.666567773	0.01562506	0.038960868	0.037270632	1698.587043	0.092514055	0.269827858
2021	2021Vendor Vendor	0.064541701	2.335022143	0.755908624	0.014006188	0.029215916	0.027943348	1501.130197	0.054760782	0.211634649
2021	2021Worker Worker	0.027078862	0.106646177	1.249326151	0.003380963	0.0021949	0.002020806	342.0333629	0.006238781	0.008351273
2022	2022Hauling Hauling	0.033958754	2.527202783	0.602061346	0.015402896	0.028514676	0.027276605	1677.135777	0.088821226	0.266537092
2022	2022Vendor Vendor	0.049112269	2.034734014	0.651182135	0.01385987	0.021985151	0.021025737	1486.959216	0.052352151	0.209284187
2022	2022Worker Worker	0.02440739	0.09599624	1.16000164	0.00330852	0.002091571	0.00192549	334.703345	0.005685579	0.007740796
2023	2023Hauling Hauling	0.02101607	2.064344771	0.568322282	0.015155266	0.027263543	0.026079843	1652.701769	0.084936215	0.262766526
2023	2023Vendor Vendor	0.034128162	1.62789636	0.567889917	0.013674764	0.019913656	0.019044111	1469.265323	0.050336859	0.206479287
2023	2023Worker Worker	0.021987927	0.086532496	1.077864941	0.003231482	0.001995197	0.001836563	326.9083508	0.005181016	0.007192839
2024	2024Hauling Hauling	0.019854196	1.96617346	0.5611759	0.014870846	0.02683352	0.025668663	1623.841979	0.080931531	0.25827788
2024	2024Vendor Vendor	0.030004363	1.526406376	0.517846278	0.013469086	0.018936084	0.018109087	1448.321347	0.047948461	0.20339394
2024	2024Worker Worker	0.019869458	0.078387481	1.006183346	0.003151256	0.001905637	0.001753914	318.7909553	0.004732168	0.006712615
2025	2025Hauling Hauling	0.018779891	1.867840635	0.555263886	0.014544988	0.02628813	0.025147075	1590.475739	0.076668217	0.25306857
2025	2025Vendor Vendor	0.026429194	1.424913518	0.477931224	0.013220209	0.017948665	0.017164589	1422.716997	0.045475108	0.199711699
2025	2025Worker Worker	0.018020068	0.071405746	0.942709545	0.003067961	0.001824982	0.001679522	310.3631528	0.004332143	0.006290656

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)						Regional Emissions (MT/year)			
					ROG	NOX	CO	SO2	PM10	PM2.5	CO2	CH4	N2O	CO2e
Site Preparation	2024													
Total Haul Trips	0													
Hauling	0	27	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	27	8	7.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	18	27	8	11.97	0.01	0.04	0.48	0.00	0.00	0.00	1.85	0.00	0.01	1.87
Grading	2024													
Total Haul Trips	858													
Hauling	35	25	8	20	0.03	3.03	0.87	0.02	0.04	0.04	28.42	0.04	1.35	29.80
Vendor	0	25	8	7.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	20	25	8	11.97	0.01	0.04	0.53	0.00	0.00	0.00	1.91	0.00	0.01	1.92
Building Construction	2024													
Total Haul Trips	0													
Hauling	0	262	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	262	8	7.63	0.03	1.34	0.45	0.01	0.02	0.02	150.55	0.12	6.30	156.98
Worker	230	262	8	11.97	0.12	0.48	6.11	0.02	0.01	0.01	229.95	0.09	1.44	231.48
Building Construction	2025													
Total Haul Trips	0													
Hauling	0	286	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	286	8	7.63	0.02	1.25	0.42	0.01	0.02	0.02	161.44	0.13	6.75	168.32
Worker	230	286	8	11.97	0.11	0.43	5.72	0.02	0.01	0.01	244.38	0.09	1.48	245.94
Paving	2025													
Total Haul Trips	0													
Hauling	0	235	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	2	235	8	7.63	0.00	0.05	0.02	0.00	0.00	0.00	5.10	0.00	0.21	5.32
Worker	16	235	8	11.97	0.01	0.03	0.40	0.00	0.00	0.00	13.97	0.00	0.08	14.06
Architectural Coating	2025													
Total Haul Trips	0													
Hauling	0	131	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	10	131	8	7.63	0.00	0.24	0.08	0.00	0.00	0.00	14.22	0.01	0.59	14.83
Worker	46	131	8	11.97	0.02	0.09	1.14	0.00	0.00	0.00	22.39	0.01	0.14	22.53

Paseo Norte Project
Mitigated Start Emissions

		Start Emissions Factor (grams/trip)						Start Emissions Factor (grams/trip)		
		ROG_STREX	NOX_STREX	CO_STREX	SOx_STREX	PM10_STREX	PM2.5_STREX	CO2_STREX	CH4_STREX	N2O_STREX
2021	2021Hauling Hauling	0.003090794	2.286356002	0.00721383	9.0325E-07	3.49324E-06	3.2119E-06	0.09136642	1.03282E-07	1.79244E-05
2021	2021Vendor Vendor	0.125495038	1.716589936	0.89500443	6.61823E-05	9.81731E-05	9.02665E-05	6.69453996	0.00698252	0.004294787
2021	2021Worker Worker	1.396640003	0.367537838	4.55429871	0.000816035	0.002632259	0.002420474	82.5443275	0.096702036	0.038071548
2022	2022Hauling Hauling	0.002265067	2.471014107	0.00538445	6.92715E-07	2.55532E-06	2.34952E-06	0.07007012	1.16682E-07	6.26025E-06
2022	2022Vendor Vendor	0.114265926	1.827922052	0.82987666	6.33194E-05	8.80848E-05	8.09907E-05	6.40494871	0.006648341	0.004254681
2022	2022Worker Worker	1.348366338	0.345714272	4.27786761	0.0007972	0.002524402	0.002321231	80.6391186	0.091636402	0.036942218
2023	2023Hauling Hauling	0.001554591	2.751871503	0.00494493	5.25782E-07	1.65347E-06	1.5203E-06	0.05318444	1.14134E-07	7.57455E-06
2023	2023Vendor Vendor	0.103251201	2.024017084	0.77044791	6.0536E-05	7.8732E-05	7.23912E-05	6.12339607	0.006325351	0.004217558
2023	2023Worker Worker	1.298435164	0.326009885	4.02127734	0.000777976	0.002424968	0.002229741	78.6945598	0.086786461	0.03584895
2024	2024Hauling Hauling	0.00109432	2.792884832	0.00391151	4.02361E-07	1.10944E-06	1.02009E-06	0.04070005	9.38853E-08	4.79786E-06
2024	2024Vendor Vendor	0.093077721	2.051785937	0.71385152	5.77266E-05	7.16872E-05	6.59137E-05	5.83921289	0.005975092	0.004117012
2024	2024Worker Worker	1.242805519	0.308440088	3.78736708	0.000758557	0.002334305	0.002146323	76.730262	0.082144267	0.03479515
2025	2025Hauling Hauling	0.000864138	2.81457263	0.00343315	3.34937E-07	8.52584E-07	7.8392E-07	0.0338799	9.03062E-08	3.43368E-06
2025	2025Vendor Vendor	0.084375318	2.062756574	0.66106844	5.49531E-05	6.61868E-05	6.08563E-05	5.55867234	0.005631253	0.003968137
2025	2025Worker Worker	1.193103436	0.292463392	3.57152769	0.000738966	0.002256972	0.002075202	74.7485943	0.077631984	0.03373196

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)						Regional Emissions (MT/year)			
					ROG	NOX	CO	SO2	PM10	PM2.5	CO2	CH4	N2O	CO2e
Site Preparation	2024													
Total Haul Trips	0													
Hauling	0	27	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	27	8	7.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	18	27	8	11.97	0.05	0.01	0.15	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Grading	2024													
Total Haul Trips	858													
Hauling	35	25	8	20	0.00	0.22	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08
Vendor	0	25	8	7.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	20	25	8	11.97	0.05	0.01	0.17	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Building Construction	2024													
Total Haul Trips	0													
Hauling	0	262	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	262	8	7.63	0.01	0.24	0.08	0.00	0.00	0.00	0.08	0.00	0.00	0.10
Worker	230	262	8	11.97	0.63	0.16	1.92	0.00	0.00	0.00	4.62	0.00	0.00	5.37
Building Construction	2025													
Total Haul Trips	0													
Hauling	0	286	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	286	8	7.63	0.01	0.24	0.08	0.00	0.00	0.00	0.08	0.00	0.00	0.10
Worker	230	286	8	11.97	0.60	0.15	1.81	0.00	0.00	0.00	4.92	0.01	0.00	5.71
Paving	2025													
Total Haul Trips	0													
Hauling	0	235	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	2	235	8	7.63	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	16	235	8	11.97	0.04	0.01	0.13	0.00	0.00	0.00	0.28	0.00	0.00	0.33
Architectural Coating	2025													
Total Haul Trips	0													
Hauling	0	131	8	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	10	131	8	7.63	0.00	0.05	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Worker	46	131	8	11.97	0.12	0.03	0.36	0.00	0.00	0.00	0.45	0.00	0.00	0.52

Paseo Norte Project
Idling Emissions

			Idling Emissions Factor (grams/minute)						Idling Emissions Factor (grams/minute)		
			ROG_IDLEX	NOx_IDLEX	CO_IDLEX	SOx_IDLEX	PM10_IDLEX	PM2.5_IDLEX	CO2_IDLEX	CH4_IDLEX	N2O_IDLEX
2021	2021Hauling	Hauling	0.08138682	1.099580646	1.13655099	0.0019045	0.00109885	0.00105091	208.571312	0.02414765	0.03320547
2021	2021Vendor	Vendor	0.06216314	1.26492454	1.0101175	0.00194069	0.00259069	0.00247803	211.269442	0.0238651	0.03285626
2021	2021Worker	Worker	0	0	0	0	0	0	0	0	0
2022	2022Hauling	Hauling	0.0813247	1.084382722	1.18101433	0.00189824	0.00063058	0.00060287	208.345803	0.02451651	0.03319011
2022	2022Vendor	Vendor	0.06113713	1.216786718	1.03292193	0.00193371	0.00199667	0.00190967	210.886616	0.02438201	0.03284033
2022	2022Worker	Worker	0	0	0	0	0	0	0	0	0
2023	2023Hauling	Hauling	0.08120364	1.017849739	1.23293552	0.00182815	0.00058073	0.00055515	201.296922	0.02446551	0.03209591
2023	2023Vendor	Vendor	0.06002559	1.112616548	1.07502812	0.00187402	0.00170947	0.00163481	205.293414	0.0259997	0.03201995
2023	2023Worker	Worker	0	0	0	0	0	0	0	0	0
2024	2024Hauling	Hauling	0.08068175	0.997264733	1.22955712	0.00178648	0.00054788	0.0005237	197.09033	0.02399942	0.03144211
2024	2024Vendor	Vendor	0.05899819	1.083300302	1.07142798	0.00184744	0.00147209	0.00140767	202.668985	0.02588991	0.03164358
2024	2024Worker	Worker	0	0	0	0	0	0	0	0	0
2025	2025Hauling	Hauling	0.08004416	0.970116059	1.22436154	0.00174241	0.00051387	0.00049114	192.631515	0.02352023	0.03074866
2025	2025Vendor	Vendor	0.05792821	1.04100376	1.06596698	0.00181558	0.00125513	0.00120007	199.462157	0.02565535	0.03117293
2025	2025Worker	Worker	0	0	0	0	0	0	0	0	0

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day	Regional Emissions (pounds/day)						Regional Emissions (MT/year)			
					ROG	NOX	CO	SO2	PM10	PM2.5	CO2	CH4	N2O	CO2e
Site Preparation	2024													
Total Haul Trips	0													
Hauling	0	27	8	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	27	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	18	27	8	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	2024													
Total Haul Trips	858													
Hauling	35	25	8	15	0.09	1.15	1.42	0.00	0.00	0.00	2.59	0.01	0.12	2.71
Vendor	0	25	8	6.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	20	25	8	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	2024													
Total Haul Trips	0													
Hauling	0	262	8	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	262	8	6.9	0.05	0.86	0.85	0.00	0.00	0.00	19.05	0.06	0.86	19.98
Worker	230	262	8	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	2025													
Total Haul Trips	0													
Hauling	0	286	8	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	286	8	6.9	0.05	0.82	0.84	0.00	0.00	0.00	20.47	0.07	0.93	21.46
Worker	230	286	8	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	2025													
Total Haul Trips	0													
Hauling	0	235	8	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	2	235	8	6.9	0.00	0.03	0.03	0.00	0.00	0.00	0.65	0.00	0.03	0.68
Worker	16	235	8	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	2025													
Total Haul Trips	0													
Hauling	0	131	8	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	10	131	8	6.9	0.01	0.16	0.16	0.00	0.00	0.00	1.80	0.01	0.08	1.89
Worker	46	131	8	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Paseo Norte Project
Road Dust, Break Wear, and Tire wear Emissions

		Emission Factors (grams/mile)					
		PM10			PM2.5		
		RD	PM10_PMBW	PM10_PMTW	RD	PM2.5_PMBW	PM2.5_PMTW
2021	2021Hauling Hauling	3.00E-01	0.084366331	0.035318242	7.36E-02	0.029528216	0.008829561
2021	2021Vendor Vendor	0.299849906	0.064874924	0.023659123	0.073599522	0.022706223	0.005914781
2021	2021Worker Worker	0.299849906	0.00812657	0.008000061	0.073599522	0.002844299	0.002000015
2022	2022Hauling Hauling	0.299849906	0.083447638	0.035321323	0.073599522	0.029206673	0.008830331
2022	2022Vendor Vendor	0.299849906	0.064415206	0.023660663	0.073599522	0.022545322	0.005915166
2022	2022Worker Worker	0.299849906	0.008110551	0.00800006	0.073599522	0.002838693	0.002000015
2023	2023Hauling Hauling	0.299849906	0.082381477	0.035325715	0.073599522	0.028833517	0.008831429
2023	2023Vendor Vendor	0.299849906	0.06387974	0.023662859	0.073599522	0.022357909	0.005915715
2023	2023Worker Worker	0.299849906	0.008091506	0.00800006	0.073599522	0.002832027	0.002000015
2024	2024Hauling Hauling	0.299849906	0.082192912	0.035328605	0.073599522	0.028767519	0.008832151
2024	2024Vendor Vendor	0.299849906	0.063748283	0.023664304	0.073599522	0.022311899	0.005916076
2024	2024Worker Worker	0.299849906	0.008071166	0.00800006	0.073599522	0.002824908	0.002000015
2025	2025Hauling Hauling	0.299849906	0.08207751	0.035331772	0.073599522	0.028727128	0.008832943
2025	2025Vendor Vendor	0.299849906	0.0636208	0.023665888	0.073599522	0.02226728	0.005916472
2025	2025Worker Worker	0.299849906	0.008048971	0.008000059	0.073599522	0.00281714	0.002000015

Construction Phase	Daily One-Way Trips	Haul Days per Phase	Work Hours per Day	One-Way Trip Distance per Day	Regional Emissions (pounds/day)					
					PM10			PM2.5		
		(days)	(hours/day)	(miles)	RD	BW	TW	RD	BW	TW
Site Preparation	2024									
Total Haul Trips	0				**5.48**	**0.37**	**0.22**	**1.34**	**0.13**	**0.05**
Hauling	0	27	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	27	8	7.63	0.00	0.00	0.00	0.00	0.00	0.00
Worker	18	27	8	11.97	0.14	0.00	0.00	0.03	0.00	0.00
Grading	2024									
Total Haul Trips	858									
Hauling	35	25	8	20	0.46	0.13	0.05	0.11	0.04	0.01
Vendor	0	25	8	7.63	0.00	0.00	0.00	0.00	0.00	0.00
Worker	20	25	8	11.97	0.16	0.00	0.00	0.04	0.00	0.00
Building Construction	2024									
Total Haul Trips	0									
Hauling	0	262	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	262	8	7.63	0.26	0.06	0.02	0.06	0.02	0.01
Worker	230	262	8	11.97	1.82	0.05	0.05	0.45	0.02	0.01
Building Construction	2025									
Total Haul Trips	0									
Hauling	0	286	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	52	286	8	7.63	0.26	0.06	0.02	0.06	0.02	0.01
Worker	230	286	8	11.97	1.82	0.05	0.05	0.45	0.02	0.01
Paving	2025									
Total Haul Trips	0									
Hauling	0	235	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	2	235	8	7.63	0.01	0.00	0.00	0.00	0.00	0.00
Worker	16	235	8	11.97	0.13	0.00	0.00	0.03	0.00	0.00
Architectural Coating	2025									
Total Haul Trips	0									
Hauling	0	131	8	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	10	131	8	7.63	0.05	0.01	0.00	0.01	0.00	0.00
Worker	46	131	8	11.97	0.36	0.01	0.01	0.09	0.00	0.00

Paseo Norte Project

Total On-Road Fuel Consumption

		gal/mile
2021Hauling	Hauling	0.17163556
2021Vendor	Vendor	0.14228491
2021Worker	Worker	0.04006185
2022Hauling	Hauling	0.17591158
2022Vendor	Vendor	0.14780042
2022Worker	Worker	0.04114232
2023Hauling	Hauling	0.17333356
2023Vendor	Vendor	0.14608795
2023Worker	Worker	0.04038967
2024Hauling	Hauling	0.17083642
2024Vendor	Vendor	0.14460093
2024Worker	Worker	0.03960362
2025Hauling	Hauling	0.16800737
2025Vendor	Vendor	0.14287634
2025Worker	Worker	0.03878523

Paseo Norte Project

Total On-Road Fuel Consumption

Source	Fuel Type	Total Fuel Use (gal)
Hauling	Diesel	2,990
Vendor	Diesel	33,185
Worker	Gasoline	64,125

Fuel Type	Total Fuel Use	Annual Fuel Use
Diesel	36,174	18,889
Gasoline	64,125	33,485

Duration of Construction	
Start	1/1/2024
End	11/30/2025
1.9	years

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Idling per Day (minutes)	Regional Emissions (gallons) gal/mile	gal/min	gal/day	Total Gallons/yr
Site Preparation	2022								
Total Haul Trips	0								
Hauling	0	27	8	20	15	0.18	0.00E+00	0	0
Vendor	0	27	8	7.63	6.9	0.15	0.00E+00	0	0
Worker	18	27	8	11.97	0	0.04	0.00E+00	9	239
Grading	2024								
Total Haul Trips	858								
Hauling	35	25	8	20	15	0.17	0.00E+00	120	2,990
Vendor	0	25	8	7.63	6.9	0.14	0.00E+00	0	0
Worker	20	25	8	11.97	0	0.04	0.00E+00	9	237
Building Construction	2024								
Total Haul Trips	0								
Hauling	0	262	8	20	15	0.17	0.00E+00	0	0
Vendor	52	262	8	7.63	6.9	0.14	0.00E+00	57	15,031
Worker	230	262	8	11.97	0	0.04	0.00E+00	109	28,567
Building Construction	2025								
Total Haul Trips	0								
Hauling	0	286	8	20	15	0.17	0.00E+00	0	0
Vendor	52	286	8	7.63	6.9	0.14	0.00E+00	57	16,213
Worker	230	286	8	11.97	0	0.04	0.00E+00	107	30,539
Paving	2025								
Total Haul Trips	0								
Hauling	0	235	8	20	15	0.17	0.00E+00	0	0
Vendor	2	235	8	7.63	6.9	0.14	0.00E+00	2	512
Worker	16	235	8	11.97	0	0.04	0.00E+00	7	1,746
Architectural Coating	2025								
Total Haul Trips	0								
Hauling	0	131	8	20	15	0.17	0.00E+00	0	0
Vendor	10	131	8	7.63	6.9	0.14	0.00E+00	11	1,428
Worker	46	131	8	11.97	0	0.04	0.00E+00	21	2,798

A-4 Greenhouse Gas Construction Emissions Summary

Paseo Norte Project

GHG Construction Summary

Year	On-Site Emissions	Mobile Emissions	Annual Total
2024	385	450	835
2025	482	502	984
Grand Total	**867**	**952**	**1,819**
Amortized	**-**	**-**	**61**

A-5 Greenhouse Gas Operational Emissions Summary

Paseo Norte Apartment Project

Greenhouse Gas Emissions Summary

Project Operations GHG Summary (Full Buildout Year 2025)	
Category	**$MTCO_2e/yr$**
Mobile	902
Area	1
Electricity	94
Waste	43
Water	12
EV Charging	2
Construction	61
Project Subtotal	**1,115**
Project Net Total GHG Emissions	**1,115**
$MTCO_2e$=Metric Tons Carbon Dioxide equivalents	

Paseo Norte Apartment Project

Greenhouse Gas Emissions Summary

Project Operations GHG Summary (Full Buildout Year 2030)	
Category	**$MTCO_2e/yr$**
Mobile	857
Area	1
Electricity	94
Waste	43
Water	12
EV Charging	2
Construction	61
Project Subtotal	**1,070**
Project Net Total GHG Emissions	**1,070**
$MTCO_2e$=Metric Tons Carbon Dioxide equivalents	

Paseo Norte Apartment Project

Greenhouse Gas Emissions Summary

Project Operations GHG Summary (Full Buildout Year 2050)	
Category	**$MTCO_2e/yr$**
Mobile	741
Area	1
Electricity	94
Waste	43
Water	12
EV Charging	2
Construction	61
Project Subtotal	**953**
Project Net Total GHG Emissions	**953**
$MTCO_2e$=Metric Tons Carbon Dioxide equivalents	