Greenhouse Gas Emissions Analysis Technical Report for the Nakano Project Chula Vista, California

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Acronyms and Abbreviations

°F	degrees Fahrenheit
AB	Assembly Bill
ADD	Assistant Deputy Director
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CARB	California Air Resources Board
CAT	California Climate Action Team
CBC	California Building Code
CCCC	California Climate Change Center
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbons
CH_4	methane
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EV	electric vehicle
GHG	greenhouse gas
GWP	global warming potential
HCFC	hydrochlorofluorocarbon
HFC	hydrofluorocarbon
I-805	Interstate 805
IPCC	Intergovernmental Panel on Climate Change
LAFCO	Local Agency Formation Commission
MMT	million metric tons
MT	metric tons
N_2O	nitrous oxide
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
O_3	ozone
OVRP	Otay Valley Regional Park
PDF	project design feature
PFC	perfluorocarbon
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
ppm	parts per million by volume

RPS	Renewables Portfolio Standard
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Government
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric
SDMC	San Diego Municipal Code
SF_6	sulfur hexafluoride
SLCP	short-lived climate pollutant
SO_2	sulfur dioxide
SO_X	sulfur oxides
TPA	Transit Priority Area
VOC	volatile organic compound

Executive Summary

The purpose of this technical report is to assess the potential greenhouse gas (GHG) emissions impacts associated with implementation of the Nakano project (project). For the No Annexation Scenario and Annexation Scenario 2b this assessment uses the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. For Annexation Scenario 2a, this assessment uses the City of San Diego's CEQA Significance Determination Thresholds (City of San Diego 2022).

Project Overview

The project proposes a residential development on a 23.8 acre-site located north of the 450 block of Dennery Road, in the City of Chula Vista, California. The project consists of development of 215 residential dwellings units comprising 61 detached condominiums, 84 duplexes and 70 townhome dwelling units with approximately 5 acres of hardscaped/paved roadway area. However, to represent a conservative analysis of potential unit mix, the environmental analysis assumes a maximum of 221 residential units. Recreational amenities would include two "mini" parks, an overlook park associated with the Otay Valley Regional Park, and a trail connection to the Otay Valley Regional Park. Primary site access would be provided via an off-site connection to Dennery Road, and secondary emergency access would be provided via a connection to Golden Sky Way in the River Edge Terrace residential development. Off-site remedial grading and trail improvements are proposed to the north of the site within the City of Chula Vista.

Analysis Results

Global climate change is primarily considered a cumulative impact but must also be evaluated on a project level under CEQA. A project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHG emissions. GHGs are gases that absorb infrared radiation in the atmosphere. Principal GHGs regulated under state and federal law and regulations include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). GHG emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e), which account for weighted global warming potential factors for CH_4 and N_2O.

Construction of the project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. Total project generated GHG emissions during construction were estimated to be 1,113 MT CO_2e, or 37 MT CO_2e per year when amortized over 30 years.

The project would generate operational GHG emissions from area sources (landscape maintenance), energy sources (electricity consumption), mobile sources (vehicle trips), water supply and wastewater treatment, solid waste, and refrigerants. Estimated annual project generated unmitigated operational GHG emissions at buildout in 2025 would be approximately 2,375 MT CO_2e per year.

No Annexation Scenario and Annexation Scenario 2b (City of Chula Vista)

Estimated annual project-generated unmitigated operational emissions in 2025, plus amortized project construction emissions, would be approximately 2,412 MT CO_2e per year. This emission level would not exceed the 3,000 MT CO_2e Residential/Commercial Screening Level. As project emissions would be less than the applicable screening level, the project would not generate GHG emissions that would have a significant impact on the environment and GHG emissions impacts under the No Annexation Scenario and Annexation Scenario 2b would be **less than significant**.

Additionally, the project would comply with the policies contained in the Scoping Plan, San Diego Forward, and the City of Chula Vista Climate Action Plan (CAP). However, because the project would be inconsistent with several of the key Prioritization Strategies of the 2022 Scoping Plan, it would not be consistent with the statewide GHG reduction goals required by Assembly Bill 1279, resulting in a significant and unavoidable cumulative GHG emission impact after mitigation. Annexation Scenario 2a (City of San Diego)

The significance determination is based on consistency with the City of San Diego's CAP and associated CAP consistency regulations. The area being annexed into the City of San Diego was not assumed in the City of San Diego's CAP GHG emissions inventory. Thus, the project would generate GHG emissions not previously assumed in the Climate Action Plan), resulting in a significant impact. Mitigation has been identified to minimize significant GHG emissions impacts to the extent feasible. However, despite implementation of feasible mitigation measures, the project would not be consistent with the City of San Diego's CAP and would have a **significant and unavoidable GHG emissions** impact.

1.0 Introduction

1.1 Report Purpose and Scope

The purpose of this technical report is to assess the potential greenhouse gas (GHG) emissions impacts associated with implementation of the proposed Nakano project (project). This assessment uses the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 California Code of Regulations [CCR] 15000 et seq.) and is based on the emissions-based significance thresholds recommended by the City of Chula Vista, the City of San Diego and other applicable thresholds of significance.

This introductory chapter provides a description of the project and the project location. This report describes the GHG-emissions-related environmental setting, regulatory setting, existing climate change conditions, and thresholds of significance and analysis methodology and presents a GHG emissions impact analysis per Appendix G of the CEQA Guidelines. Chapter 6, References Cited, includes a list of the references cited in this technical report.

1.2 Project Description

The project consists of development of 215 residential dwellings units consisting of 61 detached condominiums, 84 duplexes and 70 townhome dwelling units on 23.8 acres with approximately 5 acres of hardscaped/paved roadway area. However, to represent a conservative analysis of potential unit mix, the environmental analysis assumes a maximum of 221 residential units. The project site is located on the 450 block of Dennery Road, in the City of Chula Vista, California. Figure 1 shows the project location and Figure 2 shows an aerial photograph of the project site and vicinity. Figure 3 shows the site plan.

The project is evaluated under three scenarios.

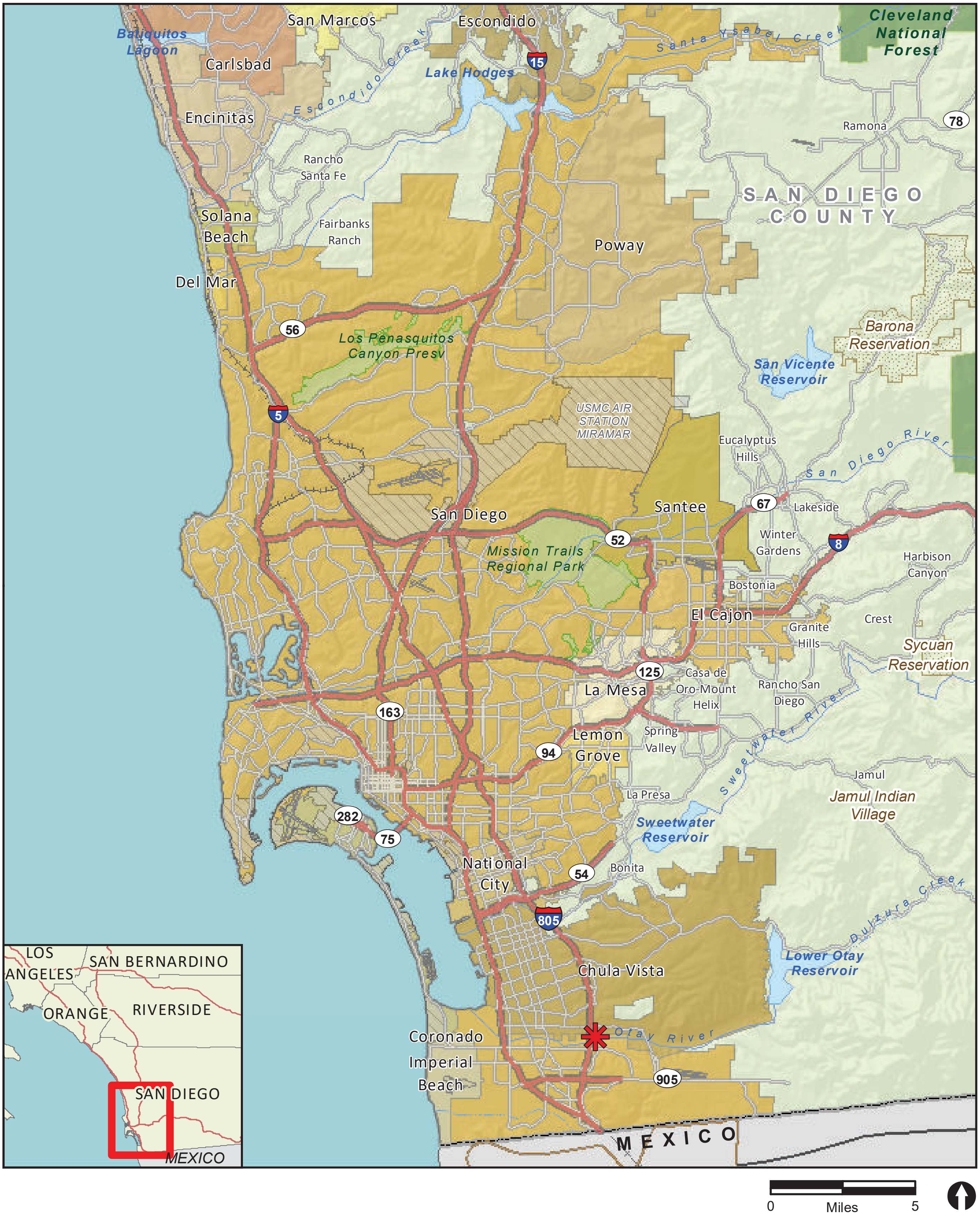
Scenario 1, the No Annexation Scenario, assumes the project would stay in Chula Vista and not be annexed into San Diego. Local Agency Formation Commission (LAFCO) approval of out of agency service agreements for services and utilities from the City of San Diego would be required. Under this scenario, the City of Chula Vista would issue grading and development permits for the project site; however, the City of San Diego would require a site development permit and grading permit for the off-site improvements associated with primary site access and secondary emergency access.

Two potential annexation scenarios are described below. The key difference between the two annexation scenarios would be the agency responsibility for issuance of grading and development permits for the project site.

In Annexation Scenario 2a, grading and development of the project site would not proceed until the LAFCO reorganization process is complete. In this scenario, the City of San Diego would issue grading and development permits for the project site and all off-site improvement areas after approval of the LAFCO reorganization.

In Annexation Scenario 2b, grading and site development would proceed prior to LAFCO reorganization. In this scenario, the City of Chula Vista would issue grading and development permits for the project site and the City of San Diego would issue a grading permit for the off-site portions. Grading permits, recordation of a final map, and Chula Vista issuance of all final certificates of occupancy would be completed prior to approval of the LAFCO reorganization. Annexation of the project site to San Diego would not occur until after site development in Chula Vista is complete.

The physical development of the project would be the same under all scenarios; however, the discretionary actions would differ. For purposes of the environmental analysis, the responsibility for permitting and implementing required mitigation measures detailed in this report would be the City of Chula Vista for the No Annexation Scenario and Annexation Scenario 2b. Therefore, the analysis for these two scenarios is combined. The analysis for Annexation Scenario 2a is addressed separately as the City of San Diego would have responsibility for implementing applicable mitigation for project under this scenario.



Project Location

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FIGURE 1
Regional Location

Image Source: NearMap (flown January 2023)

Parcel Boundary

Impact Limits

FIGURE 2

Project Location on Aerial Photograph

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Map Source: Civil Sense, Inc.

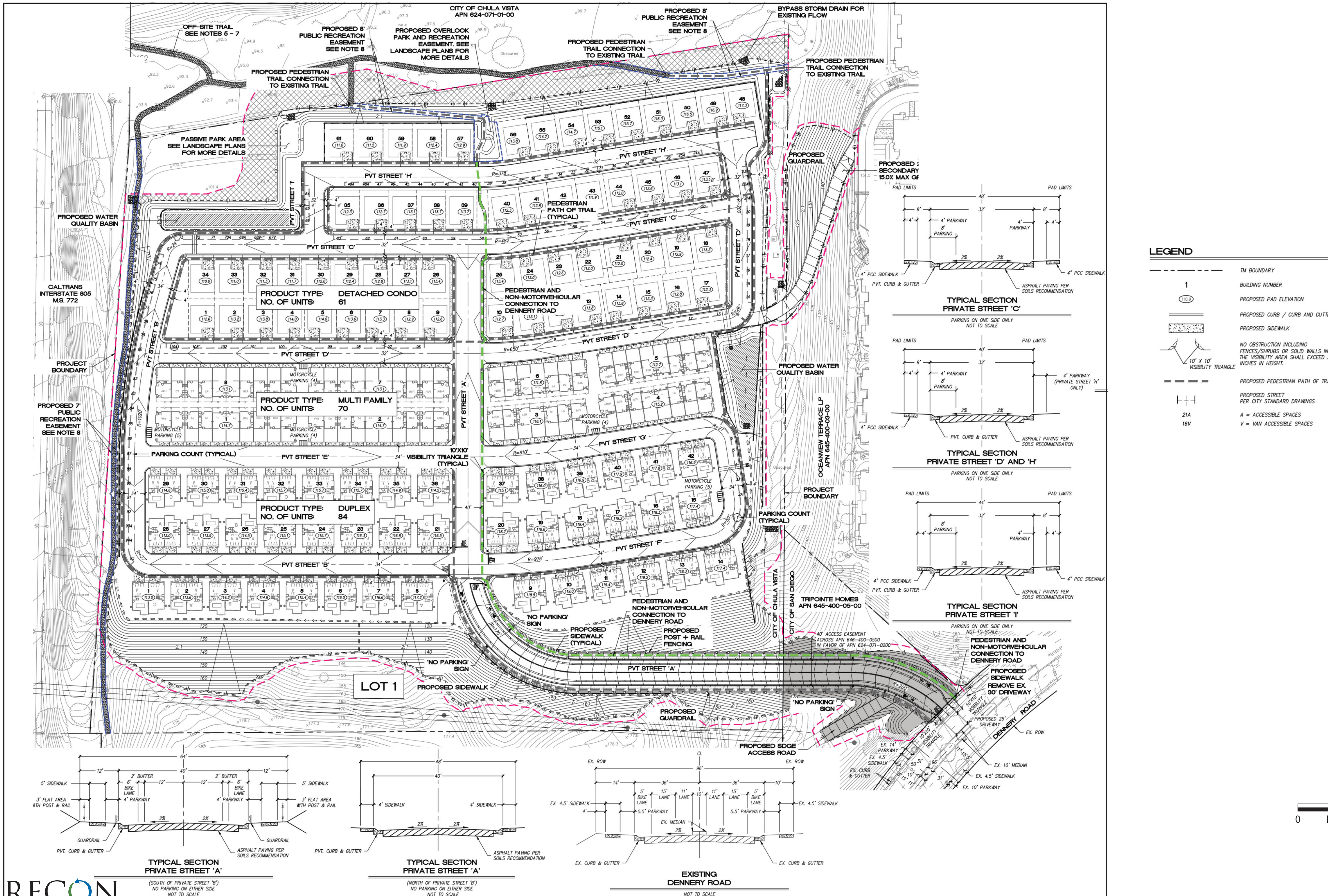


FIGURE 3
Site Plan

City of Chula Vista discretionary actions include a General Plan Amendment, Tentative Map, and Specific Plan. The General Plan Amendment would change the land use designation to Specific Plan – Residential Medium and the Specific Plan would implement the R-3 zone. In addition to the City of Chula Vista discretionary actions referenced above, the Annexation Scenarios would require the following City of San Diego Discretionary Actions:

- Adopt a Prezoning Ordinance delineating the zoning territory not yet incorporated into the City of San Diego as Residential Multiple Unit 1-1 (RM-1-1). The Prezone would require a recommendation from the Planning Commission and City Council approval and would not be effective until after the effective date of the LAFCO approval of the Nakano Reorganization.
- Amend the City of San Diego General Plan to designate the site Residential – Low Medium
- Amend the Otay Mesa Community Plan to designate the site as Residential – Low Medium.
- Approve Multiple Species Conservation Program Subarea Plan Amendment to include the property within the City of San Diego Subarea Plan.
- Amend the City of San Diego City Council District Boundary to incorporate the project site into District 8

The Annexation Scenarios would require both agencies to approve an Annexation Agreement outlining the process by which the project would be processed and annexed into the City of San Diego. The LAFCO would provide oversight of the annexation process.

1.3 Project Design Features

To reduce construction and operational emissions to the extent feasible, the applicant (Tri Pointe Homes) would incorporate the following project design features (PDFs) into the residential development and would be included as conditions of approval and included on building design plans:

PDF-GHG-1 **Increased Density.** The project shall allow up to 221 residential units in an area with access to transit.

PDF-GHG-2 **Affordable Housing.** The project shall provide 22 units (10 percent), including 11 low-income units and 11 moderate-income units, that are affordable to low- and moderate-income households.

PDF-GHG-3 **Electric Appliances.** Prior to issuance of building permits, the City's Assistant Deputy Director (ADD) environmental designee shall verify the building plans include all electric appliances and heating systems. Woodburning and natural gas/propane shall be prohibited on-site.

PDF-GHG-4 **Pedestrian Network Improvements.** Prior to issuance of building permits, the City's ADD environmental designee shall verify the following pedestrian and trail amenities are shown on the building plans:

- A 7- to 8-foot-wide decomposed granite public trail connection along the western edge of the project site. To ensure public accessibility to the Otay Valley Regional Park (OVRP) trail system, a public trail easement would be granted along this alignment.
- 8-foot-wide decomposed granite public trail improvement with split rail fencing from the proposed mini-park located at the north central portion of the project site, connecting north to off-site portions of the OVRP trail system.
- Off-site within the City of Chula Vista parcel to the north, the project includes improvements to the OVRP trail system including formalizing existing trail alignments with placement of decomposed granite within an 8-foot-wide alignment and installation of split-rail fencing on one side of the trail.
- Wayfinding signage to the OVRP trail system along Dennery Road within private property, as detailed on the project landscape plans).
- Sidewalks are proposed on both sides of Private Street A. All other internal streets would provide sidewalks on one side of the street. Sidewalks provide a connection to the OVRP trail connection on the north end of the site.

PDF-GHG-5 **Bicycle Network Improvements.** Prior to issuance of building permits, City's ADD environmental designee shall verify the building plans include buffered Class II bike lanes. The bike lanes shall be provided along Private Street A, the main private street running through the site, connecting to the existing Class II bike lane along Dennery Road. The private streets leading east and west from the primary roadway would include bicycle sharrows.

PDF-GHG-6 **Outdoor Electrical Outlets to Allow for Electric Landscape Equipment.** Prior to issuance of building permits, the City's ADD environmental designee shall verify the landscaping plans identify the locations of the exterior electrical outlets necessary for sufficient powering of electric lawnmowers and other landscaping equipment.

PDF-GHG-7 **Prohibit Turf.** Prior to issuance of building permits, the City's ADD environmental designee shall verify the shall verify the landscape plans do not include turf lawns in any residential portion of the project.

PDF-GHG-8 **Community Gardens**. Prior to issuance of construction permits, the City's ADD environmental designee shall verify the building plans include a minimum of 26,726 square feet of common open space that would allow for community gardens.

PDF-GHG-9 **Electric Vehicle Charging Capacity.** Prior to the issuance of building permits, the City's ADD environmental designee shall verify the building plans demonstrate all units comply with Title 24 Green Building Standards Code, Residential Mandatory

Measures which requires each dwelling unit to install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall originate at the main service or subpanel and shall terminate in the garage to allow for electric vehicle charging.

2.0 Environmental Setting

2.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the Sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (U.S. Environmental Protection Agency [EPA] 2017a).

The greenhouse effect is the trapping and buildup of heat in the atmosphere near the Earth's surface (the troposphere). The greenhouse effect traps heat in the troposphere through a threefold process as follows: short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus contributing substantially to the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century and that they are the most significant driver of observed climate change (Intergovernmental Panel on Climate Change [IPCC] 2013; EPA 2017a). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 2.5, Potential Effects of Climate Change.

2.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).[1] Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text.[2] Also included is a discussion of other climate-forcing substances.

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 involve the combustion of fuels, such as coal, oil, natural gas, and wood, and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. CH_4 is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, race cars, and aerosol sprays).

[1] California Health and Safety Code 38505 identifies seven GHGs that CARB is responsible for monitoring and regulating to reduce emissions: CO2, CH4, N2O, SF6, HFCs, PFCs, and nitrogen trifluoride (NF3).

[2] The descriptions of GHGs are summarized from the IPCC Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's Glossary of Terms Used in GHG Inventories (2015), and EPA's Glossary of Climate Change Terms (2017b).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic, powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric O_3-depleting substances (e.g., chlorofluorocarbons [CFCs], HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O_3-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as byproducts of industrial processes and are used in manufacturing.

- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the O_3-depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.

- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.

Nitrogen Trifluoride: NF_3 is used in the manufacture of a variety of electronics, including semiconductors, and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds with a structure very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter ($PM_{2.5}$), which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential (GWP). Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from CARB's regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with a reduction of 50% below 2013 levels expected by 2030 (California Air Resources Board [CARB] 2014a, 2022a).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

2.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2017b). The Intergovernmental Panel on Climate Change (IPCC) developed the GWP concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of carbon dioxide equivalent (CO_2e). Emissions are converted into CO_2e based on 100-year GWP, taken from the IPCC Assessment Reports. The current version is the IPCC Sixth Assessment Report. CO_2e emissions include the basket of Kyoto gases (CO_2, CH_4, N_2O) as well as fluorinated gases).

The current version of California Emissions Estimator Model (CalEEMod) (version 2022.1) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the project.

2.4 GHG Inventories

2.4.1 Global GHG Inventory

Anthropogenic GHG emissions worldwide in 2020 (the most recent year for which data is available) totaled approximately 47,513 million metric tons (MMT) of CO_2e (World Resources Institute [WRI 2020). Six countries—China, the United States, India, Russia, Indonesia, and Brazil—and the European community accounted for approximately 60% of the total global emissions, approximately 28,455 MMT CO_2e (WRI 2020). Table 1 presents the top GHG-emissions-producing countries.

Table 1
Top Six Greenhouse Gas Producer Countries and the European Community

Emitting Countries/Entities	GHG Emissions (MMT CO_2e)
China	12,295.6
United States	5,289.1
India	3,167.0
European Union	2,957.4
Russian Federation	1,800.0
Indonesia	1,475.8
Brazil	1,469.6
Total	28,454.5

GHG = greenhouse gas; MMT = million metric tons; CO2e = carbon dioxide equivalent
Source: WRI 2020.
Total may not sum precisely due to rounding.

2.4.2 National and State Inventories

Per the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2017 (EPA 2019), total U.S. GHG emissions were approximately 6,457 MMT CO_2e in 2017. The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 81.6% of total GHG emissions (6,457 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.2% of CO_2 emissions in 2017 (4,912 MMT CO_2e). Relative to 1990, gross U.S. GHG emissions in 2017 are higher by 1.3%, down from a high of 15.7% above 1990 levels in 2007. GHG emissions decreased from 2016 to 2017 by 0.5% (36 MMT CO_2e) and overall, net emissions in 2017 were 13% below 2005 levels (EPA 2019).

According to California's 2000–2020 GHG emissions inventory, California emitted 369.2 MMT CO_2e in 2020, including emissions resulting from out-of-state electrical generation (CARB 2022b). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high-GWP substances, and recycling and waste. The California GHG emission source categories (as defined in CARB's 2008 Scoping Plan) and their relative contributions in 2020 are presented in Table 2.

Table 2 Greenhouse Gas Emissions Sources in California		
Source Category	Annual GHG Emissions ($MMT\ CO_2e$)	Percent of Total
Transportation	135.8	36.8%
Industrial uses	73.3	19.9%
Electricity generation[a]	59.5	16.1%
Residential and commercial uses	38.7	10.5%
Agriculture	31.6	8.6%
High GWP substances	21.3	5.8%
Recycling and waste	8.9	2.4%
Totals	**369.2**	**100%**

Source: CARB 2022b.
Notes: GHG = greenhouse gas; GWP = global warming potential; MMT CO_2e = million metric tons of carbon dioxide equivalent.
Emissions reflect 2020 California GHG inventory.
Totals may not sum due to rounding.
[a]Includes emissions associated with imported electricity, which account for 18.6 MMT CO_2e.

2.4.3 City of Chula Vista Inventory

The City of Chula Vista regularly conducts GHG emission inventories to support Climate Action Plan (CAP) implementation. Estimated GHG emissions by sector for the years 2018 and 2020 are shown in Table 3. In 2020, community GHG emissions from the City of Chula Vista totaled 1,098,000 MT CO_2e. The sector with the greatest level of emissions was transportation or mobile sources at 581,000 MT CO_2e or fifty three percent (53%) of total emissions. The electricity sector was the second highest source at 260,000 MT CO_2e representing twenty four percent (24%) of total community emissions, followed by the natural gas energy use at 191,000 MT CO_2e or seventeen percent (17%) of total emission and the lowest contributor to total MT CO_2e was solid waste at 50,000 MT CO2e or five percent (5%) of the total. Compared to 2018, total citywide emissions in 2020 were four percent (4%) lower. 2020 per capita emissions are approximately eleven percent (11%) below 2018 levels. Transportation-based emissions are estimated to have decreased 87,000 MT CO_2e, or thirteen percent (13%), since 2018.

Table 3 Chula Vista Greenhouse Gas Emissions by Sectors 2018 and 2020			
Source Category	2018 Annual GHG Emissions ($MT\ CO_2e$)	2020 Annual GHG Emissions ($MT\ CO_2e$)	Percent Change
Community Emissions			
Transportation	668,000	581,000	-13%
Energy Use	411,000	451,000	10%
Solid Waste	52,000	50,000	-4%
Potable Water	12,000	13,000	8%
Wastewater	3,000	3,000	0%
Subtotal	*1,146,000*	*1,098,000*	*-4%*
Municipal Emissions			
Transportation	1,761	2,583	46.7%
Energy Use	4,855	5,015	3.3%
Solid Waste	2,797	2,934	4.9%
Potable Water	795	659	-17/1%
Subtotal	*10,207*	*11,191*	*9.6%*

Source: City of Chula Vista 2022a and 2022b.
Note: GHG = greenhouse gas; MT CO2e = metric tons of carbon dioxide equivalent.
Totals may not sum precisely due to rounding.

2.4.4 City of San Diego Inventory

The City of San Diego provided an update to their GHG emission inventory in their 2020 CAP Annual Report Appendix (City of San Diego 2020). The City's GHG emissions for 2019 are presented in Table 4.

Table 4 GHG Emissions Sources in the City of San Diego		
Source Category	Annual GHG Emissions ($MT\ CO_2e$)	Percent of Total*
Transportation	5,296,000	54.9%
Electricity	2,069,000	21.5%
Natural Gas	1,911,000	19.8%
Wastewater and Solid Waste	303,000	3.1%
Water	67,000	0.7%
Totals	9,646,000	100%

Source: City of San Diego 2020.
MMT CO_2e = million metric tons of carbon dioxide equivalent per year.
*Percentage of total has been rounded, and total may not sum due to rounding

2.5 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* indicated that warming of the climate system is unequivocal, and many of the observed changes since the 1950s are unprecedented. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (California Climate Change Center [CCCC] 2006). The primary effect of global climate change has been a 0.2 degree Celsius (°C; 0.36 degree Fahrenheit [°F]) rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (California Climate Action Team [CAT] 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been the greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). Sierra snowpack, which accounts for approximately half of the surface water storage in California and much of the state's water supply, is predicted to decline by 30% to as much as 90% over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late twenty-first century in Central California and, most notably, Southern California. By late-century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CCCC 2012).

A summary of current and future climate change impacts to resource areas in California, as discussed in *Safeguarding California: Reducing Climate Risk* (California Natural Resources Agency [CNRA] 2014), is provided below.

Agriculture. The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. The agriculture sector and farmers face some specific challenges that include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding and extreme drought to destructive storm events; significant shifts in water availably and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests, and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. Nonetheless, it is predicted that current crop and livestock production will suffer long-term negative effects, resulting in a substantial decrease in the agricultural sector if not managed or mitigated.

Biodiversity and Habitat. The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift, and novel combinations of species; pathogens, parasites, and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurs). Habitat restoration, conservation, and resource management across California and through collaborative efforts among public, private, and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate as a result of climate change based on geographic region.

Energy. The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events, and sea-level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants, since power plant cooling is less efficient at higher ambient temperatures. Increased temperatures will also increase electricity demand associated with air conditioning. Natural gas infrastructure in coastal California is threatened by sea-level rise and extreme storm events.

Forestry. Forests occupy approximately 33% of California's 100 million acres and provide key benefits, such as wildlife habitat, absorption of CO_2, renewable energy, and building materials. The most significant climate-change-related risks to forests are accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities and, combined with increasing temperatures, have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat, and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes or quickly occupy areas denuded by fire, insect mortality, or other climate change effects on vegetation.

Ocean and Coastal Ecosystems and Resources. Sea-level rise, changing ocean conditions, and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea-level rise, in addition to more frequent and severe coastal storms and erosion, is threatening vital infrastructure, such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting coastal recreational assets, such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events, such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves is likely to increase the risk of mortality due to heat-related illness, as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness, such as asthma and allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and health deficits due to malnutrition. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality.

Transportation. Residents of California rely on airports, seaports, public transportation, and an extensive roadway network to gain access to destinations, goods, and services. While the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. In particular, sea-level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports, and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of people and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Water resources in California support residences, plants, wildlife, farmland, landscapes, and ecosystems and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter. Increased risk of flooding has a variety of public health concerns, including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively affect groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat.

In May 2017, the California Natural Resources Agency released the draft *Safeguarding California Plan: 2017 Update*, which is a survey of current programmatic responses for climate change and contains recommendations for further actions (CNRA 2017).

3.0 Regulatory Setting

3.1 Federal Regulations

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."

The administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

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

Energy Independence and Security Act. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

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

- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.

Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams/mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200), and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines (76 FR 57106–57513).

In August 2016, EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

In August 2018, EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2%–3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of one degree Celsius by 2100 (EPA and NHTSA 2016). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. Thus, the timing and consequences of the 2018 federal proposal are speculative at this time.

On September 27, 2019, the EPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (84 FR 51310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the EPA and NHTSA issued the Part Two Rule, which went into effect 60 days after being published in the Federal Register. The Part Two Rule sets CO_2 emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, President Joe Biden issued an Executive Order (EO) 13990 on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of the Part One Rule by April 2021 and review of the Part Two Rule by July 2021. In response to Executive Order 13990, in August 2021, NHTSA announced that it will soon propose robust new fuel economy standards.

Clean Power Plan and New Source Performance Standards for Electric Generating Units. In October 2015, EPA published a final rule (effective December 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units and (2) stationary combustion turbines. Concurrently, EPA published a final rule in October 2015 establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. Implementation of the Clean Power Plan has been stayed by the U.S. Supreme Court pending resolution of several lawsuits.

3.2 State Regulations

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

3.2.1 State Climate Change Targets

EO S-3-05. EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80% below 1990 levels by 2050.

Assembly Bill 32 and CARB's Climate Change Scoping Plan. In furtherance of the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 also authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 million metric tons [MMT] CO_2e). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan) in accordance with Health and Safety Code Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008a):

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewable energy mix of 33%.
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard.
- Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In the Scoping Plan, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual"). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants; no further regulatory action would impact vehicle fuel efficiency; and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (CARB 2011a), CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the Business-As-Usual conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS; CPUC 2015; 12%–20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the Business-As-Usual conditions.

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update). The stated purpose of the First Update is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050" (CARB 2014b). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014b). Those six areas are: (1) energy, (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), (3) agriculture, (4) water, (5) waste management, and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal.

CARB's research efforts presented in the First Update indicate that it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014b). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent GWPs identified by IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the Business-As-Usual conditions.

On January 20, 2017, CARB released the *2017 Climate Change Scoping Plan Update* (Second Update) for public review and comment (CARB 2017a). This update presents CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy; CARB 2017b) and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the Second Update (CARB 2017a). When discussing project-level GHG emissions reduction actions and thresholds, the Second Update states "achieving no net increase in GHG emissions is the correct overall objective, but it may not be appropriate or feasible for every development project. An inability to mitigate a project's GHG emissions to zero does not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA" (CARB 2017a). The Second Update was adopted by CARB's Governing Board on December 14, 2017.

The 2022 Scoping Plan Update for Achieving Carbon Neutrality (2022 Scoping Plan; CARB 2022a) was adopted in December 2022. The 2022 Scoping Plan assesses the progress towards the 2030 GHG emissions reduction target identified in the 2017 Scoping Plan and lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The 2022 Scoping Plan identifies strategies related to clean technology, energy development, natural and working lands, and others, and is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO_2e. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set new statewide GHG reduction targets, make changes to CARB's membership and increase legislative oversight of CARB's climate change–based activities, and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state, and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH_4 and HFCs and 50% below 2013 levels by 2030 for anthropogenic black carbon) and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its SLCP Reduction Strategy in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

AB 1279. AB 1279 (also known as the California Climate Crisis Act), approved in September 2022, requires the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below 1990 levels. The bill would require the state board to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies.

3.2.2 California Code of Regulations, Title 24 – California Building Code

The CCR, Title 24, is referred to as the California Building Code, or CBC. It consists of a compilation of several distinct standards and codes related to building construction, including plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility, and so on. Of particular relevance to GHG reductions are the CBC's energy efficiency and green building standards as outlined below.

Title 24, Part 6 – Energy Efficiency Standards

Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure that new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402[d]) and cost effectiveness (California Public Resources Code, Sections 25402[b][2] and [3]). These standards are updated to consider and incorporate new energy-efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The current 2022 Title 24 Building Energy Efficiency Standards went into effect on January 1, 2023. The 2022 Standards increase on-site renewable energy generation from solar, increase electric load flexibility to support grid reliability, reduce emissions from newly constructed buildings, reduce air pollution for improved public health, and encourage adoption of environmentally beneficial efficient electric technologies. It is anticipated that the new 2022 Title 24 energy standards will result in a 10.9 percent increase in energy efficiency for multi-family uses over the previous code (CEC 2021).

Title 24, Part 11 – California Green Building Standards

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code is commonly referred to as CALGreen and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The 2022 CALGreen standards are the current applicable standards. For nonresidential projects, some of the key mandatory CALGreen 2022 standards involve requirements related to bicycle parking, designated parking for clean air vehicles, electric vehicle (EV) charging include dedicated raceways for residential in garages, shade trees, water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR Part 11).

Title 20 – Appliance Standards

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

3.2.3 Renewable Portfolio Standards

SB 350 (2015) expanded the Renewable Portfolio Standard (RPS) by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030, be secured from qualifying renewable energy sources. In addition, SB 350 includes the goal of doubling the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires CPUC, in consultation with CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

3.2.4 Mobile Sources

EO S-1-07 – Low Carbon Fuel Standard. Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

SB 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. The CARB targets for the San Diego Association of Governments (SANDAG) region require a 15 percent reduction in GHG emissions per capita from automobiles and light duty trucks compared to 2005 levels by 2020, and a 19 percent reduction by 2035.

Advanced Clean Cars Program. In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011b). To improve air quality, CARB has implemented new emissions standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that, in 2025, cars will emit 75% less smog-forming pollution than the average new car sold before 2012. To reduce GHG emissions, CARB, in conjunction with EPA and NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The Zero-Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

EO B-16-12. EO B-16-12 (2012) directs state entities under the governor's direction and control to support and facilitate development and distribution ZEVs. This EO also sets a long-term target of reaching 1.5 million ZEVs on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

AB 1236. AB 1236 (2015) as enacted in California's Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of EV charging stations, as defined, through the issuance of specified permits, unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact on public health or safety and there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact. The bill provides for appeal of that decision to the planning commission, as specified. The bill requires local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance by September 30, 2016, that creates an expedited and streamlined permitting process for EV charging stations, as specified. Prior to this statutory deadline, in August 2016, the County Board of Supervisors adopted Ordinance No. 10437 (N.S.) adding a section to its County Code related to the expedited processing of EV charging stations permits consistent with AB 1236.

SB 350. In 2015, SB 350—the Clean Energy and Pollution Reduction Act—was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code, Section 740.12).

3.2.5 Assembly Bill 341 - Solid Waste Diversion

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020 and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020.

3.3 Local Regulations

3.3.1 City of Chula Vista

3.3.1.1 City of Chula Vista GHG Planning

International Council of Environmental Initiatives Local Governments for Sustainability. In 1992, the City participated in the Cities for Climate Protection Program, which aimed at developing municipal action plans for the reduction of GHGs. This program was sponsored and developed by the International Council of Environmental Initiatives and the United Nations Environment Program in response to the United Nations Framework Convention on Climate Change, while recognizing that all local planning and development has direct consequences on energy consumption, and cities exercise key powers over urban infrastructure, including neighborhood design, and over transportation infrastructure, such as roads, streets, pedestrian areas, bicycle lanes, and public transport.

Chula Vista Carbon Dioxide (CO_2) Reduction Plan. Each participant in the International Council of Environmental Initiatives program was to create local policy measures to ensure multiple benefits to the City and, at the same time, identify a carbon reduction goal through the implementation of those measures. The carbon reduction goal was to fit within the realm of international climate treaty reduction goals.

In its CO_2 Reduction Plan, developed in 1996 and officially adopted in 2000, Chula Vista committed to lowering its CO_2 emissions by diversifying its transportation system and using energy more efficiently in all sectors. To focus efforts in this direction, Chula Vista adopted the international CO_2 reduction goal of returning to pre-1990 levels by 2010. In order to achieve this goal, eight actions were identified, which when fully implemented, were anticipated to save 100,000 tons of CO_2 each year.

As a result of the 2005 GHG Emissions Inventory Report, in May 2007, staff reported to the City Council that City-wide GHG emissions had increased by 35% (mainly due to residential growth) from 1990 to 2005, while emissions on a per capita basis and from municipal operations decreased by 17% and 18%, respectively. The City Council directed staff to convene a Climate Change Working Group to develop recommendations to reduce the community's GHGs in order to meet the City's 2010 GHG emissions reduction targets.

As a result of the 2012 GHG Emissions Inventory Report, staff reported to the City Council that citywide GHG levels are 1,011,481 MT CO_2e. Compared to 2005, Chula Vista's citywide GHG emissions have increased by 8%. However, 2012 per capita emissions are approximately 5% below 2005 levels and 33% below 1990 levels. Unlike the last two inventories, 2009 and 2010, there was a slight increase in City-wide energy consumption over the last couple of years due most likely to local economic recovery. As with past inventories, community transportation activity has continued increasing with 2012 vehicle miles traveled about 29% higher than in 2005. In order to reach the current community emissions reduction goal of 20% below 1990 emission levels, the City will have to reduce its GHG emissions by more than 359,332 MT CO_2e (35%); however, statewide initiatives are expected to help achieve some of these reductions by 2020.

2017 Climate Action Plan. The latest version of the CAP was adopted on September 26, 2017, by the City Council and provides updated goals, policies, actions, and the latest City-wide inventory and projections. The CAP is not considered a CEQA "qualified" plan under CEQA Guidelines Section 15183.5, as it has not been adopted in a public process following environmental review. The Climate Change Working Group has been evaluating new opportunities to help reach the Chula Vista CAP's GHG gas reduction goals, which are based on the Second Update goals of 6 MT CO_2e per person by 2030 and 2 MT CO_2e per person by 2050. As such, they have identified the following 11 action areas that could generate up to 208,220 MT in reductions by 2020, while improving local air quality, generating utility savings, reducing traffic congestion, and promoting a healthier community (City of Chula Vista 2017):

Water Conservation & Reuse [Estimated Annual GHG Reductions = 12,357 MT CO_2e]

1. Water Education & Enforcement
   A) Expand education and enforcement [through fines] targeting landscape water waste

2. Water Efficiency Upgrades
   A) Update the City's Landscape Water Conservation Ordinance to promote more water-wise landscaping designs

   B) Require water-savings retrofits in existing buildings at a specific point in time (not point of sale)

3. Water Reuse Plan & System Installations
   A) Develop a Water Reuse Master Plan to maximize the use of storm water, graywater [recycled water] and onsite water reclamation

   B) Facilitate simple graywater systems for laundry-to-landscape applications

   C) Streamline complex graywater systems' permit review

Waste Reduction [Estimated Annual GHG Reductions = 38,126 MT CO_2e]

1. Zero Waste Plan
   A) Develop a Zero Waste Plan to supplement statewide green waste, recycling and plastic bag ban efforts

Renewable & Efficient Energy [Estimated Annual GHG Reductions = 70,763 MT CO_2e]

1. Energy Education & Enforcement
   A) Expand education targeting key community segments [e.g., do-it-yourselfers and Millennials] and facilitating energy performance disclosure (e.g., Green Leases, benchmarking and Home Energy Ratings)

B) Leverage the building inspection process to distribute energy-related information and to deter unpermitted, low performing energy improvements

2. Clean Energy Sources
   A) Incorporate solar photovoltaic into all new residential and commercial buildings [on a project-level basis]

   B) Provide more grid-delivered clean energy (up to 100%) through Community Choice Aggregation or other mechanism

3. Energy Efficiency Upgrades
   A) Expand the City's "cool roof" standards to include re-roofs and western areas

   B) Facilitate more energy upgrades in the community through incentives [e.g., tax breaks and rebates), permit streamlining (where possible) and education [e.g., more local energy efficiency programming]

   C) Require energy-savings retrofits in existing buildings at a specific point in time (not at point of sale)

4. Robust Urban Forests
   A) Plant more shade trees to save energy, address heat island issues and improve air quality

Smart Growth & Transportation [Estimated Annual GHG Reductions = 86,974 MT CO2e]

1. Complete Streets & Neighborhoods
   A) Incorporate "Complete Streets" principles into municipal capital projects and plans [e.g., the Bicycle and Pedestrian Master Plans and Capital Improvement Program]

   B) Encourage higher density and mixed-use development in Smart Growth areas, especially around trolley stations and other transit nodes

2. Transportation Demand Management
   A) Utilize bike facilities, transit access/passes and other Transportation Demand Management and congestion management offerings

   B) Expand bike-sharing, car-sharing and other "last mile" transportation options

3. Alternative Fuel Vehicle Readiness
   A) Support the installation of more local alternative fueling stations

   B) Designate preferred parking for alternative fuel vehicles

   C) Design all new residential and commercial buildings to be "Electric Vehicle Ready"

Chapter 15.12 Green Building Standards. Title 24, Part 11 (CALGreen), was adopted as the Green Building Code of the City for enhancing the design and construction of buildings, building additions, and alterations through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices, excepting such portions as are hereinafter deleted, modified, or amended. As discussed, the 2022 CALGreen is the current version and was adopted by reference in Chapter 15.12 of the Municipal Code.

Chapter 15.26 Energy Code. 2022 Title 24, Part 6 was adopted by reference in Chapter 15.26 of the Municipal Code. It was adopted for the purpose of regulating building design and construction standards to increase efficiency in the use of energy for new residential and nonresidential buildings.

Climate Emergency Resolution. The City of Chula Vista has adopted numerous climate related policies, plans and programs to reduce GHG emissions. The creation of the climate emergency declaration resolution is intended to update the City's GHG reduction goals, to strengthen existing efforts such as the update to the City Operations Sustainability Plan and encourage new City actions and voluntary actions by residents and businesses.

3.3.1.2 City of Chula Vista General Plan

The City General Plan (City of Chula Vista 2005) includes various policies related to reducing GHG emissions (both directly and indirectly). Applicable policies include the following:

Land Use and Transportation Element

- **Policy LUT-23.1:** Encourage the use of bicycles and walking as alternatives to driving.
- **Policy LUT-23.2:** Foster the development of a system of inter-connecting bicycle routes throughout the City and region.
- **Policy LUT-23.5:** Provide linkages between bicycle facilities that utilize circulation element alignments and open space corridors.
- **Policy LUT-23.8:** Provide and maintain a safe and efficient system of sidewalks, trails, and pedestrian crossings.
- **Policy LUT-23.14:** Require new development projects to provide internal bikeway systems with connections to the citywide bicycle networks.

Environmental Element

- **Policy E-6.1:** Encourage compact development featuring a mix of uses that locate residential areas within reasonable walking distance to jobs, services, and transit.
- **Policy E-6.5:** Ensure that plans developed to meet the City's energy demand use the least polluting strategies, wherever practical. Conservation, clean renewables, and clean distributed generation should be considered as part of the City's energy plan, along with larger natural gas-fired plants.

- **Policy E-6.7:** Encourage innovative energy conservation practices and air quality improvements in new development and redevelopment projects consistent with the City's Air Quality Improvement Plan Guidelines or its equivalent, pursuant to the City's Growth Management Program.

- **Policy E-6.8:** Support the use of alternative fuel transit, City fleet and private vehicles in Chula Vista.

- **Policy E-7.1:** Promote development of regulations and building design standards that maximize energy efficiency through appropriate site and building design and through the use of energy-efficient materials, equipment, and appliances.

- **Policy E-7.6:** Encourage the construction and operation of green buildings, considering such programs as the Leadership in Energy and Environmental Design (LEED) Green Building Rating System.

- **Policy E-7.8:** Ensure that residential and non-residential construction complies with all applicable City energy efficiency measures and other green building measures that are in effect at the time of discretionary permit review and approval or building permit issuance, whichever is applicable.

- **Policy E-8.1:** Promote efforts to reduce waste, minimize the need for additional landfills, and provide economically and environmentally sound resource recovery, management, and disposal facilities.

- **Policy E-8.3:** Implement source reduction strategies, including curbside recycling, use of small collection facilities for recycling, and composting.

3.3.2 City of San Diego

3.3.2.1 City of San Diego General Plan

The City of San Diego General Plan sets forth a comprehensive, long-term plan for development within the City. The General Plan implements a City of Villages strategy as part of its Strategic Framework, which aims to redirect development away from undeveloped lands and toward already urbanized areas and/or areas with conditions allowing the integration of housing, employment, civic, and transit uses. This development strategy mirrors regional planning and smart growth principles intended to preserve remaining open space and natural habitat and focus development within areas with available public infrastructure.

Conservation Element. The Conservation Element contains policies to guide the conservation of resources that are fundamental components of San Diego's environment, that help define the City's identity, and that are relied upon for continued economic prosperity. The purpose of this element is to help the City become an international model of sustainable development and conservation and to provide for the long-term conservation and sustainable management of the rich natural resources that help define the City's identity, contribute to its economy, and improve its quality of life.

The City has adopted the following General Plan Conservation Element policies (City of San Diego 2008) related to climate change:

- **CE-A.8.** Reduce construction and demolition waste in accordance with Public Facilities Element, Policy PF-1.2, or by renovating or adding on to existing buildings, rather than constructing new buildings.
- **CE-A.9.** Reuse building materials, use materials that have recycled content, or use materials that are derived from sustainable or rapidly renewable sources to the extent possible, through factors including:
    - Scheduling time for deconstruction and recycling activities to take place during project demolition and construction phases;
    - Using life cycle costing in decision-making for materials and construction techniques. Life cycle costing analyzes the costs and benefits over the life of a particular product, technology, or system.
- **CE-I.4.** Maintain and promote water conservation and waste diversion projects to conserve energy.
- **CE-I.5.** Support the installation of photovoltaic panels, and other forms of renewable energy production.
    - Promote the use and installation of renewable energy alternatives in new and existing development.
- **CE-I.10.** Use renewable energy sources to generate energy to the extent feasible.

3.3.2.2 City of San Diego Climate Action Plan

In December 2015, the City adopted a CAP (City of San Diego 2015) which aimed to reduce emissions 15% below the baseline to approximately 11.1 MMT CO_2e by 2020, 40% below the baseline to approximately 7.8 MMT CO_2e by 2030, and 50% below the baseline of 2010 to approximately 6.5 MMT CO_2e by 2035. In 2022, the City adopted a CAP Update which sets a goal of achieving net zero GHG emissions by 2035 with updated strategies, measures, and actions. The CAP Update centers climate equity through robust community engagement and pushes for bold action to mitigate the effects of climate change beyond the previously adopted 2015 CAP. Concurrent with the CAP Update, the City adopted new GHG emissions regulations which replace the CAP Consistency Checklist. The 2022 CAP update expands the goals of the 2015 CAP and identifies six strategies for achieving the goal of net zero emissions:

1. Strategy 1: Decarbonization of the Built Environment
2. Strategy 2: Access to Clean & Renewable Energy
3. Strategy 3: Mobility & Land Use
4. Strategy 4: Circular Economy & Clean Communities
5. Strategy 5: Resilient Infrastructure and Healthy Ecosystems
6. Strategy 6: Emerging Climate Actions

Implementation of these six strategies support the City's goal of net zero emissions by 2035. The first strategy, Decarbonization of the Built Environment, addresses natural gas consumption in all buildings, both new development, and in the timespan of the CAP, existing buildings. The second strategy, Access to Clean & Renewable Energy, maintains the 100 percent renewable energy measure and includes for the vehicular sector of our mobility mode share goal of 50 percent, EV infrastructure and adoption Citywide. The third strategy, Mobility & Land Use, focuses on emissions from transportation and establishes actions that support mode shift through mobility and land use actions and policies. The fourth strategy, Circular Economy & Clean Communities, expands on current zero waste goals, maintains gas capture measures, and support efforts to increase composting and prevent food waste in response to California State Senate Bill 1383. The fifth strategy, Resilient Infrastructure and Healthy Ecosystems, will help the City thrive in the face of the impacts of climate change through a greater focus on the greening of the City, starting with Communities of Concern.

The newest strategy, Strategy 6: Emerging Climate Actions, addresses those GHG emissions that will remain after all current identified measures have been achieved, which account for roughly 20 percent of total GHG emissions by 2035. This new strategy focuses on identification of additional actions to reduce GHG emissions via technological innovation, expanding partnerships and supporting research that reduces GHG emissions in all sectors.

3.3.2.3 CAP Consistency Regulations

As part of the implementation measures for the CAP, the City adopted amendments to the San Diego Municipal Code (SDMC) to add CAP Consistency Regulations as Chapter 14, Article 3, Division 14. The CAP Consistency Regulations apply to specified ministerial and discretionary projects to ensure projects comply with the goals and objectives of the updated CAP. The CAP Consistency Regulations apply to the following projects:

- Development that results in three or more total dwelling units on all premises in the development;
- Non-residential development that adds more than 1,000 square feet and results in 5,000 square feet or more of total gross floor area, excluding unoccupied spaces such as mechanical equipment and storage areas; and
- Parking facilities as a primary use.

To implement the various strategies of the CAP Update, the regulations require:

Section 143.1410 Mobility and Land Use Regulations requires pedestrian enhancements that reduce heat island effects including:

- Providing shading of at least 50 percent of the Throughway Zone through either trees and/or a combination of trees and structures for premises that contains a street yard or abuts a public right of way with a Furnishings Zone.
- If the required trees cannot be provided on-site because the premises does not contain a street yard and does not abut a public right of way within a Furnishings Zone, the

applicant shall either plant the required number of trees at an off-site location and enter into an agreement with the owner of the off-site location to provide indefinite maintenance of the trees, or pay the Urban Tree Canopy Fee.

- Where development contains 250 linear feet or more of street frontage, at least one publicly accessible pedestrian amenity shall be provided for every 250 linear feet of street frontage (e.g., trash and recycling receptacles, seating, lighting, public artwork, wayfinding signs, transit stop enhancement).

- At least 50 percent of all residential and non-residential bicycle parking spaces required in accordance with Chapter 14, Article 2, Division 5 shall be supplied with individual outlets for electric charging at each bicycle parking space.

Section 143.1415 Resilient Infrastructure and Healthy Ecosystems Regulations requires two trees to be provided on the premises for every 5,000 square feet of lot area, with a minimum of one tree per premises. If the required trees cannot be provided on-site, they can either be provided off-site or the Urban Tree Canopy Fee can be paid as detailed above.

If a project is unable to comply with one or more of the CAP Consistency Regulations, a Site Development Permit (Process 3) with deviation findings is required specifying how the project will reduce GHG emissions in a manner comparable to the regulation(s) the project is deviating from.

4.0 Significance Criteria and Methodology

4.1 CEQA Guidelines

Based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), the project would have a significant environmental impact if it would:

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

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. All reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project level under CEQA.

4.2 City of Chula Vista

No GHG emission thresholds have been adopted by the City of Chula Vista for land development projects. Additionally, the San Diego Air Pollution Control District has not issued guidance for assessing GHG impacts from land use development projects. Thus, in the absence of a threshold of significance for GHG emissions for the San Diego Air Pollution Control District, the City of Chula Vista evaluates the significance of GHG emissions based on the recommendation from the next closest air district, the South Coast Air Quality Management District (SCAQMD).

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the South Coast Air Basin. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – *Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans*, that could be applied by lead agencies. The working group met again in 2010 to review the guidance. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach (SCAQMD 2008, 2010):

- Tier 1 – The project is exempt from the California Environmental Quality Act (CEQA).
- Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than Significance Screening Levels, where
    - Residential/Commercial Screening Level
        - Option 1: 3,000 MT CO_2e screening level for all residential/commercial land uses
        - Option 2: Screening level thresholds for land use type acceptable if used consistently by a lead agency:
            - Residential: 3,500 MT CO_2e
            - Commercial: 1,400 MT CO_2e
            - Mixed-Use: 3,000 MT CO_2e
    - 10,000 MT CO_2e is the Permitted Industrial Screening Level
- Tier 4 – The project achieves performance standards, where performance standards may include:
    - Option 1: Percent emission reduction target. SCAQMD has no recommendation regarding this approach at this time.
    - Option 2: The project would implement substantial early implementation of measures identified in the CARB's Scoping Plan. This option has been folded into Option 3.
    - Option 3: SCAQMD Efficiency Targets.
        - 2020 Targets: 4.8 MT CO_2e per service population (SP) for project-level analyses or 6.6 MT CO_2e per SP for plan level analyses where service population includes residential and employment populations provided by a project.
        - 2035 Targets: 3.0 MT CO_2e per SP for project-level analyses or 4.1 MT CO_2e per SP for plan level analyses.

- Tier 5 – Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition.

If a project complies with any one of these tiers, its impacts related to GHG emissions would be considered less than significant.

Tier 1 and Tier 2 thresholds are based on planning consistency. This approach, which is referred to in the CEQA Guidelines as "tiering", allows agencies to rely on programmatic analysis of GHG emissions to determine that subsequent development consistent with the regional plan would result in incremental GHG emissions contribution that represent a less than significant contribution to cumulative effects. The project is not exempt from CEQA. Additionally, although the City of Chula Vista has an adopted CAP, it is not considered a qualified GHG reduction plan. A qualified GHG reduction plan means that it meets the criteria specified in CEQA Guidelines Section 15183.5(b) for a plan for the reduction of GHG emissions, such that it may be used for the specific purpose of streamlining the analysis of GHG emissions in subsequent projects.

Tier 3 significance screening levels from SCAQMD guidance are based on the concept of establishing a 90 percent GHG emission market capture rate. A 90 percent emission capture rate means that 90 percent of total emissions from new development projects would be subject to CEQA analysis and mitigation. The market capture rate of 90 percent was developed to capture a substantial fraction of GHG emissions from new development projects while excluding small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This market capture rate approach is based on guidance from the CAPCOA report CEQA & Climate Change, dated January 2008 (CAPCOA 2008). Following rationale presented in the CAPCOA Guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than the identified screening levels for 90 percent market capture rate would not impede achievement of the statewide GHG emissions reduction targets. This analysis follows the Tier 3 recommendation of a 3,000 MT CO_2e screening threshold.

Tier 4 and Tier 5 interim thresholds are intended to demonstrate project consistency with the AB 32 goal of achieving 1990 emission levels by 2020 and the SB 32 goal of reducing GHG emissions to 40 percent below 1990 levels by 2030.

4.3 City of San Diego

The City of San Diego's CEQA Significance Thresholds (2022) establishes the following initial study questions:

Would the Project:

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

2) Conflict with the City's Climate Action Plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City's CEQA significance thresholds identify a method to determine significance depending on whether the action requires plan- or policy-level or project-level environmental analysis, as follows:

1. For plan- and policy-level environmental documents, as well as environmental documents for public infrastructure projects, the Planning Department has prepared a Memorandum, Climate Action Plan Consistency for Plan- and Policy-Level Documents and Public Infrastructure Projects, to provide guidance on significance determination as it relates to consistency with the strategies in the Climate Action Plan.

2. For project-level environmental documents, significance is determined through (a.) land use consistency and (b.) project compliance with the regulations set forth in SDMC Chapter 14, Article 3, Division 14.

CAP consistency is determined in two steps. Step 1 involves evaluating whether the project is consistent with the growth projections used in the development of the CAP. A project is consistent with the growth projections used in the CAP if the project can answer yes to any of the three questions below:

- Is proposed project is consistent with the existing General Plan and Community Plan land use and zoning designations? or;

- If the proposed project is not consistent with the existing land use plan and zoning designations, and includes a land use plan and/or zoning designation amendment, would the proposed amendment result in an increased density within a Transit Priority Area (TPA)? or;

- If the proposed project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations?

Step 2 of determining CAP consistency is determining if the project is consistent with the regulations set forth in SDMC Chapter 14, Article 3, Division 14. Projects that are consistent with the CAP as determined through compliance with the CAP Consistency Regulations may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that do not comply with the CAP Consistency Regulations must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in the CAP Consistency Regulations to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

4.4 Approach and Methodology

This analysis assumes that the GWP for CH_4 is 25 and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007).

4.4.1 Construction

CalEEMod Version 2022.1 (CAPCOA 2022) was used to estimate potential project-generated GHG emissions during construction. Construction of the project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. For the purposes of modeling, it was assumed that construction of the project would commence in January 2024 and would last approximately 2 years, ending in December 2025, as outlined below.

- Site Preparation – 1 month (January 2024)
- Grading – 3 months (February 2024 through April 2024)
- Building Construction – 17 months (May 2024 through September 2025)
- Paving – 2 months (September 2025 through October 2025)
- Architectural Coating – 2 months (November 2025 through December 2025)

The construction equipment mix used for estimating the construction emissions of the project was generated by CalEEMod default values and is shown in Table 5. For this analysis, it was assumed that heavy construction equipment would operate 5 days a week during project construction. Grading would require 110,400 cubic yards of cut and 133,000 cubic yards of fill, requiring 22,600 cubic yards of import. Refer to Attachment 1 for CalEEMod model inputs.

Table 5
Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Site preparation	18	0	0	Tractors/loaders/ backhoes	4	8
				Rubber-tired dozers	3	8
Grading	20	0	44	Excavators	2	8
				Graders	1	8
				Rubber-tired dozers	1	8
				Scrapers	2	8
				Tractors/loaders/ backhoes	2	8
Building construction	135	24	0	Cranes	1	7
				Forklifts	3	8
				Tractors/loaders/ backhoes	3	7
				Generator sets	1	8
				Welders	1	8
Paving	15	0	0	Pavers	2	8
				Rollers	2	8
				Paving equipment	2	8
Architectural coating	27	0	0	Air compressors	1	6

Notes: See Attachment 1 for details.
Construction-worker and vendor estimates by construction phase were generated by CalEEMod.

4.4.2 Operation

CalEEMod Version 2022.1 was used to estimate potential project-generated operational GHG emissions from area sources (landscape maintenance), energy sources (natural gas and electricity), mobile sources, solid waste, water supply and wastewater treatment, and stationary sources. Emissions from each category are discussed in the following text with respect to the project. Operational year 2026 was assumed, following completion of construction. It is noted that this operational analysis is considered conservative as a higher 221-unit project was utilized herein. The project would include 61 detached condominiums, 84 duplexes, and 70 townhome dwelling units for a total of 215 units. All detached units were modeled as single-family units in CalEEMod, and all attached duplexes and townhomes were modeled as low rise apartments. The low-rise apartments land use in CalEEMod was used instead of the condo/townhome land use because the low rise apartments land use allows for the proposed affordable housing (10 percent of the units) to be accounted for. The main difference between condos/townhome and low rise apartments land use in CalEEMod is the default trip rate, which was updated to be consistent with the project's transportation analysis, making the low rise apartments land use an appropriate modeling assumption. The additional 6 units that were modeled for a conservative analysis were modeled as single-family units.

4.4.2.1 Mobile Sources

Following the completion of construction activities, the project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of the residents and visitors from the project. The daily maximum weekday trip rates were taken from the Local Mobility Analysis Report for the project (LOS Engineering, Inc. 2023). The maximum weekday project trip generation per the Local Mobility Analysis Report is 1,902 trips per day. CalEEMod was used to estimate emissions from proposed vehicular sources (refer to Attachment 1). It is noted that this traffic volume data is considered conservative, as the Local Mobility Analysis (LOS Engineering, Inc. 2023) utilized a 221-unit project scenario that has higher volumes than the proposed 215-unit project. The weekend trip generation rates were obtained by proportionally adjusting the CalEEMod default trips rates. CalEEMod default data, including temperature, trip distances, variable start information, and emissions factors, were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with the associated use of light-duty vehicles for the residents. Emission factors representing the vehicle mix and emissions for 2025 were used to estimate emissions associated with vehicular sources.

4.4.2.2 Energy Sources

As represented in CalEEMod, energy sources include GHG emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to GHGs, since GHG emissions occur at the site of the power plant, which is typically off site. Emissions were calculated by multiplying the energy use by the utility's carbon intensity (pounds of GHGs per megawatt-hour for electricity or 1,000 British thermal units for natural gas) for CO_2 and other GHGs. Annual natural gas and electricity emissions were estimated in CalEEMod using the emissions factors for San Diego

Gas & Electric Company (SDG&E), which would be the energy source provider for the proposed project. CalEEMod default values for SDG&E GHG intensity factors were utilized.

CalEEMod default values for energy consumption for the residential land use were applied for the project analysis. Energy consumption values are based on the California Energy Commission's 2018–2030 Uncalibrated Commercial Sector Forecast and the 2019 Residential Appliance Saturation Survey. Energy use in buildings (both natural gas and electricity) is divided by the program into end use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the heating, ventilation, and air conditioning system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous "plug-in" uses).

Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. The most recent amendments to Title 24, Part 6, referred to as the 2019 standards, became effective on January 1, 2020. The next version, 2022 Title 24, goes into effect on January 1, 2023. The proposed project would meet the 2022 California Building Energy Efficiency Standards (24 CCR, Part 6) at a minimum. CalEEMod Version 2022.1 default energy values are based on 2019 energy efficiency standards. It is anticipated that the new 2022 Title 24 energy standards will result in a 10.9 percent increase in energy efficiency for multi-family uses over the previous code (CEC 2021). To account for these standards, a 10.9 percent increase in energy efficiency was modeled. The 10.9 percent increase in energy efficiency is included in the "unmitigated emissions" shown in Table 7 since the increase in energy efficiency will be required by code at the time construction would commence. The "unmitigated emissions" also take into account the PDFs summarized in Section 1.3. Table 12 displays "mitigated emissions" calculations, which take into account the 2022 Title 24 energy standards and PDFs as well as the mitigation measures summarized below.

As noted in Section 1.3, the project would include all electric appliances and heating system as detailed in PDF-GHG-3 and would not be served by natural gas. Note that CalEEMod default calculations include other miscellaneous sources of natural gas from other equipment ranging from portable fans to wine coolers to aquariums based on the California Energy Commission's Residential Appliance Saturation Study (CAPCOA 2021), thus, the calculations still include some minimal emissions from natural gas even though the project would not be served by natural gas. It is therefore a conservative analysis for both the purposes of this GHG analysis and the air quality analysis.

4.2.2.3 Area Sources

Area sources include GHG emissions that would occur from the use of landscaping equipment. However, as noted in Section 1.3, the project would include electric landscaping equipment (PDF-GHG-6). Area sources also include consumer products and architectural coatings. However, only criteria pollutant emissions are associated with these sources and not GHG emissions. Area source emissions were calculated using default CalEEMod emission factors.

4.4.2.4 Solid Waste

The project would generate solid waste and would therefore result in CO_2e emissions associated with landfill off-gassing. Solid waste generation was derived from the CalEEMod default rates for each land use type. Emission estimates associated with solid waste were estimated using CalEEMod.

4.4.2.5 Water Supply and Wastewater

Water supplied to the project requires the use of electricity. Accordingly, the supply, conveyance, treatment, and distribution of water would indirectly result in GHG emissions through use of electricity. Annual water use for the project and GHG emissions associated with the electricity used for water supply were calculated based on default water use estimates for the residential land use type, as estimated by CalEEMod and SDG&E factors.

4.4.2.6 Refrigerant Emissions

Small amounts of GHG emissions result from refrigerants used in air conditioning and refrigeration equipment. CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime and then derives average annual emissions from the lifetime estimate. Emissions due to refrigerants were calculated using CalEEMod default values, which are based on industry data from the U.S. EPA.

5.0 Impact Analysis

5.1 GHG Emission Calculations

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. GHG emissions associated with temporary construction activity were quantified using CalEEMod. A detailed depiction of the construction schedule and equipment is provided in Section 4.4.1 and CalEEMod default assumptions are included in Attachment 1.

Table 6 shows the estimated annual GHG construction emissions associated with the project, as well as the amortized construction emissions over a 30-year project life.

Table 6
Estimated Annual Construction Greenhouse Gas Emissions
(metric tons per year)

Year	CO_2	CH_4	N_2O	Refrigerants	CO_2e
2024	684.71	0.03	0.03	0.33	694.53
2025	413.31	0.02	0.01	0.25	418.15
				Total Emissions	1,112.68
				30-Year Amortized Emissions	**37.09**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Attachment 1 for complete results

Total construction-related GHG emissions for the project were approximately 1,113 MT CO_2e. Estimated 30-year amortized project-generated construction emissions would be approximately 37 MT CO_2e per year. However, because there is no separate GHG threshold for construction emissions alone, the evaluation of significance is discussed in the operational emissions analysis below.

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site; energy use (generation of electricity consumed by the project as well as miscellaneous sources of natural gas as discussed in Section 4.4.2.2); solid waste disposal; generation of electricity associated with water supply, treatment, and distribution and wastewater treatment, and refrigerants. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 4.4.2, Operation.

The estimated operational (year 2025) project generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, water usage and wastewater generation, and refrigerants are shown in Table 7.

Table 7
Estimated Annual Unmitigated Operational Greenhouse Gas Emissions
(metric tons per year)

Emission Source	CO_2	CH_4	N_2O	Refrigerants	CO_2e
Area	0.00	0.00	0.00	0.00	0.00
Energy	319.85	0.02	<0.005	0.00	320.82
Mobile	1,949.48	0.10	0.08	2.93	1,979.29
Solid waste	14.12	1.41	0.00	0.00	49.42
Water supply and wastewater	16.65	0.25	0.01	0.00	24.80
Refrigerants	0.00	0.00	0.00	0.35	0.35
				Total	2,374.68
				Amortized Construction Emissions	37.09
				Operation + Amortized Construction Total	**2,411.77**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
Total MT CO_2e rounded to the nearest whole number.
See Attachment 1 for detailed results.
These emissions reflect CalEEMod “unmitigated” output assuming 2022 Title 24 Building Energy Efficiency Standards and the implementation of PDFs and operational year 2025.

"Unmitigated" emissions in Table 7 account for emission reductions due to the 2022 Title 24 Energy Code and implementation of the PDFs discussed in Section 1.3. Mitigated emissions calculated in Section 5.2 (shown in Table 12) account for this as well as the mitigation measures summarized in Section 5.2.3. The following CalEEMod measures were either quantified or supportive (not quantified). The associated PDFs or mitigation measure corresponding to the CalEEMod measure is shown in parentheses. Note that all PDFs and mitigation measures were considered in the mitigated emissions calculations; however, only certain measures are quantifiable. The decision whether to make certain measures mitigation measures versus PDFs was based on whether the measure could be fully enforceable by the respective agency.

The following are the CalEEMod measures that were selected in the model and are quantifiable:

- T-1 Increased Residential Density (PDF-GHG-1)
- T-4 Affordable Housing (PDF-GHG-2)
- T-9 Transit Pass Program (MM-GHG-1)
- E-1 2022 Title 24 Energy Code (Mandatory state building code)
- E-2 Energy Efficiency Appliances (MM-GHG-4)
- E-10-B Solar (Mandatory state building code)
- E-12-A Alternative Water Heater (MM-GHG-5)
- E-12-B Electric Space Heaters (PDF-GHG-3)
- E-13 Electric Ranges (PDF-GHG-3) (note that E-12 and E-13 combined are the same as modeling E-15 All Electric Development)
- W-5 Water Efficient Landscaping (MM-GHG-6)
- W-6 Reduce Turf (PDF-GHG-7)
- LL-1 Zero-Emission Landscape Equipment (PDF-GHG-6)

The following are the supportive CalEEMod measures that were selected in the modeling but are not quantifiable.

- T-14 EV Charging (PDF-GHG-9)
- T-31-A Located in High Density Area (location and supported by increased density, transit passes, pedestrian, and bicycle improvements)
- T-32 Oriented Towards Transit/Bicycle/Pedestrian Facility (MM-GHG-2, MM-GHG-3, PDF-GHG-4, and PDF-GHG-5)
- T-33 Near Bike Path (location supported by MM-GHG-3, PDF-GHG-5)
- T-35 Traffic Calming Measures (on-site speed limits)
- T-50 Contribution to Transportation Infrastructure Improvement (Payment of City of San Diego Active Transportation In-Lieu fee required by MM-TRA-CV-1 for No Annexation Scenario and Annexation Scenario 2b, or by ordinance in Scenario 2a. Refer to Transportation Section 4.9.4.1.d and 4.9.4.2.c.
- LL-3 Electric Yard Equipment Compatibility (PDF-GHG-6)

5.2 No Annexation Scenario and Annexation Scenario 2b (City of Chula Vista)

5.2.1 GHG Emissions

As shown in Table 7 the project's total annual unmitigated GHG emissions would be approximately 2,412 MT CO_2e per year. This emission level would not exceed the 3,000 MT CO_2e Residential/Commercial Screening Level. As project emissions would be less than the applicable screening level, the project would not generate GHG emissions that would have a significant impact on the environment and GHG emissions impacts under the No Annexation Scenario and Annexation Scenario 2b would be less than significant.

5.2.2 Consistency with Applicable GHG Reduction Plan

This section discusses the project's consistency with the City of Chula Vista's CAP, SANDAG's Regional Plan, and CARB's Scoping Plan.

5.2.2.1 Consistency with the City of Chula Vista's CAP

The project includes several design features that will help reduce its GHG emissions in line with the City of Chula Vista's CAP. Table 8 identifies the measures and goals within the City of Chula Vista's CAP and the project's consistency with them.

Table 8
City of Chula Vista Climate Action Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Water Conservation & Reuse		
Water Education & Enforcement	Expand education and enforcement [through fines] targeting landscape water waste	**Not applicable.** The project would not impair the ability of the City to expand education and enforcement targeting landscape water waste.
Water Efficiency Upgrades	Update the City's Landscape Water Conservation Ordinance to promote more water-wise landscaping designs	**Consistent.** The project would be consistent with the City's Landscape Water Conservation Ordinance.
	Require water-savings retrofits in existing buildings at a specific point in time (not point of sale)	**Not applicable.** The project would not impair the ability of the City to require water-savings retrofits for existing buildings.
Water Reuse Plan & System Installations	Develop a Water Reuse Master Plan to maximize the use of storm water, graywater [recycled water] and onsite water reclamation	**Not applicable.** The project would not impair the ability of the City to develop a Water Reuse Master Plan.
	Facilitate simple graywater systems for laundry-to-landscape applications	**Not applicable.** The project would not impair the ability of the City to facilitate simple graywater systems for laundry-to-landscape applications. As these are primarily targeted for single-family homes, it is not anticipated that this would apply to the project.
	Streamline complex graywater systems' permit review	**Not applicable.** The project would not impair the ability of the City to streamline complex graywater systems permit review.
Waste Reduction		
Zero Waste Plan	Develop a Zero Waste Plan to supplement statewide green waste, recycling and plastic bag ban efforts	**Not applicable.** The project would not impair the ability of the City to develop a Zero Waste Plan.

Table 8 City of Chula Vista Climate Action Plan Consistency Analysis		
Category	Policy Objective or Strategy	Consistency Analysis
Renewable & Energy Efficiency		
Energy Education & Enforcement	Expand education targeting key community segments [e.g., do-it-yourselfers and Millennials] and facilitating energy performance disclosure (e.g., Green Leases, benchmarking and Home Energy Ratings)	**Not applicable.** The project would not impair the ability of the City to expand energy education.
	Leverage the building inspection process to distribute energy-related information and to deter unpermitted, low performing energy improvements	**Not applicable.** The project would not impair the ability of the City to distribute energy-related information during the building inspection process.
Clean Energy Sources	Incorporate solar photovoltaic into all new residential and commercial buildings [on a project-level basis]	**Consistent.** The project would be in compliance with the current building standards and install solar photovoltaic systems.
	Provide more grid-delivered clean energy (up to 100%) through Community Choice Aggregation or other mechanism	**Not applicable.** The project would not impair the ability of the City to provide a Community Choice Aggregation of clean energy.
Energy Efficiency Upgrades	Expand the City's "cool roof" standards to include re-roofs and western areas	**Not applicable.** The project would not impair the ability of the City to expand the City's cool roof standards.
	Facilitate more energy upgrades in the community through incentives [e.g., tax breaks and rebates], permit streamlining (where possible) and education [e.g., more local energy efficiency programming]	**Not applicable.** The project would not impair the ability of the City to incentivize additional energy upgrades in the community.
	Require energy-savings retrofits in existing buildings at a specific point in time (not at point of sale)	**Not applicable.** The project would not impair the ability of the City to require energy-savings retrofits for existing buildings.
Robust Urban Forests	Plant more shade trees to save energy, address heat island issues and improve air quality	**Consistent.** The project would include shade trees on site to save energy and reduce heat island issues, consistent with the City's Shade Tree Policy No. 576-19.

Table 8 City of Chula Vista Climate Action Plan Consistency Analysis		
Category	Policy Objective or Strategy	Consistency Analysis
Smart Growth & Transportation		
Complete Streets & Neighborhoods	Incorporate "Complete Streets" principles into municipal capital projects and plans [e.g., the Bicycle and Pedestrian Master Plans and Capital Improvement Program]	**Not applicable.** The project would not impair the ability of the City to incorporate Complete Streets principles into the Bicycle and Pedestrian Master Plans and Capital Improvement Program.
	Encourage higher density and mixed-use development in Smart Growth areas, especially around trolley stations and other transit nodes	**Consistent.** The project would be located close to major urban and employment centers. The project would be building on a site within the City and is located close to public transit and I-805.
Transportation Demand Management	Utilize bike facilities, transit access/passes and other Transportation Demand Management and congestion management offerings	**Not applicable.** The project would not impair the ability of the City to use Transportation Demand Management and congestion management offerings.
	Expand bike-sharing, car-sharing and other "last mile" transportation options	**Not applicable.** The project would not impair the ability of the City to expand bike-sharing, car-sharing, and other last mile transportation options.
Alternative Fuel Vehicle Readiness	Support the installation of more local alternative fueling stations	**Consistent.** The project would be in compliance with the California Green Building Code 2022 (Section 4.106.4 Electric Vehicle [EV] charging for new construction)
	Designate preferred parking for alternative fuel vehicles	**Not applicable.** The project would not impair the ability of the City to designate preferred parking for alternative fuel vehicles.
	Design all new residential and commercial buildings to be "Electric Vehicle Ready"	**Consistent.** The project would be in compliance with the California Green Building Code 2022 (Section 4.106.4 Electric Vehicle [EV] charging for new construction).
Source: City of Chula Vista 2017. City = City of Chula Vista; project = Nakano Project; I-805 = Interstate 805		

As shown in Table 8, the project would be consistent with the applicable measures within the City of Chula Vista's CAP.

5.2.2.2 Consistency with San Diego Forward: The Regional Plan

Regarding consistency with SANDAG's Regional Plan, the project would include site design elements (as detailed in Table 9) and PDFs (as defined below in Section 5.2.3 and Section 5.3.3) developed to support the policy objectives of the RTP and SB 375.

Table 9 illustrates the project's consistency with all applicable goals and policies of the Regional Plan (SANDAG 2021).

Table 9 San Diego Forward: The 2021 Regional Plan Consistency Analysis		
Category	Policy Objective or Strategy	Consistency Analysis
Complete Corridors	Providing a regional transportation system using technology, infrastructure, improvements, pricing and connectivity to support all forms of movement.	**Consistent.** The project would enhance connectivity to the adjacent Otay Valley Regional Park, offering a trail connection and overlooks. Additionally, the site would provide connectivity to nearby bus routes.
Transit Leap	Offering people a network of high-capacity, high-speed, and high-frequency transit services that will incorporate new modes of transit while also improving existing services.	**Not applicable.** The project would not impair SANDAG's ability to provide high-capacity, speed, and capacity transit services.
Mobility Hubs	Centers of activity where a high concentration of people, destinations, and travel choices converge. They will offer on-demand travel options and safe streets to enhance connections to high-quality transit while also making it easier for people to take short trips without needing a car.	**Consistent.** The project would provide pedestrian and bicycle connectivity to the neighborhood. Furthermore, the project would be located near MTS bus routes 933 and I-805.
Flexible Fleets	Offer people a variety of on-demand, shared vehicles, including micro transit, bikeshare, scooters, and other modes of transportation that will connect them to transit and make travel easy within Mobility Hubs	**Consistent.** The project would provide pedestrian and bicycle connectivity to the neighborhood and would not impair the ability to use flexible fleets to access transit and mobility hubs. Furthermore, the project would be located near MTS bus routes 933 and I-805.
Next Operating System (Next OS)	This will be the "brain" of the transportation system—an integrated digital platform that ties the transportation system together. Next OS will be the digital network that analyzes data in real time from the region's physical networks, making them all work better—more integrated, more efficient, and most of all, more responsive to people's immediate needs	**Not applicable.** The project would not impair SANDAG's ability to provide Next OS improvements to the transportation system.

Table 9 San Diego Forward: The 2021 Regional Plan Consistency Analysis		
Category	Policy Objective or Strategy	Consistency Analysis
Active Transportation	Providing critical connections along Complete Corridors and other streets, providing people with safe and convenient ways to connect to transit and other destinations within and between Mobility Hubs.	**Consistent.** The project would provide pedestrian and bicycle connectivity to the neighborhood. Furthermore, the project would be located near MTS bus routes 933 and I-805.
Goods Movement	Supports the local, interregional, and international movement of goods.	**Not applicable.** The project would not impair SANDAG's ability to support goods movement.
Sustainable Growth and Development	A regional pattern of growth and development that reflects smart growth, transit-oriented development, preserving natural resources and agricultural lands, and building communities that are resilient to the consequences of climate change and other environmental changes.	**Not applicable.** The project would not impair SANDAG's ability to Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat.
Habitat Conservation	To Protect, Connect, and Respect species and their natural habitats to prevent their extinction in San Diego County	**Not applicable.** The project would not impair SANDAG's ability to Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat.
Source: SANDAG 2021. Notes: MTS = San Diego Metropolitan Transit System; Project = Nakano Project; SANDAG = San Diego Association of Governments		

As shown in Table 9, the project is consistent with all applicable 2021 Regional Plan policy objectives and strategies. Impacts would be less than significant.

5.2.2.3 Consistency with CARB's Scoping Plan

The initial Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. In the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the California Natural Resources Agency observed that "[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. The project would comply with all applicable regulations adopted in furtherance of the 2008 Scoping Plan to the extent required by law.

The 2008 Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 10 highlights measures that have been developed under the 2008 Scoping Plan, including the recommended approaches for interim GHG thresholds under CEQA (CARB 2008b), and the project's consistency with 2008 Scoping Plan measures. The table also includes measures in the 2017 Scoping Plan Update. To the extent that these regulations are applicable to the project and its inhabitants or uses, the project would comply with all applicable regulations adopted in furtherance of the 2017 Scoping Plan.

Table 10
Project Consistency with 2008 and 2017 Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Transportation Sector		
Advanced Clean Cars	T-1	The project's residents would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
1.5 Million Zero-Emission and Plug-In Hybrid Light-Duty Electric Vehicles by 2025 (4.2 Million Zero-Emissions Vehicles by 2030)	N/A	The project would provide EV charging stations consistent with California Green Building Standards.
Low Carbon Fuel Standard	T-2	Motor vehicles driven by the project's residents would use compliant fuels.
Low Carbon Fuel Standard (18% reduction in carbon intensity by 2030)	N/A	Motor vehicles driven by the project's residents would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	The project would provide pedestrian and bicycle connectivity to the neighborhood. Further, the project would be located near MTS bus routes 933 and I-805.
Advanced Clean Transit	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Last Mile Delivery	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction in Vehicle Miles Traveled	N/A	The project would provide pedestrian and bicycle connectivity to the neighborhood. Further, the project site is located near MTS bus routes 933 and I-805.
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	T-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Ship Electrification at Ports (Shore Power)	T-5	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 10 Project Consistency with 2008 and 2017 Scoping Plan Greenhouse Gas Emission Reduction Strategies		
Scoping Plan Measure	Measure Number	Project Consistency
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
California Sustainable Freight Action Plan	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Heavy-Duty Vehicle GHG Emission Reduction • Tractor-Trailer GHG Regulation • Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Project	T-8	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Medium and Heavy-Duty GHG Phase 2	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
High-Speed Rail	T-9	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	The project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Energy Efficiency (Natural Gas)	CR-1	The project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	The project would not employ solar water heating. However, the project would comply with the energy-efficient requirements of the current building codes.
Combined Heat and Power	E-2	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Renewables Portfolio Standard (33% by 2020)	E-3	The project would use energy supplied by SDG&E, which is in compliance with the Renewables Portfolio Standard.

Table 10
Project Consistency with 2008 and 2017 Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Renewables Portfolio Standard (50% by 2050)	N/A	The project would use energy supplied by SDG&E, which is in compliance with the Renewables Portfolio Standard.
Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	The project would be in compliance with the current building standards and install solar photovoltaic systems.
Water Sector		
Water Use Efficiency	W-1	The project's buildings would meet water use efficiency standards that are in effect at the time of construction.
Water Recycling	W-2	Recycled water would be used on site for all common landscaped areas and landscaping within public right-of-way.
Water System Energy Efficiency	W-3	This is applicable for the transmission and treatment of water, but it is not applicable for the project.
Reuse Urban Runoff	W-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Increase Renewable Energy Production	W-5	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	The project would be constructed in compliance with state or local green building standards in effect at the time of building construction.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-2	The project's buildings would meet green building standards that are in effect at the time of construction.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-3	The project would be constructed in compliance with local green building standards in effect at the time of building construction.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan Measure.

Table 10 Project Consistency with 2008 and 2017 Scoping Plan Greenhouse Gas Emission Reduction Strategies		
Scoping Plan Measure	Measure Number	Project Consistency
Refinery Flare Recovery Process Improvements	I-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan Measure.
Work with the Local Air Districts to Evaluate Amendments to Their Existing Leak Detection and Repair Rules for Industrial Facilities to Include Methane Leaks	I-5	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Mandatory Commercial Recycling	RW-3	During both construction and operation of the project, the project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all wastes would be recycled to the maximum extent possible.
Increase Production and Markets for Compost and Other Organics	RW-4	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Anaerobic/Aerobic Digestion	RW-5	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Extended Producer Responsibility	RW-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Environmentally Preferable Purchasing	RW-7	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Forests Sector		
Sustainable Forest Target	F-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
High Global Warming Potential Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Limits in Non-Utility and Non-Semiconductor Applications	H-2	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction of Perfluorocarbons in Semiconductor Manufacturing	H-3	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.

Table 10
Project Consistency with 2008 and 2017 Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Limit High Global Warming Potential Use in Consumer Products	H-4	The project's employees would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Leak Reduction Gas Insulated Switchgear	H-6	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
40% Reduction in Methane and Hydrofluorocarbon Emissions	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
50% reduction in black carbon emissions	N/A	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	This measure does not apply to the project. The project would not inhibit CARB from implementing this Scoping Plan measure.
Source: CARB 2008a, 2008b, 2017a.		
Notes: project = Nakano Project; CARB = California Air Resources Board; N/A = not applicable; GHG = greenhouse gas; MTS = San Diego Metropolitan Transit System; SDG&E = San Diego Gas & Electric Company; SF6 = sulfur hexafluoride.		

AB 1279, the California Climate Crisis Act, codified the carbon neutrality target as 85 percent below 1990 levels by 2045. The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. Appendix D of the 2022 Scoping Plan includes local actions that jurisdictions may take to reduce GHG emissions in line with AB 1279 goals. It includes project attributes for residential and mixed-use projects to qualitatively determine consistency with the 2022 Scoping Plan. The City of Chula Vista 2017 CAP is not considered a qualified CAP. In the absence of a qualified CAP, CARB recommends that the first approach in "determining whether a proposed residential or mixed-use development would align with the State's climate goals is to examine whether the project includes key project attributes that reduce operational GHG emissions while simultaneously advancing fair housing" (CARB 2022a). A summary of the 2022 Scoping Plan Priority Strategies is provided in Table 11. Empirical research shows that the following project attributes result in reduced GHG emissions from residential and mixed-use development, and that "residential and mixed-use projects that have all of the key project attributes in [Table 11] should accommodate growth in a manner consistent with State GHG reduction and equity prioritization goals" (CARB 2022a).

Table 11 Project Consistency with 2022 Scoping Plan Key Prioritization Strategies		
Priority Area	Key Project Attribute	Project Consistency
Transportation Electrification	Provides EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval	**Consistent.** Parking for individual units would be provided within each unit's garage and driveway. Consistent with 2022 Title 24 Green Building Standards, Residential Mandatory Measures requires each garage to accommodate a listed raceway to accommodate a dedicated 208/240-volt branch circuit which would allow for EV charging for every resident. This would be implemented per PDF-GHG-9.
VMT Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer)	**Consistent.** The project is surrounded on three sides by urban uses including a heath care facility, multi-family residential and Interstate 805. While the project is adjacent to open space to the north, services are available at the site including an existing sewer line and water facilities in the adjacent Dennery Road. Access is available from the existing Dennery Road and transit is located within 0.25 mile from the project site.
	Does not result in the loss or conversion of natural and working lands	**Inconsistent.** The project site is not an active agricultural site; however, it is designated as Open Space, which is intended for lands to be protected from urban development, including floodplains, canyon, mountain, and agricultural uses.
	Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or Is in proximity to existing transit stops (within a half mile), or Satisfies more detailed and stringent criteria specified in the region's SCS	**Consistent.** The project site is located 0.25 mile from a bus stop located at the corner of Palm Avenue and Dennery Road, which provides transit to the Palm Avenue trolley station located three miles to the west.
	Reduces parking requirements by: Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or Providing residential parking supply at a ratio of less than one parking space per dwelling unit; or For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	**Inconsistent.** Based on the unit mix and bedroom count, 619 total parking spaces are required. The project would exceed this requirement by providing 656 parking spaces and would not include unbundled parking as each unit is provided with individual garages.
	At least 20 percent of units included are affordable to lower-income residents	**Inconsistent.** The project would include 22 (10 percent) affordable units, including 11 low-income units and 11 moderate-income units, per PDF-GHG-2.
	Results in no net loss of existing affordable units	**Consistent.** The project site is undeveloped, and the project would not result in a loss in existing affordable units.

Table 11 Project Consistency with 2022 Scoping Plan Key Prioritization Strategies		
Priority Area	Key Project Attribute	Project Consistency
Building Decarbonization	Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking	**Consistent.** Per PDF-GHG-3, the project would include all electric appliances and heating systems. Woodburning and natural gas/propane shall be prohibited on-site.

The project would be consistent with the measures and policy goals of the City of Chula Vista General Plan, San Diego Forward, and the 2008 and 2017 Scoping Plans. However, the project would be inconsistent with several of the key Prioritization Strategies of the 2022 Scoping Plan. The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, therefore GHG impacts under the No Annexation Scenario and Annexation Scenario 2b would be significant.

5.2.3 Mitigation Measures and Project Design Features

Mitigation Measures

MM-CV-GHG-1 **Transit Passes.** Prior to first occupancy, the Permittee shall implement a transit subsidy program. The subsidy value will be limited to the equivalent value of 25 percent of the cost of an MTS "Regional Adult Monthly/30-Day Pass" (currently $72, which equates to a subsidy value of $18 per month). Subsidies will be available on a per unit basis to residential tenants for a period of five years (five years after issuance of the first occupancy permit). Permittee shall provide an annual report to the City Engineer in each of the first five years demonstrating how the offer was publicized to residents and documenting the results of the program each year, including number of participants and driveway traffic counts.

MM-CV-GHG-2 **Commute Trip Reduction Program.** Prior to first occupancy, the Permittee shall develop and implement a commute trip reduction program that requires each homeowner and tenant to be provided with a one-page flyer every year that provides information regarding available transit, designated bicycle routes, local bicycle groups and programs, local walking routes and programs, and rideshare programs.

MM-CV-GHG-3 **Bicycle Micro-Mobility Fleet.** Prior to first occupancy, the Permittee shall provide one bicycle (up to a $400 value) per unit to the first buyer of each unit.

MM-CV-GHG-4 **Energy Star Appliances.** Prior to the issuance of residential building permits, the Permittee shall submit building plans illustrating that residential structures shall have Energy Star rated appliances (clothes washers, dishwashers, refrigerators, and ceiling fans).

MM-CV-GHG-5 **Alternative Water Heating.** Prior to the issuance of building permits, the Permittee shall submit building plans illustrating that residential structures shall have non-gas water heaters (e.g., electric or solar water heating).

MM-CV-GHG-6 **Water Efficient Landscaping.** Prior to the issuance of building permits, the Permittee shall submit landscaping plans illustrating that the project would provide low-water use/drought tolerant plant species with low water use irrigation (e.g., spray head or drip), where required.

Project Design Features

PDF-GHG-1 **Increased Density.** The project would allow up to 221 residential units in an area with access to transit.

PDF-GHG-2 **Affordable Housing.** The project would provide 22 units (10 percent), including 11 low-income units and 11 moderate-income units, that are affordable to low- and moderate-income households.

PDF-GHG-3 **Electric Appliances.** Prior to issuance of building permits, the Owner/Permittee shall ensure the project plans include all electric appliances and heating systems. Woodburning and natural gas/propane shall be prohibited on-site.

PDF-GHG-4 **Pedestrian Network Improvements.** Prior to issuance of building permits, the Owner/Permittee shall ensure the following pedestrian and trail amenities are shown on the plans:

- A 7- to 8-foot-wide decomposed granite public trail connection along the western edge of the project site. To ensure public accessibility to the Otay Valley Regional Park (OVRP) trail system, a public trail easement would be granted along this alignment.
- 8-foot-wide decomposed granite public trail improvement with split rail fencing from the proposed mini-park located at the north central portion of the project site, connecting north to off-site portions of the OVRP trail system.
- Off-site within the City of Chula Vista parcel to the north, the project includes improvements to the OVRP trail system including formalizing existing trail alignments with placement of decomposed granite within an 8-foot-wide alignment and installation of split-rail fencing on one side of the trail.
- Wayfinding signage to the OVRP trail system along Dennery Road within private property, as detailed on the project landscape plans).
- Sidewalks are proposed on both sides of Private Street A. All other internal streets would provide sidewalks on one side of the street. Sidewalks provide a connection to the OVRP trail connection on the north end of the site.

PDF- GHG-5 **Bicycle Network Improvements.** Prior to issuance of building permits, the Owner/Permittee shall provide plans with buffered Class II bike lanes shown. The bike lanes shall be provided along Private Street A, the main private street running through the site, connecting to the existing Class II bike lane along Dennery Road. The private streets leading east and west from the primary roadway would include bicycle sharrows.

PDF-GHG-6 **Outdoor Electrical Outlets to Allow for Electric Landscape Equipment.** Prior to issuance of building permits, the Owner/Permittee shall provide landscape plans illustrating the locations of the exterior electrical outlets necessary for sufficient powering of electric lawnmowers and other landscaping equipment.

PDF-GHG-7 **Prohibit Turf.** Prior to issuance of building permits, the Owner/Permittee shall provide landscape plans that do not include turf lawns in any residential portion of the project.

PDF-GHG-8 **Community Gardens**. The project incorporates 26,726 square feet of common open space that could allow for community gardens.

PDF-GHG-9 **EV Charging Capacity.** Prior to the issuance of building permits, the Owner/Permittee shall submit building plans illustrating all units comply with Title 24 Green Building Standards Code, Residential Mandatory Measures which requires each dwelling unit to install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall originate at the main service or subpanel and shall terminate in the garage to allow for EV charging.

Mitigated GHG emissions were calculated using CalEEMod Version 2022.1. As mentioned previously, savings associated with compliance with 2022 Title 24 Energy Code standards and implementation of the PDFs were included as part of the baseline unmitigated emissions. Mitigated emission calculations take into account the mitigation measures and PDFs summarized above. Refer to Section 5.1 for additional discussion of the modeling inputs and methodology for determining mitigated emissions.

The results are summarized in Table 12. CalEEMod output files for the mitigated project are provided in Attachment 2.

Table 12
Estimated Annual Mitigated Operational Greenhouse Gas Emissions
(metric tons)

Emission Source	CO_2	CH_4	N_2O	Refrigerants	CO_2e
	Metric Tons per Year				
Area	0.00	0.00	0.00	0.00	0.00
Energy	312.22	0.02	<0.005	0.00	313.17
Mobile	1,949.43	0.10	0.08	2.93	1,979.24
Solid waste	14.12	1.41	0.00	0.00	49.42
Water supply and wastewater	16.58	0.25	0.01	0.00	24.74
Refrigerants	0.00	0.00	0.00	0.35	0.35
				Total	2,366.97
				Amortized Construction Emissions	37.09
				Operation + Amortized Construction Total	**2,404.00**

Notes: CO2 = carbon dioxide; CH4 = methane; N2O = nitrous oxide; CO2e = carbon dioxide equivalent.
Total MT CO_2e rounded to the nearest whole number.
See Attachment 2 for detailed results.
These emissions reflect CalEEMod "mitigated" output and operational year 2025.

As shown, mitigated emissions would total 2,404 MT CO_2e annually which is a reduction of approximately 8 MT CO_2e over unmitigated emissions.

5.2.4 Mitigation Considered and Determined Infeasible

A number of mitigation measures and PDFs were considered and ultimately incorporated into the project design as detailed in Section 5.2.3. However, the following measures were considered and determined infeasible for this project.

- **Whole house fans** – Whole house fans were considered as a PDF; however, due to the proximity to the freeway, whole house fans are not considered compatible with surrounding air quality. The project incorporates MERV 13 filters in the heating ventilation and air conditioning systems to ensure indoor air quality is acceptable. Whole house fans would not be feasible as outdoor air should not be circulated inside due to the high amount of particulate matter in the localized air.

- **Additional EV charging –** As the design of the residential project includes private garages for every unit, the current Title 24 Green Building Standards Code, Residential Mandatory Measures requires each dwelling unit to install a listed raceway to accommodate a dedicated 208/240-volt branch circuit as detailed in PDF-GHG-9. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box, or other enclosure in close proximity to the proposed location of an EV charger (Section 4.106.4.1). This code requirement means that every unit would have personal access to EV charging in the garage. Additional EV charging infrastructure would not be warranted as it would not increase the likelihood of residents adopting EVs.

5.2.5 Level of Significance After Mitigation

The project would implement **MM-CV-GHG-1** through **MM-CV-GHG-6** and **PDF-GHG-1** through **PDF-GHG-9** to reduce the project's GHG emission impact. However, because the project would be inconsistent with several of the key Prioritization Strategies of the 2022 Scoping Plan, it would not be consistent with the statewide GHG reduction goals required by AB 1279, resulting in a **significant and unavoidable** cumulative GHG emission impact after mitigation.

5.3 Annexation Scenario 2a (City of San Diego)

As detailed in Section 4.3, the City of San Diego methodology for evaluating the significance of GHG emissions depends on whether the project is a plan- or policy-level or project-level environmental analysis. The project is evaluated at the project-level and accordingly is evaluated against the project level thresholds, which includes evaluation of consistency with the growth projections used in the City's CAP and project consistency with the CAP consistency regulations.

5.3.1 CAP Consistency

CAP consistency is determined in two steps. Step 1 involves evaluating whether the project is consistent with the growth projections used in the development of the CAP. A project is consistent with the growth projections used in the CAP if the project can answer yes to any of the three questions below:

- Is proposed project is consistent with the existing General Plan and Community Plan land use and zoning designations? Or;

- If the proposed project is not consistent with the existing land use plan and zoning designations, and includes a land use plan and/or zoning designation amendment, would the proposed amendment result in an increased density within a TPA? Or;

- If the proposed project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations?

As the project site is not currently within the jurisdictional boundaries of the City of San Diego, the City does not have any planning assumptions for the site in its General Plan or the Otay Mesa Community Plan. Therefore, the project is not consistent with existing General Plan or Community Plan land use or zoning designations. Under Annexation Scenario 2a, the project site would annexed into and developed in the City of San Diego and the site would be designated by as Residential – Low Medium and zoned as RM-1-1 (Residential-Multiple Unit). However, the project site is not located within a TPA; therefore, the increase in density would not be located within a TPA. Finally, the proposed development would result in densities that are more intensive than existing assumptions for the site since the City does not currently have any development assumptions for the site.

Therefore, the project would not be consistent with the growth projections used in the development of the CAP and cumulative GHG impacts would be **significant**.

5.3.2 CAP Consistency Regulations

Step 2 of determining CAP consistency is determining if the project is consistent with the regulations set forth in SDMC Chapter 14, Article 3, Division 14. The project design has been modified to demonstrate consistency with the CAP Consistency Regulations as detailed below.

5.3.2.1 Mobility and Land Use Regulations (SDMC Section 143.1410)

The Mobility and Land Use Regulations section of the CAP Consistency Regulations require the following improvements to be provided.

a. Street Shading

This provision of the CAP Consistency Regulations requires projects to provide shading of at least 50 percent of the Throughway Zone through either trees and/or a combination of trees and structures for premises that contains a street yard or abuts a public right of way with a Furnishings Zone. These regulations would apply to the project frontage along Dennery Road. To fulfill this requirement, the project landscape plans show trees along the back of sidewalk, between the existing trees to achieve 50 percent shade coverage of the Throughway Zone along the Dennery Road project frontage.

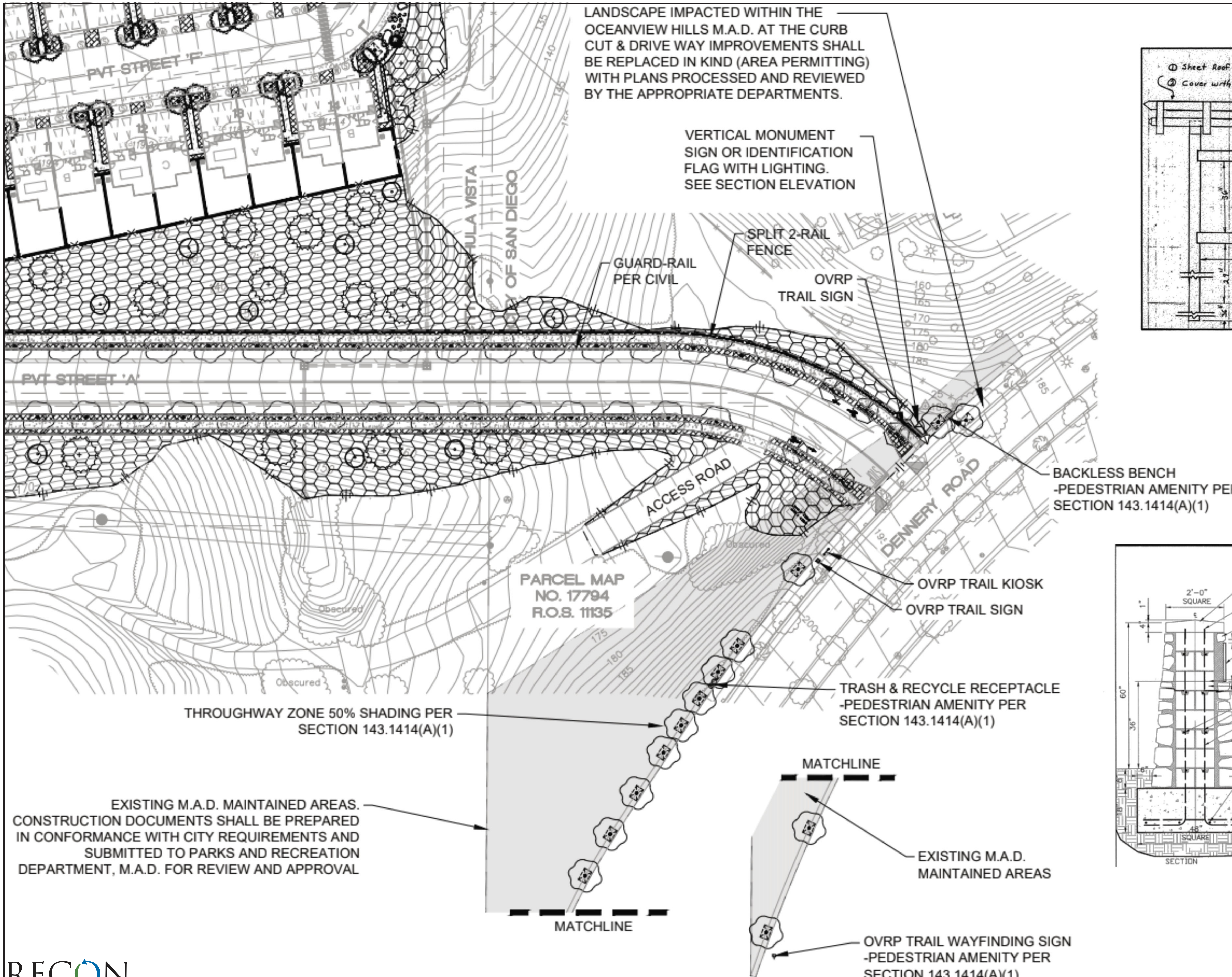
b. Pedestrian Amenities

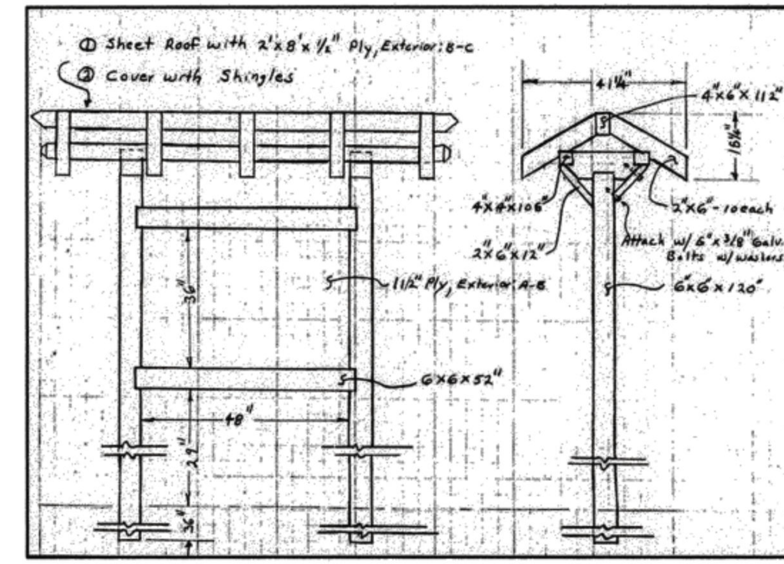
The regulations require at least one pedestrian amenity for every 250 feet of linear feet of street frontage (e.g., trash and recycling receptacles, seating, lighting, public artwork, wayfinding signs, transit stop enhancement). To comply with these provisions, the project design includes three pedestrian amenities along Dennery Road to account for the approximate 530 linear feet of frontage. Amenities include Otay Valley Regional Park trail signage at the project entrance driveway to provide wayfinding to the regional trail system, a trash and recycling bin, and one backless bench to provide pedestrian seating. Refer to Figure 4 for details on the proposed location of the pedestrian amenities and signage.

c. Bicycle Charging

The regulations require at least 50 percent of all residential and non-residential bicycle parking spaces required in accordance with Chapter 14, Article 2, Division 5 to be supplied with individual outlets for electric charging at each bicycle parking space. Per SDMC Section 142.0525 common area bicycle parking is not required for dwelling units with enclosed garages, as bicycle charging capacity would exist within individual garages. As the requirement for outlets near bike parking only applies to spaces required by the SDMC, the common bicycle racks proposed at the project's pocket parks do not require outlets to be installed. All residential bicycle parking would be accommodated within garages which would have accessibility to outlets for electric charging.

Map Source:Project Design Consultants





OVRP Kiosk

OVRP Trail Sign

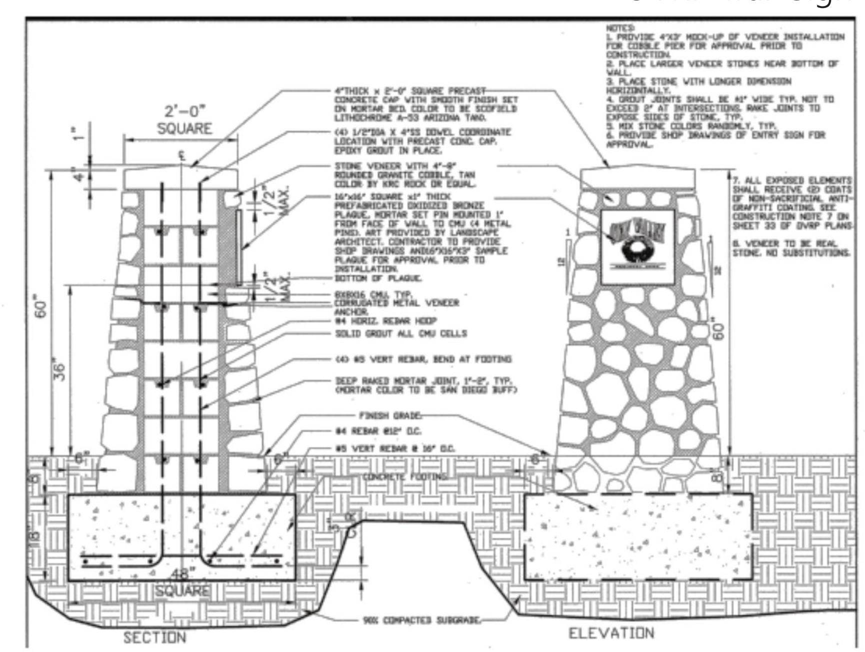


FIGURE 4
Pedestrian Amenities and Signage

5.3.2.2 Resilient Infrastructure and Healthy Ecosystems Regulations (SDMC Section 143.1415)

The Resilient Infrastructure and Healthy Ecosystems Regulations requires two trees to be provided on the premises for every 5,000 square feet of lot area, with a minimum of one tree per premises. If the required trees cannot be provided on-site, they can either be provided off-site or the Urban Tree Canopy Fee can be paid. The project's landscape plan has been updated to provide the required trees based on the lot area. The total lot area for Nakano is 23.76 acres or 1,035,418 square feet which would require 414 total trees to meet the minimum requirements. As detailed in the projects' landscape plans, a total of 447 trees have been provided, exceeding the minimum requirements.

5.3.3 Mitigation Measures and Project Design Features

Under Annexation Scenario 2a, the project would implement the City of San Diego's CAP Consistency Regulations. However, because the project would not be consistent with the growth projections used in the development of the CAP, cumulative GHG impacts would be significant. The following PDFs and mitigation measures would be required as a condition of approval:

<u>Mitigation Measures</u>

MM-SD-GHG-1 **Transit Passes.** Prior to first occupancy, the Permittee shall implement a transit subsidy program. The subsidy value will be limited to the equivalent value of 25 percent of the cost of an MTS "Regional Adult Monthly/30-Day Pass" (currently $72, which equates to a subsidy value of $18 per month). Subsidies will be available on a per unit basis to residential tenants for a period of five years (five years after issuance of the first occupancy permit). Permittee shall provide an annual report to the City Engineer in each of the first five years demonstrating how the offer was publicized to residents and documenting the results of the program each year, including number of participants and driveway traffic counts.

MM-SD-GHG-2 **Commute Trip Reduction Program.** Prior to first occupancy, the Permittee shall develop and implement a commute trip reduction program that requires each homeowner and tenant to be provided with a one-page flyer every year that provides information regarding available transit, designated bicycle routes, local bicycle groups and programs, local walking routes and programs, and rideshare programs.

MM-SD-GHG-3 **Bicycle Micro-Mobility Fleet.** Prior to first occupancy, the Permittee shall provide one bicycle (up to a $400 value) per unit to the first buyer of each unit.

MM-SD-GHG-4 **Energy Star Appliances.** Prior to the issuance of residential building permits, the Permittee shall submit building plans illustrating that residential structures shall have Energy Star rated appliances (clothes washers, dishwashers, refrigerators, and ceiling fans).

MM-SD-GHG-5 **Alternative Water Heating.** Prior to the issuance of building permits, the Permittee shall submit building plans illustrating that residential structures shall have non-gas water heaters (e.g., electric or solar water heating).

MM-SD-GHG-6 **Water Efficient Landscaping.** Prior to the issuance of building permits, the Permittee shall submit landscaping plans illustrating that the project would provide low-water use/drought tolerant plant species with low water use irrigation (e.g., spray head or drip), where required.

<u>Project Design Features</u>

Refer to Section 5.2.3 above for PDFs applicable to Annexation Scenario 2a.

Mitigated GHG emissions were calculated using CalEEMod Version 2022.1. As mentioned previously, savings associated with compliance with 2022 Title 24 Energy Code standards and the PDFs were included as part of the baseline unmitigated emissions. Mitigated emission calculations also take into account the mitigation measures summarized above. Refer to Section 5.1 for additional discussion of the modeling inputs and methodology for determining mitigated emissions. The model results are summarized in Table 12 in Section 5.2.3. As shown, mitigated emissions would total 2,404 MT CO_2e annually which is a reduction of approximately 8 MT CO2e over unmitigated emissions.

5.3.4 Mitigation Considered and Determined Infeasible

A number of mitigation measures and PDFs were considered and ultimately incorporated into the project design as detailed in Section 5.3.3. However, the following measures were considered and determined infeasible for this project.

- **Whole house fans** – Whole house fans were considered as a PDF; however, due to the proximity to the freeway, whole house fans are not considered compatible with surrounding air quality. The project incorporates MERV 13 filters in the heating ventilation and air conditioning systems to ensure indoor air quality is acceptable. Whole house fans would not be feasible as outdoor air should not be circulated inside due to the high amount of particulate matter in the localized air.

- **Additional EV charging –** As the design of the residential project includes private garages for every unit, the current Title 24 Green Building Standards Code, Residential Mandatory Measures requires each dwelling unit to install a listed raceway to accommodate a dedicated 208/240-volt branch circuit, as detailed in PDF-GHG-9. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger (Section 4.106.4.1). This code requirement means that every unit would have personal access to EV charging in the garage. Additional EV charging infrastructure would not be warranted as it would not increase the likelihood of residents adopting EVs.

5.3.5 Level of Significance After Mitigation

The project would implement **MM-SD-GHG-1** through **MM-SD-GHG-6** and **PDF-GHG-1** through **PDF-GHG-9** to reduce the project's GHG emission impact. The project would also implement the City of San Diego's CAP Consistency Regulations. However, per the City of San Diego's CAP threshold guidance, a project that was not accounted for in the CAP would have a significant impact with regards to GHGs. The site is not currently within the City of San Diego and therefore the associated GHG emissions were not accounted for in the latest CAP update. As such, the project would be required to achieve net zero emissions in order to not increase emissions beyond the level assumed in the CAP. While the proposed mitigation measures would reduce GHG emissions to the extent feasible, the project would not achieve net zero emissions and therefore would not be consistent with the CAP, resulting in a **significant and unavoidable** cumulative GHG emission impact after mitigation in Annexation Scenario 2a.

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ATTACHMENTS

ATTACHMENT 1

California Emissions Estimator Model Output Files – Unmitigated Project

Nakano (No Mitigation, with PDFs, 2022 Title 24 Baseline) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Nakano (No Mitigation, with PDFs, 2022 Title 24 Baseline)
Construction Start Date	1/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.4
Location	32.588671967843084, -117.03464459628472
County	San Diego
City	Chula Vista
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6668
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.21

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

Apartments Low Rise	154	Dwelling Unit	14.2	163,240	119,082	11,241	430	—
Single Family Housing	67.0	Dwelling Unit	4.65	130,650	119,082	11,241	187	—
Other Asphalt Surfaces	5.00	Acre	5.00	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-1	Increase Residential Density
Transportation	T-4	Integrate A ordable and Below Market Rate Housing
Transportation	T-14*	Provide Electric Vehicle Charging Infrastructure
Transportation	T-31-A*	Locate Project in Area with High Destination Accessibility
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Transportation	T-33*	Locate Project near Bike Path/Bike Lane
Transportation	T-34*	Provide Bike Parking
Transportation	T-35*	Provide Tra c Calming Measures
Energy	E-1	Buildings Exceed 2019 Title 24 Building Envelope Energy Efficiency Standards
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Energy	E-13	Install Electric Ranges in Place of Gas Ranges
Water	W-6	Reduce Turf in Landscapes and Lawns
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment
Area Sources	LL-3*	Electric Yard Equipment Compatibility

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.52	3.67	38.7	32.7	0.08	1.51	4.58	6.09	1.39	1.69	3.08	—	10,029	10,029	0.45	0.58	7.74	10,221
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.52	44.4	38.9	33.7	0.08	1.60	7.81	9.41	1.47	3.97	5.45	—	10,020	10,020	0.45	0.58	0.20	10,204
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.07	6.27	15.1	17.2	0.03	0.61	1.91	2.51	0.56	0.69	1.25	—	4,136	4,136	0.18	0.18	2.00	4,195
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.38	1.14	2.76	3.13	0.01	0.11	0.35	0.46	0.10	0.13	0.23	—	685	685	0.03	0.03	0.33	695
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	250	550	250	—	—	100	—	—	67.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	250	550	250	—	—	100	—	—	67.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.52	3.67	38.7	32.7	0.08	1.51	4.58	6.09	1.39	1.69	3.08	—	10,029	10,029	0.45	0.58	7.74	10,221
2025	3.01	2.85	19.1	30.3	0.04	0.79	1.42	2.21	0.73	0.34	1.07	—	5,924	5,924	0.25	0.16	6.87	5,986
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.52	3.72	38.9	33.7	0.08	1.60	7.81	9.41	1.47	3.97	5.45	—	10,020	10,020	0.45	0.58	0.20	10,204
2025	1.98	44.4	11.7	18.9	0.03	0.44	1.29	1.73	0.41	0.31	0.71	—	4,199	4,199	0.19	0.15	0.16	4,249
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.07	1.73	15.1	17.2	0.03	0.61	1.91	2.51	0.56	0.69	1.25	—	4,136	4,136	0.18	0.18	2.00	4,195
2025	1.21	6.27	7.30	11.7	0.02	0.28	0.72	1.01	0.26	0.17	0.43	—	2,496	2,496	0.11	0.08	1.54	2,526
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.38	0.32	2.76	3.13	0.01	0.11	0.35	0.46	0.10	0.13	0.23	—	685	685	0.03	0.03	0.33	695
2025	0.22	1.14	1.33	2.14	< 0.005	0.05	0.13	0.18	0.05	0.03	0.08	—	413	413	0.02	0.01	0.25	418

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.52	3.67	38.7	32.7	0.08	1.51	4.58	6.09	1.39	1.69	3.08	—	10,029	10,029	0.45	0.58	7.74	10,221
2025	3.01	2.85	19.1	30.3	0.04	0.79	1.42	2.21	0.73	0.34	1.07	—	5,924	5,924	0.25	0.16	6.87	5,986

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.52	3.72	38.9	33.7	0.08	1.60	7.81	9.41	1.47	3.97	5.45	—	10,020	10,020	0.45	0.58	0.20	10,204
2025	1.98	44.4	11.7	18.9	0.03	0.44	1.29	1.73	0.41	0.31	0.71	—	4,199	4,199	0.19	0.15	0.16	4,249
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.07	1.73	15.1	17.2	0.03	0.61	1.91	2.51	0.56	0.69	1.25	—	4,136	4,136	0.18	0.18	2.00	4,195
2025	1.21	6.27	7.30	11.7	0.02	0.28	0.72	1.01	0.26	0.17	0.43	—	2,496	2,496	0.11	0.08	1.54	2,526
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.38	0.32	2.76	3.13	0.01	0.11	0.35	0.46	0.10	0.13	0.23	—	685	685	0.03	0.03	0.33	695
2025	0.22	1.14	1.33	2.14	< 0.005	0.05	0.13	0.18	0.05	0.03	0.08	—	413	413	0.02	0.01	0.25	418

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.1	16.2	6.70	70.6	0.14	0.19	11.9	12.1	0.19	3.03	3.21	100	16,970	17,070	10.9	0.59	49.0	17,567
Mit.	8.49	14.6	6.19	55.0	0.14	0.17	11.3	11.5	0.17	2.87	3.03	100	15,277	15,377	10.8	0.55	46.5	15,859
% Reduced	16%	10%	8%	22%	6%	9%	5%	5%	10%	5%	6%	—	10%	10%	1%	6%	5%	10%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.81	14.9	7.13	55.0	0.14	0.19	11.9	12.1	0.18	3.03	3.21	100	16,315	16,415	11.0	0.62	3.32	16,878
Mit.	8.34	14.4	6.71	52.1	0.13	0.17	11.3	11.5	0.17	2.87	3.03	100	14,679	14,779	10.9	0.59	3.26	15,229
% Reduced	5%	3%	6%	5%	5%	7%	5%	5%	7%	5%	5%	—	10%	10%	1%	6%	2%	10%

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.62	14.7	6.64	56.8	0.13	0.18	10.9	11.1	0.18	2.76	2.93	100	15,378	15,479	10.9	0.57	20.8	15,942
Mit.	7.62	13.8	6.19	48.0	0.12	0.17	10.3	10.5	0.16	2.61	2.77	100	13,793	13,893	10.8	0.54	19.8	14,343
% Reduced	12%	6%	7%	16%	6%	8%	5%	5%	9%	5%	5%	—	10%	10%	1%	6%	5%	10%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	2.68	1.21	10.4	0.02	0.03	1.98	2.02	0.03	0.50	0.54	16.6	2,546	2,563	1.80	0.09	3.44	2,639
Mit.	1.39	2.51	1.13	8.76	0.02	0.03	1.88	1.91	0.03	0.48	0.51	16.6	2,284	2,300	1.79	0.09	3.28	2,375
% Reduced	12%	6%	7%	16%	6%	8%	5%	5%	9%	5%	5%	—	10%	10%	1%	6%	5%	10%
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	250	550	250	—	—	100	—	—	67.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	250	550	250	—	—	100	—	—	67.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.86	8.16	5.57	57.7	0.14	0.11	11.9	12.0	0.10	3.03	3.13	—	13,997	13,997	0.66	0.54	46.9	14,221
Area	1.17	7.94	0.12	12.5	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	33.5	33.5	< 0.005	< 0.005	—	33.6
Energy	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	2,814	2,814	0.20	0.01	—	2,823
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	10.1	16.2	6.70	70.6	0.14	0.19	11.9	12.1	0.19	3.03	3.21	100	16,970	17,070	10.9	0.59	49.0	17,567
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.69	7.98	6.12	54.6	0.13	0.11	11.9	12.0	0.10	3.03	3.13	—	13,376	13,376	0.71	0.57	1.22	13,565
Area	0.00	6.83	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	2,814	2,814	0.20	0.01	—	2,823
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	8.81	14.9	7.13	55.0	0.14	0.19	11.9	12.1	0.18	3.03	3.21	100	16,315	16,415	11.0	0.62	3.32	16,878
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.92	7.27	5.57	50.2	0.12	0.10	10.9	11.0	0.09	2.76	2.85	—	12,423	12,423	0.64	0.52	18.7	12,613
Area	0.58	7.38	0.06	6.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	16.5	16.5	< 0.005	< 0.005	—	16.6
Energy	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	2,814	2,814	0.20	0.01	—	2,823
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	8.62	14.7	6.64	56.8	0.13	0.18	10.9	11.1	0.18	2.76	2.93	100	15,378	15,479	10.9	0.57	20.8	15,942

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.45	1.33	1.02	9.17	0.02	0.02	1.98	2.00	0.02	0.50	0.52	—	2,057	2,057	0.11	0.09	3.09	2,088
Area	0.11	1.35	0.01	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.74	2.74	< 0.005	< 0.005	—	2.75
Energy	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	466	466	0.03	< 0.005	—	467
Water	—	—	—	—	—	—	—	—	—	—	—	2.46	20.8	23.2	0.25	0.01	—	31.4
Waste	—	—	—	—	—	—	—	—	—	—	—	14.1	0.00	14.1	1.41	0.00	—	49.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35
Total	1.57	2.68	1.21	10.4	0.02	0.03	1.98	2.02	0.03	0.50	0.54	16.6	2,546	2,563	1.80	0.09	3.44	2,639

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.39	7.73	5.27	54.6	0.13	0.10	11.3	11.4	0.09	2.87	2.96	—	13,254	13,254	0.63	0.51	44.4	13,466
Area	0.00	6.83	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.11	0.05	0.92	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,937	1,937	0.15	0.01	—	1,943
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	85.7	101	1.53	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	8.49	14.6	6.19	55.0	0.14	0.17	11.3	11.5	0.17	2.87	3.03	100	15,277	15,377	10.8	0.55	46.5	15,859
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.23	7.56	5.79	51.7	0.12	0.10	11.3	11.4	0.09	2.87	2.96	—	12,666	12,666	0.67	0.54	1.15	12,845
Area	0.00	6.83	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.11	0.05	0.92	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,927	1,927	0.15	0.01	—	1,933
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	85.7	101	1.53	0.04	—	150

Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	8.34	14.4	6.71	52.1	0.13	0.17	11.3	11.5	0.17	2.87	3.03	100	14,679	14,779	10.9	0.59	3.26	15,229
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.51	6.89	5.28	47.6	0.12	0.09	10.3	10.4	0.09	2.61	2.70	—	11,775	11,775	0.61	0.49	17.7	11,955
Area	0.00	6.83	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.11	0.05	0.92	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,932	1,932	0.15	0.01	—	1,938
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	85.7	101	1.53	0.04	—	150
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	7.62	13.8	6.19	48.0	0.12	0.17	10.3	10.5	0.16	2.61	2.77	100	13,793	13,893	10.8	0.54	19.8	14,343
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.37	1.26	0.96	8.69	0.02	0.02	1.88	1.90	0.02	0.48	0.49	—	1,949	1,949	0.10	0.08	2.93	1,979
Area	0.00	1.25	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.17	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	320	320	0.02	< 0.005	—	321
Water	—	—	—	—	—	—	—	—	—	—	—	2.46	14.2	16.7	0.25	0.01	—	24.8
Waste	—	—	—	—	—	—	—	—	—	—	—	14.1	0.00	14.1	1.41	0.00	—	49.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35
Total	1.39	2.51	1.13	8.76	0.02	0.03	1.88	1.91	0.03	0.48	0.51	16.6	2,284	2,300	1.79	0.09	3.28	2,375

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	TOG	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	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.27	2.07	< 0.005	0.10	—	0.10	0.09	—	0.09	—	334	334	0.01	< 0.005	—	335
Dust From Material Movement	—	—	—	—	—	—	0.48	0.48	—	0.25	0.25	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.38	< 0.005	0.02	—	0.02	0.02	—	0.02	—	55.2	55.2	< 0.005	< 0.005	—	55.4
Dust From Material Movement	—	—	—	—	—	—	0.09	0.09	—	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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.76	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	160	160	0.01	0.01	0.02	162
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.02	10.3
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.68	1.68	< 0.005	< 0.005	< 0.005	1.71
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	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	0.00	0.00

3.2. Site Preparation (2024) - Mitigated

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

Location	TOG	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	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.27	2.07	< 0.005	0.10	—	0.10	0.09	—	0.09	—	334	334	0.01	< 0.005	—	335
Dust From Material Movement	—	—	—	—	—	—	0.48	0.48	—	0.25	0.25	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.38	< 0.005	0.02	—	0.02	0.02	—	0.02	—	55.2	55.2	< 0.005	< 0.005	—	55.4
Dust From Material Movement	—	—	—	—	—	—	0.09	0.09	—	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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.76	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	160	160	0.01	0.01	0.02	162
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	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	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.02	10.3
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.68	1.68	< 0.005	< 0.005	< 0.005	1.71
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	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	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	TOG	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	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.62	6.01	5.29	0.01	0.25	—	0.25	0.23	—	0.23	—	1,157	1,157	0.05	0.01	—	1,161
Dust From Material Movement	—	—	—	—	—	—	0.63	0.63	—	0.25	0.25	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.10	0.97	< 0.005	0.05	—	0.05	0.04	—	0.04	—	192	192	0.01	< 0.005	—	192
Dust From Material Movement	—	—	—	—	—	—	0.12	0.12	—	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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.99	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	194	194	0.01	0.01	0.78	197
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	0.00	0.00
Hauling	0.25	0.07	4.36	1.55	0.02	0.06	0.82	0.88	0.06	0.22	0.28	—	3,238	3,238	0.18	0.52	6.96	3,404
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.09	0.08	0.07	0.87	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.02	185
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	0.00	0.00
Hauling	0.24	0.07	4.51	1.57	0.02	0.06	0.82	0.88	0.06	0.22	0.28	—	3,239	3,239	0.18	0.52	0.18	3,398
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.06	32.8
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	0.00	0.00
Hauling	0.04	0.01	0.79	0.27	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	568	568	0.03	0.09	0.53	596
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
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	0.00	0.00
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	94.0	94.0	0.01	0.02	0.09	98.7

3.4. Grading (2024) - Mitigated

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

Location	TOG	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	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.62	6.01	5.29	0.01	0.25	—	0.25	0.23	—	0.23	—	1,157	1,157	0.05	0.01	—	1,161
Dust From Material Movement	—	—	—	—	—	—	0.63	0.63	—	0.25	0.25	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.10	0.97	< 0.005	0.05	—	0.05	0.04	—	0.04	—	192	192	0.01	< 0.005	—	192
Dust From Material Movement	—	—	—	—	—	—	0.12	0.12	—	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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.99	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	194	194	0.01	0.01	0.78	197
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	0.00	0.00
Hauling	0.25	0.07	4.36	1.55	0.02	0.06	0.82	0.88	0.06	0.22	0.28	—	3,238	3,238	0.18	0.52	6.96	3,404

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.87	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.02	185
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	0.00	0.00
Hauling	0.24	0.07	4.51	1.57	0.02	0.06	0.82	0.88	0.06	0.22	0.28	—	3,239	3,239	0.18	0.52	0.18	3,398
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.06	32.8
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	0.00	0.00
Hauling	0.04	0.01	0.79	0.27	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	568	568	0.03	0.09	0.53	596
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
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	0.00	0.00
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	94.0	94.0	0.01	0.02	0.09	98.7

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	TOG	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	1.44	1.20	11.2	13.1	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.38	6.29	0.01	0.24	—	0.24	0.22	—	0.22	—	1,150	1,150	0.05	0.01	—	1,153
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.98	1.15	< 0.005	0.04	—	0.04	0.04	—	0.04	—	190	190	0.01	< 0.005	—	191
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.57	0.45	6.67	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,306	1,306	0.06	0.05	5.25	1,327
Vendor	0.05	0.02	0.83	0.38	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	602	602	0.03	0.08	1.55	629
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.56	0.50	5.84	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,233	1,233	0.07	0.05	0.14	1,249
Vendor	0.05	0.02	0.86	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	602	602	0.03	0.08	0.04	628
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.24	2.84	0.00	0.00	0.54	0.54	0.00	0.13	0.13	—	597	597	0.03	0.02	1.08	605
Vendor	0.02	0.01	0.41	0.19	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	289	289	0.01	0.04	0.32	301

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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	98.8	98.8	0.01	< 0.005	0.18	100
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.8	47.8	< 0.005	0.01	0.05	49.9
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	0.00	0.00

3.6. Building Construction (2024) - Mitigated

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

Location	TOG	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	1.44	1.20	11.2	13.1	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.38	6.29	0.01	0.24	—	0.24	0.22	—	0.22	—	1,150	1,150	0.05	0.01	—	1,153
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	0.11	0.98	1.15	< 0.005	0.04	—	0.04	0.04	—	0.04	—	190	190	0.01	< 0.005	—	191
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.57	0.45	6.67	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,306	1,306	0.06	0.05	5.25	1,327
Vendor	0.05	0.02	0.83	0.38	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	602	602	0.03	0.08	1.55	629
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.56	0.50	5.84	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,233	1,233	0.07	0.05	0.14	1,249
Vendor	0.05	0.02	0.86	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	602	602	0.03	0.08	0.04	628
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.24	2.84	0.00	0.00	0.54	0.54	0.00	0.13	0.13	—	597	597	0.03	0.02	1.08	605
Vendor	0.02	0.01	0.41	0.19	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	289	289	0.01	0.04	0.32	301
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	98.8	98.8	0.01	< 0.005	0.18	100
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.8	47.8	< 0.005	0.01	0.05	49.9
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	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	TOG	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	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.60	5.58	6.97	0.01	0.23	—	0.23	0.21	—	0.21	—	1,281	1,281	0.05	0.01	—	1,285
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.02	1.27	< 0.005	0.04	—	0.04	0.04	—	0.04	—	212	212	0.01	< 0.005	—	213
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.54	0.41	6.25	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,281	1,281	0.06	0.04	4.80	1,300
Vendor	0.05	0.02	0.79	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	591	591	0.03	0.08	1.53	618
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	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.54	0.46	5.47	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,209	1,209	0.07	0.05	0.12	1,225
Vendor	0.05	0.02	0.82	0.38	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	592	592	0.03	0.08	0.04	617
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.28	0.24	2.97	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	652	652	0.03	0.03	1.11	661
Vendor	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	316	316	0.01	0.04	0.36	330
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.54	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	108	108	0.01	< 0.005	0.18	110
Vendor	< 0.005	< 0.005	0.08	0.04	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	52.3	52.3	< 0.005	0.01	0.06	54.6
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	0.00	0.00

3.8. Building Construction (2025) - Mitigated

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

Location	TOG	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	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.60	5.58	6.97	0.01	0.23	—	0.23	0.21	—	0.21	—	1,281	1,281	0.05	0.01	—	1,285
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.02	1.27	< 0.005	0.04	—	0.04	0.04	—	0.04	—	212	212	0.01	< 0.005	—	213
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.54	0.41	6.25	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,281	1,281	0.06	0.04	4.80	1,300
Vendor	0.05	0.02	0.79	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	591	591	0.03	0.08	1.53	618
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.54	0.46	5.47	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,209	1,209	0.07	0.05	0.12	1,225
Vendor	0.05	0.02	0.82	0.38	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	592	592	0.03	0.08	0.04	617
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.28	0.24	2.97	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	652	652	0.03	0.03	1.11	661
Vendor	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	316	316	0.01	0.04	0.36	330

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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.54	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	108	108	0.01	< 0.005	0.18	110
Vendor	< 0.005	< 0.005	0.08	0.04	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	52.3	52.3	< 0.005	0.01	0.06	54.6
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	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	TOG	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	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.92	1.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	186	186	0.01	< 0.005	—	187
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
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	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.03	17.0
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.81
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	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	0.00	0.00

3.10. Paving (2025) - Mitigated

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

Location	TOG	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	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.92	1.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	186	186	0.01	< 0.005	—	187
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
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	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.03	17.0
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.81
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	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	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	TOG	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	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	44.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.7	15.7	< 0.005	< 0.005	—	15.8
Architectural Coatings	—	5.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.60	2.60	< 0.005	< 0.005	—	2.61
Architectural Coatings	—	0.95	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.09	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.02	245
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.8	28.8	< 0.005	< 0.005	0.05	29.2
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.76	4.76	< 0.005	< 0.005	0.01	4.83
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	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	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

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

Location	TOG	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	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	44.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.7	15.7	< 0.005	< 0.005	—	15.8
Architect ural Coatings	—	5.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.60	2.60	< 0.005	< 0.005	—	2.61
Architect ural Coatings	—	0.95	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.09	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.02	245
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.8	28.8	< 0.005	< 0.005	0.05	29.2
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.76	4.76	< 0.005	< 0.005	0.01	4.83
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	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	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	5.93	5.46	3.73	38.6	0.09	0.07	7.99	8.06	0.07	2.03	2.09	—	9,367	9,367	0.44	0.36	31.4	9,517
Single Family Housing	2.93	2.70	1.84	19.1	0.05	0.04	3.95	3.98	0.03	1.00	1.03	—	4,629	4,629	0.22	0.18	15.5	4,704
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.86	8.16	5.57	57.7	0.14	0.11	11.9	12.0	0.10	3.03	3.13	—	13,997	13,997	0.66	0.54	46.9	14,221
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments Low Rise	5.82	5.34	4.09	36.5	0.09	0.07	7.99	8.06	0.07	2.03	2.09	—	8,952	8,952	0.47	0.38	0.81	9,078
Single Family Housing	2.88	2.64	2.02	18.1	0.04	0.04	3.95	3.98	0.03	1.00	1.03	—	4,424	4,424	0.23	0.19	0.40	4,487
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.69	7.98	6.12	54.6	0.13	0.11	11.9	12.0	0.10	3.03	3.13	—	13,376	13,376	0.71	0.57	1.22	13,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.94	0.86	0.66	5.95	0.01	0.01	1.29	1.30	0.01	0.33	0.34	—	1,336	1,336	0.07	0.06	2.01	1,356
Single Family Housing	0.51	0.47	0.36	3.21	0.01	0.01	0.70	0.70	0.01	0.18	0.18	—	721	721	0.04	0.03	1.08	732
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.45	1.33	1.02	9.17	0.02	0.02	1.98	2.00	0.02	0.50	0.52	—	2,057	2,057	0.11	0.09	3.09	2,088

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	5.52	5.09	3.47	35.9	0.09	0.07	7.44	7.51	0.06	1.89	1.95	—	8,725	8,725	0.41	0.34	29.2	8,865

Single Family Housing	2.87	2.64	1.80	18.7	0.04	0.03	3.86	3.90	0.03	0.98	1.01	—	4,529	4,529	0.21	0.17	15.2	4,601
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.39	7.73	5.27	54.6	0.13	0.10	11.3	11.4	0.09	2.87	2.96	—	13,254	13,254	0.63	0.51	44.4	13,466
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	5.42	4.97	3.81	34.0	0.08	0.07	7.44	7.51	0.06	1.89	1.95	—	8,338	8,338	0.44	0.36	0.76	8,456
Single Family Housing	2.81	2.58	1.98	17.7	0.04	0.03	3.86	3.90	0.03	0.98	1.01	—	4,328	4,328	0.23	0.18	0.39	4,389
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.23	7.56	5.79	51.7	0.12	0.10	11.3	11.4	0.09	2.87	2.96	—	12,666	12,666	0.67	0.54	1.15	12,845
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.87	0.80	0.61	5.55	0.01	0.01	1.20	1.21	0.01	0.30	0.31	—	1,244	1,244	0.06	0.05	1.87	1,263
Single Family Housing	0.50	0.45	0.35	3.14	0.01	0.01	0.68	0.69	0.01	0.17	0.18	—	705	705	0.04	0.03	1.06	716
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.37	1.26	0.96	8.69	0.02	0.02	1.88	1.90	0.02	0.48	0.49	—	1,949	1,949	0.10	0.08	2.93	1,979

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	868	868	0.05	0.01	—	871
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	664	664	0.04	< 0.005	—	666
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,532	1,532	0.09	0.01	—	1,537
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	868	868	0.05	0.01	—	871
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	664	664	0.04	< 0.005	—	666
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,532	1,532	0.09	0.01	—	1,537
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	144	144	0.01	< 0.005	—	144

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	110	110	0.01	< 0.005	—	110
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	254	254	0.01	< 0.005	—	255

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	439	439	0.02	< 0.005	—	440
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	335	335	0.02	< 0.005	—	336
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	773	773	0.04	0.01	—	776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	432	432	0.02	< 0.005	—	433
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	332	332	0.02	< 0.005	—	333

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	764	764	0.04	0.01	—	766
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	72.1	72.1	< 0.005	< 0.005	—	72.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	55.2	55.2	< 0.005	< 0.005	—	55.3
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	127	127	0.01	< 0.005	—	128

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.06	0.03	0.53	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	670	670	0.06	< 0.005	—	671
Single Family Housing	0.06	0.03	0.48	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	—	612	612	0.05	< 0.005	—	614
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	1,282	1,282	0.11	< 0.005	—	1,285

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.06	0.03	0.53	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	670	670	0.06	< 0.005	—	671
Single Family Housing	0.06	0.03	0.48	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	—	612	612	0.05	< 0.005	—	614
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	1,282	1,282	0.11	< 0.005	—	1,285
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	111	111	0.01	< 0.005	—	111
Single Family Housing	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	101	101	0.01	< 0.005	—	102
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	212	212	0.02	< 0.005	—	213

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

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

Apartments Low Rise	0.06	0.03	0.48	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	—	609	609	0.05	< 0.005	—	611
Single Family Housing	0.05	0.03	0.44	0.19	< 0.005	0.04	—	0.04	0.04	—	0.04	—	554	554	0.05	< 0.005	—	556
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.11	0.05	0.92	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,164	1,164	0.10	< 0.005	—	1,167
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.06	0.03	0.48	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	—	609	609	0.05	< 0.005	—	611
Single Family Housing	0.05	0.03	0.44	0.19	< 0.005	0.04	—	0.04	0.04	—	0.04	—	554	554	0.05	< 0.005	—	556
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.11	0.05	0.92	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,164	1,164	0.10	< 0.005	—	1,167
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	101	101	0.01	< 0.005	—	101
Single Family Housing	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.8	91.8	0.01	< 0.005	—	92.1
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.17	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	193

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	6.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.17	1.11	0.12	12.5	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	—	33.5	33.5	< 0.005	< 0.005	—	33.6
Total	1.17	7.94	0.12	12.5	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	33.5	33.5	< 0.005	< 0.005	—	33.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	6.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	6.83	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consum Products	—	1.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.11	0.10	0.01	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.74	2.74	< 0.005	< 0.005	—	2.75
Total	0.11	1.35	0.01	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.74	2.74	< 0.005	< 0.005	—	2.75

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	6.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	6.83	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	6.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	—	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	6.83	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	1.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	1.25	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.4	79.5	89.9	1.07	0.03	—	124
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.51	45.9	50.4	0.47	0.01	—	65.4
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.4	79.5	89.9	1.07	0.03	—	124
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.51	45.9	50.4	0.47	0.01	—	65.4
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.72	13.2	14.9	0.18	< 0.005	—	20.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.75	7.60	8.35	0.08	< 0.005	—	10.8
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.46	20.8	23.2	0.25	0.01	—	31.4

4.4.2. Mitigated

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

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

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.4	59.6	70.0	1.07	0.03	—	104
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.51	26.1	30.6	0.46	0.01	—	45.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.9	85.7	101	1.53	0.04	—	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.4	59.6	70.0	1.07	0.03	—	104
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.51	26.1	30.6	0.46	0.01	—	45.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.9	85.7	101	1.53	0.04	—	150
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.72	9.87	11.6	0.18	< 0.005	—	17.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.75	4.31	5.06	0.08	< 0.005	—	7.53
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.46	14.2	16.7	0.25	0.01	—	24.8

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	61.4	0.00	61.4	6.14	0.00	—	215
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.9	0.00	23.9	2.39	0.00	—	83.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	61.4	0.00	61.4	6.14	0.00	—	215
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.9	0.00	23.9	2.39	0.00	—	83.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartme nts	—	—	—	—	—	—	—	—	—	—	—	10.2	0.00	10.2	1.02	0.00	—	35.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.96	0.00	3.96	0.40	0.00	—	13.8
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.1	0.00	14.1	1.41	0.00	—	49.4

4.5.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	61.4	0.00	61.4	6.14	0.00	—	215
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.9	0.00	23.9	2.39	0.00	—	83.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	61.4	0.00	61.4	6.14	0.00	—	215

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.9	0.00	23.9	2.39	0.00	—	83.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.2	0.00	10.2	1.02	0.00	—	35.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.96	0.00	3.96	0.40	0.00	—	13.8
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.1	0.00	14.1	1.41	0.00	—	49.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.94	0.94

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.94	0.94
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35

4.6.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.94	0.94
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.94	0.94
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35

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	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

Equipment Type	TOG	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	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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

Equipment Type	TOG	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	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

Equipment Type	TOG	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)

Vegetatio	TOG	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	TOG	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	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	TOG	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	5.00	23.0	—
Grading	Grading	2/1/2024	4/30/2024	5.00	64.0	—
Building Construction	Building Construction	5/1/2024	9/30/2025	5.00	370	—
Paving	Paving	9/1/2025	10/31/2025	5.00	45.0	—
Architectural Coating	Architectural Coating	11/1/2025	12/31/2025	5.00	43.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Backh	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	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	17.5	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	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	44.1	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	135	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	23.6	7.63	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	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	27.0	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

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	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	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	44.1	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	135	12.0	LDA,LDT1,LDT2

Building Construction	Vendor	23.6	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	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	27.0	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	595,127	198,376	0.00	0.00	13,068

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

Site Preparation	0.00	0.00	34.5	0.00	—
Grading	22,600	0.00	192	0.00	—
Paving	0.00	0.00	0.00	0.00	5.74

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
Apartments Low Rise	—	0%
Single Family Housing	0.74	0%
Other Asphalt Surfaces	5.00	100%

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	589	0.03	< 0.005
2025	0.00	589	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
Apartments Low Rise	1,232	1,371	1,056	447,753	10,168	11,312	8,719	3,695,355

Single Family Housing	670	677	607	241,650	5,530	5,590	5,010	1,994,368
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Low Rise	1,148	1,277	984	417,071	9,471	10,537	8,121	3,442,136
Single Family Housing	655	663	594	236,392	5,409	5,469	4,901	1,950,974
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	154
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0

Pellet Wood Stoves	0
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	67
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	154
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	67
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
595127.25	198,376	0.00	0.00	13,068

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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)
Apartments Low Rise	537,959	589	0.0330	0.0040	2,089,073
Single Family Housing	411,466	589	0.0330	0.0040	1,910,635
Other Asphalt Surfaces	0.00	589	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
Apartments Low Rise	267,674	589	0.0330	0.0040	1,900,279
Single Family Housing	205,547	589	0.0330	0.0040	1,730,182
Other Asphalt Surfaces	0.00	589	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Low Rise	5,410,494	2,343,022
Single Family Housing	2,353,916	2,343,022
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Low Rise	5,410,494	23,430
Single Family Housing	2,353,916	23,430
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Low Rise	114	—
Single Family Housing	44.3	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Low Rise	114	—
Single Family Housing	44.3	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Low 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 Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Low 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 Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	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

5.15.2. Mitigated

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	7.94	annual days of extreme heat
Extreme Precipitation	2.15	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	1.25	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 (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
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	35.3
AQ-PM	91.2
AQ-DPM	40.2
Drinking Water	23.5
Lead Risk Housing	23.3
Pesticides	0.00
Toxic Releases	83.2
Traffic	35.6
Effect Indicators	—
CleanUp Sites	58.2
Groundwater	78.9
Haz Waste Facilities/Generators	87.7
Impaired Water Bodies	23.9
Solid Waste	98.0
Sensitive Population	—
Asthma	44.2
Cardio-vascular	32.2
Low Birth Weights	63.3
Socioeconomic Factor Indicators	—
Education	63.4
Housing	28.7
Linguistic	59.0
Poverty	28.4

Unemployment	43.1

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	75.43949698
Employed	5.838573078
Median HI	79.10945721
Education	—
Bachelor's or higher	36.87925061
High school enrollment	100
Preschool enrollment	28.78224047
Transportation	—
Auto Access	98.98626973
Active commuting	31.93891954
Social	—
2-parent households	63.27473374
Voting	50.45553702
Neighborhood	—
Alcohol availability	88.24586167
Park access	62.71012447
Retail density	19.73566021
Supermarket access	30.0012832
Tree canopy	7.609393045
Housing	—
Homeownership	50.03208007

Housing habitability	62.77428461
Low-inc homeowner severe housing cost burden	69.56242782
Low-inc renter severe housing cost burden	76.63287566
Uncrowded housing	34.15886052
Health Outcomes	—
Insured adults	38.36776594
Arthritis	94.2
Asthma ER Admissions	45.5
High Blood Pressure	96.6
Cancer (excluding skin)	93.3
Asthma	72.9
Coronary Heart Disease	94.7
Chronic Obstructive Pulmonary Disease	89.8
Diagnosed Diabetes	67.4
Life Expectancy at Birth	58.2
Cognitively Disabled	92.5
Physically Disabled	92.6
Heart Attack ER Admissions	59.6
Mental Health Not Good	49.5
Chronic Kidney Disease	85.5
Obesity	60.5
Pedestrian Injuries	45.3
Physical Health Not Good	66.1
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	17.1
Current Smoker	52.6

No Leisure Time for Physical Activity	45.0
Climate Change Exposures	—
Wildfire Risk	73.6
SLR Inundation Area	0.0
Children	33.8
Elderly	92.4
English Speaking	61.8
Foreign-born	71.1
Outdoor Workers	75.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	63.1
Traffic Density	67.4
Traffic Access	55.4
Other Indices	—
Hardship	46.0
Other Decision Support	—
2016 Voting	51.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	57.0
Healthy Places Index Score for Project Location (b)	50.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	221 Units, 23.8 acres Landscape - 260,783 sf (22,482 sf Rec Areas)
Construction: Construction Phases	Construction schedule provided by applicant
Operations: Vehicle Data	Detached - 10 weekday trips/unit Multi-family - 8 weekday trips/unit Weekend trips adjusted proportionately based on weekday trip rates and CalEEMod defaults
Operations: Hearths	No fireplaces or wood stoves

ATTACHMENT 2

California Emissions Estimator Model Output Files – Mitigated Project

Nakano (With Mitigation, with PDFs, 2022 Title 24 Baseline) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Nakano (With Mitigation, with PDFs, 2022 Title 24 Baseline)
Construction Start Date	1/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.4
Location	32.588671967843084, -117.03464459628472
County	San Diego
City	Chula Vista
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6668
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.21

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

Apartments Low Rise	154	Dwelling Unit	14.2	163,240	119,082	11,241	430	—
Single Family Housing	67.0	Dwelling Unit	4.65	130,650	119,082	11,241	187	—
Other Asphalt Surfaces	5.00	Acre	5.00	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-1	Increase Residential Density
Transportation	T-4	Integrate A ordable and Below Market Rate Housing
Transportation	T-9	Implement Subsidized or Discounted Transit Program
Transportation	T-14*	Provide Electric Vehicle Charging Infrastructure
Transportation	T-31-A*	Locate Project in Area with High Destination Accessibility
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Transportation	T-33*	Locate Project near Bike Path/Bike Lane
Transportation	T-34*	Provide Bike Parking
Transportation	T-35*	Provide Tra c Calming Measures
Transportation	T-50*	Required Project Contributions to Transportation Infrastructure Improvement
Energy	E-1	Buildings Exceed 2019 Title 24 Building Envelope Energy Efficiency Standards
Energy	E-2	Require Energy Efficient Appliances
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Energy	E-12-A	Install Alternative Type of Water Heater in Place of Gas Storage Tank Heater in Residences
Energy	E-12-B	Install Electric Space Heater in Place of Natural Gas Heaters in Residences
Energy	E-13	Install Electric Ranges in Place of Gas Ranges
Water	W-5	Design Water-Efficient Landscapes

Water	W-6	Reduce Turf in Landscapes and Lawns
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment
Area Sources	LL-3*	Electric Yard Equipment Compatibility

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.52	3.67	38.7	32.7	0.08	1.51	4.58	6.09	1.39	1.69	3.08	—	10,029	10,029	0.45	0.58	7.74	10,221
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.52	44.4	38.9	33.7	0.08	1.60	7.81	9.41	1.47	3.97	5.45	—	10,020	10,020	0.45	0.58	0.20	10,204
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.07	6.27	15.1	17.2	0.03	0.61	1.91	2.51	0.56	0.69	1.25	—	4,136	4,136	0.18	0.18	2.00	4,195
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.38	1.14	2.76	3.13	0.01	0.11	0.35	0.46	0.10	0.13	0.23	—	685	685	0.03	0.03	0.33	695
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	250	550	250	—	—	100	—	—	67.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	250	550	250	—	—	100	—	—	67.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.52	3.67	38.7	32.7	0.08	1.51	4.58	6.09	1.39	1.69	3.08	—	10,029	10,029	0.45	0.58	7.74	10,221
2025	3.01	2.85	19.1	30.3	0.04	0.79	1.42	2.21	0.73	0.34	1.07	—	5,924	5,924	0.25	0.16	6.87	5,986
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.52	3.72	38.9	33.7	0.08	1.60	7.81	9.41	1.47	3.97	5.45	—	10,020	10,020	0.45	0.58	0.20	10,204
2025	1.98	44.4	11.7	18.9	0.03	0.44	1.29	1.73	0.41	0.31	0.71	—	4,199	4,199	0.19	0.15	0.16	4,249
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.07	1.73	15.1	17.2	0.03	0.61	1.91	2.51	0.56	0.69	1.25	—	4,136	4,136	0.18	0.18	2.00	4,195
2025	1.21	6.27	7.30	11.7	0.02	0.28	0.72	1.01	0.26	0.17	0.43	—	2,496	2,496	0.11	0.08	1.54	2,526
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.38	0.32	2.76	3.13	0.01	0.11	0.35	0.46	0.10	0.13	0.23	—	685	685	0.03	0.03	0.33	695
2025	0.22	1.14	1.33	2.14	< 0.005	0.05	0.13	0.18	0.05	0.03	0.08	—	413	413	0.02	0.01	0.25	418

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.52	3.67	38.7	32.7	0.08	1.51	4.58	6.09	1.39	1.69	3.08	—	10,029	10,029	0.45	0.58	7.74	10,221
2025	3.01	2.85	19.1	30.3	0.04	0.79	1.42	2.21	0.73	0.34	1.07	—	5,924	5,924	0.25	0.16	6.87	5,986
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.52	3.72	38.9	33.7	0.08	1.60	7.81	9.41	1.47	3.97	5.45	—	10,020	10,020	0.45	0.58	0.20	10,204
2025	1.98	44.4	11.7	18.9	0.03	0.44	1.29	1.73	0.41	0.31	0.71	—	4,199	4,199	0.19	0.15	0.16	4,249
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.07	1.73	15.1	17.2	0.03	0.61	1.91	2.51	0.56	0.69	1.25	—	4,136	4,136	0.18	0.18	2.00	4,195
2025	1.21	6.27	7.30	11.7	0.02	0.28	0.72	1.01	0.26	0.17	0.43	—	2,496	2,496	0.11	0.08	1.54	2,526
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.38	0.32	2.76	3.13	0.01	0.11	0.35	0.46	0.10	0.13	0.23	—	685	685	0.03	0.03	0.33	695
2025	0.22	1.14	1.33	2.14	< 0.005	0.05	0.13	0.18	0.05	0.03	0.08	—	413	413	0.02	0.01	0.25	418

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.1	16.2	6.70	70.6	0.14	0.19	11.9	12.1	0.19	3.03	3.21	100	16,970	17,070	10.9	0.59	49.0	17,567
Mit.	8.49	14.6	6.18	55.0	0.14	0.17	11.3	11.5	0.17	2.87	3.03	100	15,230	15,330	10.8	0.55	46.5	15,812
% Reduced	16%	10%	8%	22%	6%	10%	5%	5%	10%	5%	6%	—	10%	10%	1%	6%	5%	10%

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.81	14.9	7.13	55.0	0.14	0.19	11.9	12.1	0.18	3.03	3.21	100	16,315	16,415	11.0	0.62	3.32	16,878
Mit.	8.34	14.4	6.70	52.1	0.13	0.17	11.3	11.5	0.17	2.87	3.03	100	14,632	14,732	10.9	0.58	3.26	15,182
% Reduced	5%	3%	6%	5%	6%	7%	5%	5%	7%	5%	5%	—	10%	10%	1%	6%	2%	10%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.62	14.7	6.64	56.8	0.13	0.18	10.9	11.1	0.18	2.76	2.93	100	15,378	15,479	10.9	0.57	20.8	15,942
Mit.	7.62	13.8	6.19	48.0	0.12	0.17	10.3	10.5	0.16	2.61	2.77	100	13,746	13,846	10.8	0.54	19.8	14,296
% Reduced	12%	6%	7%	16%	6%	9%	5%	5%	9%	5%	5%	—	11%	11%	1%	6%	5%	10%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	2.68	1.21	10.4	0.02	0.03	1.98	2.02	0.03	0.50	0.54	16.6	2,546	2,563	1.80	0.09	3.44	2,639
Mit.	1.39	2.51	1.13	8.76	0.02	0.03	1.88	1.91	0.03	0.48	0.51	16.6	2,276	2,292	1.79	0.09	3.28	2,367
% Reduced	12%	6%	7%	16%	6%	9%	5%	5%	9%	5%	5%	—	11%	11%	1%	6%	5%	10%
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	250	550	250	—	—	100	—	—	67.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	137	250	550	250	—	—	100	—	—	67.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.86	8.16	5.57	57.7	0.14	0.11	11.9	12.0	0.10	3.03	3.13	—	13,997	13,997	0.66	0.54	46.9	14,221
Area	1.17	7.94	0.12	12.5	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	33.5	33.5	< 0.005	< 0.005	—	33.6
Energy	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	2,814	2,814	0.20	0.01	—	2,823
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	10.1	16.2	6.70	70.6	0.14	0.19	11.9	12.1	0.19	3.03	3.21	100	16,970	17,070	10.9	0.59	49.0	17,567
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.69	7.98	6.12	54.6	0.13	0.11	11.9	12.0	0.10	3.03	3.13	—	13,376	13,376	0.71	0.57	1.22	13,565
Area	0.00	6.83	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	2,814	2,814	0.20	0.01	—	2,823
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	8.81	14.9	7.13	55.0	0.14	0.19	11.9	12.1	0.18	3.03	3.21	100	16,315	16,415	11.0	0.62	3.32	16,878
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.92	7.27	5.57	50.2	0.12	0.10	10.9	11.0	0.09	2.76	2.85	—	12,423	12,423	0.64	0.52	18.7	12,613
Area	0.58	7.38	0.06	6.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	16.5	16.5	< 0.005	< 0.005	—	16.6

Energy	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	2,814	2,814	0.20	0.01	—	2,823
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	8.62	14.7	6.64	56.8	0.13	0.18	10.9	11.1	0.18	2.76	2.93	100	15,378	15,479	10.9	0.57	20.8	15,942
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.45	1.33	1.02	9.17	0.02	0.02	1.98	2.00	0.02	0.50	0.52	—	2,057	2,057	0.11	0.09	3.09	2,088
Area	0.11	1.35	0.01	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.74	2.74	< 0.005	< 0.005	—	2.75
Energy	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	466	466	0.03	< 0.005	—	467
Water	—	—	—	—	—	—	—	—	—	—	—	2.46	20.8	23.2	0.25	0.01	—	31.4
Waste	—	—	—	—	—	—	—	—	—	—	—	14.1	0.00	14.1	1.41	0.00	—	49.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35
Total	1.57	2.68	1.21	10.4	0.02	0.03	1.98	2.02	0.03	0.50	0.54	16.6	2,546	2,563	1.80	0.09	3.44	2,639

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.39	7.73	5.27	54.6	0.13	0.10	11.3	11.4	0.09	2.87	2.96	—	13,254	13,254	0.63	0.51	44.4	13,466
Area	0.00	6.83	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.11	0.05	0.91	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,891	1,891	0.14	0.01	—	1,896
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	85.3	100	1.53	0.04	—	149
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	8.49	14.6	6.18	55.0	0.14	0.17	11.3	11.5	0.17	2.87	3.03	100	15,230	15,330	10.8	0.55	46.5	15,812

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.23	7.56	5.79	51.7	0.12	0.10	11.3	11.4	0.09	2.87	2.96	—	12,666	12,666	0.67	0.54	1.15	12,845
Area	0.00	6.83	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.11	0.05	0.91	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,881	1,881	0.14	0.01	—	1,887
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	85.3	100	1.53	0.04	—	149
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	8.34	14.4	6.70	52.1	0.13	0.17	11.3	11.5	0.17	2.87	3.03	100	14,632	14,732	10.9	0.58	3.26	15,182
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.51	6.89	5.28	47.6	0.12	0.09	10.3	10.4	0.09	2.61	2.70	—	11,775	11,775	0.61	0.49	17.7	11,955
Area	0.00	6.83	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.11	0.05	0.91	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,886	1,886	0.14	0.01	—	1,892
Water	—	—	—	—	—	—	—	—	—	—	—	14.9	85.3	100	1.53	0.04	—	149
Waste	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Total	7.62	13.8	6.19	48.0	0.12	0.17	10.3	10.5	0.16	2.61	2.77	100	13,746	13,846	10.8	0.54	19.8	14,296
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.37	1.26	0.96	8.69	0.02	0.02	1.88	1.90	0.02	0.48	0.49	—	1,949	1,949	0.10	0.08	2.93	1,979
Area	0.00	1.25	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.17	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	312	312	0.02	< 0.005	—	313
Water	—	—	—	—	—	—	—	—	—	—	—	2.46	14.1	16.6	0.25	0.01	—	24.7
Waste	—	—	—	—	—	—	—	—	—	—	—	14.1	0.00	14.1	1.41	0.00	—	49.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35
Total	1.39	2.51	1.13	8.76	0.02	0.03	1.88	1.91	0.03	0.48	0.51	16.6	2,276	2,292	1.79	0.09	3.28	2,367

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	TOG	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	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.27	2.07	< 0.005	0.10	—	0.10	0.09	—	0.09	—	334	334	0.01	< 0.005	—	335
Dust From Material Movement	—	—	—	—	—	—	0.48	0.48	—	0.25	0.25	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.38	< 0.005	0.02	—	0.02	0.02	—	0.02	—	55.2	55.2	< 0.005	< 0.005	—	55.4

Dust From Material Movement	—	—	—	—	—	—	0.09	0.09	—	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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.76	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	160	160	0.01	0.01	0.02	162
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.02	10.3
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.68	1.68	< 0.005	< 0.005	< 0.005	1.71
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	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	0.00	0.00

3.2. Site Preparation (2024) - Mitigated

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

Location	TOG	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	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.27	2.07	< 0.005	0.10	—	0.10	0.09	—	0.09	—	334	334	0.01	< 0.005	—	335
Dust From Material Movement	—	—	—	—	—	—	0.48	0.48	—	0.25	0.25	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.38	< 0.005	0.02	—	0.02	0.02	—	0.02	—	55.2	55.2	< 0.005	< 0.005	—	55.4
Dust From Material Movement	—	—	—	—	—	—	0.09	0.09	—	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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.76	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	160	160	0.01	0.01	0.02	162
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.02	10.3
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.68	1.68	< 0.005	< 0.005	< 0.005	1.71
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	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	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	TOG	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	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.62	6.01	5.29	0.01	0.25	—	0.25	0.23	—	0.23	—	1,157	1,157	0.05	0.01	—	1,161
Dust From Material Movement	—	—	—	—	—	—	0.63	0.63	—	0.25	0.25	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.10	0.97	< 0.005	0.05	—	0.05	0.04	—	0.04	—	192	192	0.01	< 0.005	—	192
Dust From Material Movement	—	—	—	—	—	—	0.12	0.12	—	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	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.99	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	194	194	0.01	0.01	0.78	197
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	0.00	0.00
Hauling	0.25	0.07	4.36	1.55	0.02	0.06	0.82	0.88	0.06	0.22	0.28	—	3,238	3,238	0.18	0.52	6.96	3,404
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.87	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.02	185
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	0.00	0.00
Hauling	0.24	0.07	4.51	1.57	0.02	0.06	0.82	0.88	0.06	0.22	0.28	—	3,239	3,239	0.18	0.52	0.18	3,398
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.06	32.8
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	0.00	0.00
Hauling	0.04	0.01	0.79	0.27	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	568	568	0.03	0.09	0.53	596
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
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	0.00	0.00
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	94.0	94.0	0.01	0.02	0.09	98.7

3.4. Grading (2024) - Mitigated

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

Location	TOG	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	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.60	3.60	—	1.43	1.43	—	—	—	—	—	—	—
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.62	6.01	5.29	0.01	0.25	—	0.25	0.23	—	0.23	—	1,157	1,157	0.05	0.01	—	1,161
Dust From Material Movement	—	—	—	—	—	—	0.63	0.63	—	0.25	0.25	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.10	0.97	< 0.005	0.05	—	0.05	0.04	—	0.04	—	192	192	0.01	< 0.005	—	192
Dust From Material Movement	—	—	—	—	—	—	0.12	0.12	—	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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.99	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	194	194	0.01	0.01	0.78	197
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	0.00	0.00
Hauling	0.25	0.07	4.36	1.55	0.02	0.06	0.82	0.88	0.06	0.22	0.28	—	3,238	3,238	0.18	0.52	6.96	3,404
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.87	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.02	185
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	0.00	0.00
Hauling	0.24	0.07	4.51	1.57	0.02	0.06	0.82	0.88	0.06	0.22	0.28	—	3,239	3,239	0.18	0.52	0.18	3,398
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.3	32.3	< 0.005	< 0.005	0.06	32.8
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	0.00	0.00
Hauling	0.04	0.01	0.79	0.27	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	568	568	0.03	0.09	0.53	596
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.43
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	0.00	0.00
Hauling	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	94.0	94.0	0.01	0.02	0.09	98.7

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	TOG	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	1.44	1.20	11.2	13.1	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.38	6.29	0.01	0.24	—	0.24	0.22	—	0.22	—	1,150	1,150	0.05	0.01	—	1,153
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.98	1.15	< 0.005	0.04	—	0.04	0.04	—	0.04	—	190	190	0.01	< 0.005	—	191
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.57	0.45	6.67	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,306	1,306	0.06	0.05	5.25	1,327
Vendor	0.05	0.02	0.83	0.38	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	602	602	0.03	0.08	1.55	629
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	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.56	0.50	5.84	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,233	1,233	0.07	0.05	0.14	1,249
Vendor	0.05	0.02	0.86	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	602	602	0.03	0.08	0.04	628
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.24	2.84	0.00	0.00	0.54	0.54	0.00	0.13	0.13	—	597	597	0.03	0.02	1.08	605
Vendor	0.02	0.01	0.41	0.19	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	289	289	0.01	0.04	0.32	301
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	98.8	98.8	0.01	< 0.005	0.18	100
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.8	47.8	< 0.005	0.01	0.05	49.9
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	0.00	0.00

3.6. Building Construction (2024) - Mitigated

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

Location	TOG	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	1.44	1.20	11.2	13.1	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.38	6.29	0.01	0.24	—	0.24	0.22	—	0.22	—	1,150	1,150	0.05	0.01	—	1,153
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.98	1.15	< 0.005	0.04	—	0.04	0.04	—	0.04	—	190	190	0.01	< 0.005	—	191
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.57	0.45	6.67	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,306	1,306	0.06	0.05	5.25	1,327
Vendor	0.05	0.02	0.83	0.38	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	602	602	0.03	0.08	1.55	629
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.61	0.56	0.50	5.84	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,233	1,233	0.07	0.05	0.14	1,249
Vendor	0.05	0.02	0.86	0.39	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	602	602	0.03	0.08	0.04	628
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.24	2.84	0.00	0.00	0.54	0.54	0.00	0.13	0.13	—	597	597	0.03	0.02	1.08	605
Vendor	0.02	0.01	0.41	0.19	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02	—	289	289	0.01	0.04	0.32	301

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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	98.8	98.8	0.01	< 0.005	0.18	100
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.8	47.8	< 0.005	0.01	0.05	49.9
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	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	TOG	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	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.60	5.58	6.97	0.01	0.23	—	0.23	0.21	—	0.21	—	1,281	1,281	0.05	0.01	—	1,285
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	0.11	1.02	1.27	< 0.005	0.04	—	0.04	0.04	—	0.04	—	212	212	0.01	< 0.005	—	213
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.54	0.41	6.25	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,281	1,281	0.06	0.04	4.80	1,300
Vendor	0.05	0.02	0.79	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	591	591	0.03	0.08	1.53	618
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.54	0.46	5.47	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,209	1,209	0.07	0.05	0.12	1,225
Vendor	0.05	0.02	0.82	0.38	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	592	592	0.03	0.08	0.04	617
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.28	0.24	2.97	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	652	652	0.03	0.03	1.11	661
Vendor	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	316	316	0.01	0.04	0.36	330
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.54	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	108	108	0.01	< 0.005	0.18	110
Vendor	< 0.005	< 0.005	0.08	0.04	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	52.3	52.3	< 0.005	0.01	0.06	54.6
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	0.00	0.00

3.8. Building Construction (2025) - Mitigated

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

Location	TOG	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	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.60	5.58	6.97	0.01	0.23	—	0.23	0.21	—	0.21	—	1,281	1,281	0.05	0.01	—	1,285
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.02	1.27	< 0.005	0.04	—	0.04	0.04	—	0.04	—	212	212	0.01	< 0.005	—	213
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.54	0.41	6.25	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,281	1,281	0.06	0.04	4.80	1,300
Vendor	0.05	0.02	0.79	0.37	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	591	591	0.03	0.08	1.53	618
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	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.54	0.46	5.47	0.00	0.00	1.14	1.14	0.00	0.27	0.27	—	1,209	1,209	0.07	0.05	0.12	1,225
Vendor	0.05	0.02	0.82	0.38	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	592	592	0.03	0.08	0.04	617
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.28	0.24	2.97	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	652	652	0.03	0.03	1.11	661
Vendor	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	316	316	0.01	0.04	0.36	330
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.54	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	108	108	0.01	< 0.005	0.18	110
Vendor	< 0.005	< 0.005	0.08	0.04	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	52.3	52.3	< 0.005	0.01	0.06	54.6
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	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	TOG	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	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	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	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.92	1.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	186	186	0.01	< 0.005	—	187
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
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	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136

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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.03	17.0
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.81
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	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	0.00	0.00

3.10. Paving (2025) - Mitigated

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

Location	TOG	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	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.92	1.23	< 0.005	0.04	—	0.04	0.04	—	0.04	—	186	186	0.01	< 0.005	—	187
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.9	30.9	< 0.005	< 0.005	—	31.0
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	< 0.005	0.53	144
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	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	0.01	0.01	0.01	136
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.7	16.7	< 0.005	< 0.005	0.03	17.0
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.77	2.77	< 0.005	< 0.005	< 0.005	2.81
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	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	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	TOG	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	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	44.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.7	15.7	< 0.005	< 0.005	—	15.8
Architectural Coatings	—	5.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.60	2.60	< 0.005	< 0.005	—	2.61
Architectural Coatings	—	0.95	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.09	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.02	245
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.8	28.8	< 0.005	< 0.005	0.05	29.2
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.76	4.76	< 0.005	< 0.005	0.01	4.83
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	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	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

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

Location	TOG	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	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	44.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.7	15.7	< 0.005	< 0.005	—	15.8
Architectural Coatings	—	5.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.60	2.60	< 0.005	< 0.005	—	2.61
Architectural Coatings	—	0.95	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.09	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.02	245
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.8	28.8	< 0.005	< 0.005	0.05	29.2
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.76	4.76	< 0.005	< 0.005	0.01	4.83
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	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	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartme Low Rise	5.93	5.46	3.73	38.6	0.09	0.07	7.99	8.06	0.07	2.03	2.09	—	9,367	9,367	0.44	0.36	31.4	9,517
Single Family Housing	2.93	2.70	1.84	19.1	0.05	0.04	3.95	3.98	0.03	1.00	1.03	—	4,629	4,629	0.22	0.18	15.5	4,704
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.86	8.16	5.57	57.7	0.14	0.11	11.9	12.0	0.10	3.03	3.13	—	13,997	13,997	0.66	0.54	46.9	14,221
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	5.82	5.34	4.09	36.5	0.09	0.07	7.99	8.06	0.07	2.03	2.09	—	8,952	8,952	0.47	0.38	0.81	9,078
Single Family Housing	2.88	2.64	2.02	18.1	0.04	0.04	3.95	3.98	0.03	1.00	1.03	—	4,424	4,424	0.23	0.19	0.40	4,487
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.69	7.98	6.12	54.6	0.13	0.11	11.9	12.0	0.10	3.03	3.13	—	13,376	13,376	0.71	0.57	1.22	13,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	0.94	0.86	0.66	5.95	0.01	0.01	1.29	1.30	0.01	0.33	0.34	—	1,336	1,336	0.07	0.06	2.01	1,356
Single Family Housing	0.51	0.47	0.36	3.21	0.01	0.01	0.70	0.70	0.01	0.18	0.18	—	721	721	0.04	0.03	1.08	732
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.45	1.33	1.02	9.17	0.02	0.02	1.98	2.00	0.02	0.50	0.52	—	2,057	2,057	0.11	0.09	3.09	2,088

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	5.52	5.09	3.47	35.9	0.09	0.07	7.44	7.51	0.06	1.89	1.95	—	8,725	8,725	0.41	0.34	29.2	8,865
Single Family Housing	2.87	2.64	1.80	18.7	0.04	0.03	3.86	3.90	0.03	0.98	1.01	—	4,529	4,529	0.21	0.17	15.2	4,601
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.39	7.73	5.27	54.6	0.13	0.10	11.3	11.4	0.09	2.87	2.96	—	13,254	13,254	0.63	0.51	44.4	13,466
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	5.42	4.97	3.81	34.0	0.08	0.07	7.44	7.51	0.06	1.89	1.95	—	8,338	8,338	0.44	0.36	0.76	8,456
Single Family Housing	2.81	2.58	1.98	17.7	0.04	0.03	3.86	3.90	0.03	0.98	1.01	—	4,328	4,328	0.23	0.18	0.39	4,389
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.23	7.56	5.79	51.7	0.12	0.10	11.3	11.4	0.09	2.87	2.96	—	12,666	12,666	0.67	0.54	1.15	12,845
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.87	0.80	0.61	5.55	0.01	0.01	1.20	1.21	0.01	0.30	0.31	—	1,244	1,244	0.06	0.05	1.87	1,263

Single Family Housing	0.50	0.45	0.35	3.14	0.01	0.01	0.68	0.69	0.01	0.17	0.18	—	705	705	0.04	0.03	1.06	716
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.37	1.26	0.96	8.69	0.02	0.02	1.88	1.90	0.02	0.48	0.49	—	1,949	1,949	0.10	0.08	2.93	1,979

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	868	868	0.05	0.01	—	871
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	664	664	0.04	< 0.005	—	666
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,532	1,532	0.09	0.01	—	1,537
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	868	868	0.05	0.01	—	871

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	664	664	0.04	< 0.005	—	666
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,532	1,532	0.09	0.01	—	1,537
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	144	144	0.01	< 0.005	—	144
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	110	110	0.01	< 0.005	—	110
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	254	254	0.01	< 0.005	—	255

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	413	413	0.02	< 0.005	—	414
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	323	323	0.02	< 0.005	—	324

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	736	736	0.04	< 0.005	—	739
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	406	406	0.02	< 0.005	—	408
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	320	320	0.02	< 0.005	—	321
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	726	726	0.04	< 0.005	—	729
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	67.8	67.8	< 0.005	< 0.005	—	68.1
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	53.2	53.2	< 0.005	< 0.005	—	53.4
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	121	121	0.01	< 0.005	—	121

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.06	0.03	0.53	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	670	670	0.06	< 0.005	—	671
Single Family Housing	0.06	0.03	0.48	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	—	612	612	0.05	< 0.005	—	614
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	1,282	1,282	0.11	< 0.005	—	1,285
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.06	0.03	0.53	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	670	670	0.06	< 0.005	—	671
Single Family Housing	0.06	0.03	0.48	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	—	612	612	0.05	< 0.005	—	614
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.12	0.06	1.01	0.43	0.01	0.08	—	0.08	0.08	—	0.08	—	1,282	1,282	0.11	< 0.005	—	1,285
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	111	111	0.01	< 0.005	—	111
Single Family Housing	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	101	101	0.01	< 0.005	—	102
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.02	0.01	0.18	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	212	212	0.02	< 0.005	—	213

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.06	0.03	0.48	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	—	606	606	0.05	< 0.005	—	607
Single Family Housing	0.05	0.03	0.43	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	549	549	0.05	< 0.005	—	551
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.11	0.05	0.91	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,155	1,155	0.10	< 0.005	—	1,158
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	0.06	0.03	0.48	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	—	606	606	0.05	< 0.005	—	607
Single Family Housing	0.05	0.03	0.43	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	549	549	0.05	< 0.005	—	551
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.11	0.05	0.91	0.39	0.01	0.07	—	0.07	0.07	—	0.07	—	1,155	1,155	0.10	< 0.005	—	1,158
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	100	100	0.01	< 0.005	—	101
Single Family Housing	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	90.9	90.9	0.01	< 0.005	—	91.1
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.17	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	191	191	0.02	< 0.005	—	192

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	6.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.17	1.11	0.12	12.5	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	—	33.5	33.5	< 0.005	< 0.005	—	33.6
Total	1.17	7.94	0.12	12.5	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	33.5	33.5	< 0.005	< 0.005	—	33.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	6.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	6.83	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	1.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.11	0.10	0.01	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.74	2.74	< 0.005	< 0.005	—	2.75
Total	0.11	1.35	0.01	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	2.74	2.74	< 0.005	< 0.005	—	2.75

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	6.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	6.83	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	6.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	6.83	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	1.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	1.25	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

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

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.4	79.5	89.9	1.07	0.03	—	124
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.51	45.9	50.4	0.47	0.01	—	65.4
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.4	79.5	89.9	1.07	0.03	—	124
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.51	45.9	50.4	0.47	0.01	—	65.4
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.9	125	140	1.53	0.04	—	190
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.72	13.2	14.9	0.18	< 0.005	—	20.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.75	7.60	8.35	0.08	< 0.005	—	10.8
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.46	20.8	23.2	0.25	0.01	—	31.4

4.4.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.4	59.4	69.8	1.07	0.03	—	104
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.51	25.9	30.4	0.46	0.01	—	45.3
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.9	85.3	100	1.53	0.04	—	149
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.4	59.4	69.8	1.07	0.03	—	104
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.51	25.9	30.4	0.46	0.01	—	45.3
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.9	85.3	100	1.53	0.04	—	149
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.72	9.84	11.6	0.18	< 0.005	—	17.2

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.75	4.28	5.03	0.08	< 0.005	—	7.50
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.46	14.1	16.6	0.25	0.01	—	24.7

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	61.4	0.00	61.4	6.14	0.00	—	215
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.9	0.00	23.9	2.39	0.00	—	83.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	61.4	0.00	61.4	6.14	0.00	—	215

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.9	0.00	23.9	2.39	0.00	—	83.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.2	0.00	10.2	1.02	0.00	—	35.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.96	0.00	3.96	0.40	0.00	—	13.8
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.1	0.00	14.1	1.41	0.00	—	49.4

4.5.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	61.4	0.00	61.4	6.14	0.00	—	215
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.9	0.00	23.9	2.39	0.00	—	83.6

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	61.4	0.00	61.4	6.14	0.00	—	215
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.9	0.00	23.9	2.39	0.00	—	83.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	85.3	0.00	85.3	8.53	0.00	—	298
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	10.2	0.00	10.2	1.02	0.00	—	35.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.96	0.00	3.96	0.40	0.00	—	13.8
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	14.1	0.00	14.1	1.41	0.00	—	49.4

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.94	0.94
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.94	0.94
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35

4.6.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.94	0.94
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.94	0.94
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.10	2.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.35	0.35

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	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

Equipment Type	TOG	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	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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

Equipment Type	TOG	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	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

Equipment Type	TOG	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	TOG	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	TOG	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	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	TOG	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	TOG	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	5.00	23.0	—
Grading	Grading	2/1/2024	4/30/2024	5.00	64.0	—

Building Construction	Building Construction	5/1/2024	9/30/2025	5.00	370	—
Paving	Paving	9/1/2025	10/31/2025	5.00	45.0	—
Architectural Coating	Architectural Coating	11/1/2025	12/31/2025	5.00	43.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	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	17.5	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	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	44.1	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	135	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	23.6	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	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	27.0	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

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—

Site Preparation	Worker	17.5	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	20.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	44.1	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	135	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	23.6	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	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	27.0	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	595,127	198,376	0.00	0.00	13,068

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	34.5	0.00	—
Grading	22,600	0.00	192	0.00	—
Paving	0.00	0.00	0.00	0.00	5.74

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
Apartments Low Rise	—	0%
Single Family Housing	0.74	0%
Other Asphalt Surfaces	5.00	100%

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	589	0.03	< 0.005
2025	0.00	589	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
Apartments Low Rise	1,232	1,371	1,056	447,753	10,168	11,312	8,719	3,695,355
Single Family Housing	670	677	607	241,650	5,530	5,590	5,010	1,994,368
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Low Rise	1,148	1,277	984	417,061	9,471	10,536	8,121	3,442,049
Single Family Housing	655	663	594	236,386	5,409	5,469	4,901	1,950,924
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	154
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	67
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)

Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	154
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	67
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
595127.25	198,376	0.00	0.00	13,068

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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)
Apartments Low Rise	537,959	589	0.0330	0.0040	2,089,073
Single Family Housing	411,466	589	0.0330	0.0040	1,910,635
Other Asphalt Surfaces	0.00	589	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
Apartments Low Rise	251,784	589	0.0330	0.0040	1,889,998
Single Family Housing	198,316	589	0.0330	0.0040	1,713,056
Other Asphalt Surfaces	0.00	589	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Low Rise	5,410,494	2,343,022
Single Family Housing	2,353,916	2,343,022
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Low Rise	5,410,494	0.00
Single Family Housing	2,353,916	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Low Rise	114	—
Single Family Housing	44.3	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Low Rise	114	—
Single Family Housing	44.3	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Low 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 Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Low 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 Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	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

5.15.2. Mitigated

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	7.94	annual days of extreme heat
Extreme Precipitation	2.15	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	1.25	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 (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
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	35.3
AQ-PM	91.2
AQ-DPM	40.2
Drinking Water	23.5
Lead Risk Housing	23.3
Pesticides	0.00
Toxic Releases	83.2
Traffic	35.6
Effect Indicators	—
CleanUp Sites	58.2

Groundwater	78.9
Haz Waste Facilities/Generators	87.7
Impaired Water Bodies	23.9
Solid Waste	98.0
Sensitive Population	—
Asthma	44.2
Cardio-vascular	32.2
Low Birth Weights	63.3
Socioeconomic Factor Indicators	—
Education	63.4
Housing	28.7
Linguistic	59.0
Poverty	28.4
Unemployment	43.1

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	75.43949698
Employed	5.838573078
Median HI	79.10945721
Education	—
Bachelor's or higher	36.87925061
High school enrollment	100
Preschool enrollment	28.78224047
Transportation	—

Auto Access	98.98626973
Active commuting	31.93891954
Social	—
2-parent households	63.27473374
Voting	50.45553702
Neighborhood	—
Alcohol availability	88.24586167
Park access	62.71012447
Retail density	19.73566021
Supermarket access	30.0012832
Tree canopy	7.609393045
Housing	—
Homeownership	50.03208007
Housing habitability	62.77428461
Low-inc homeowner severe housing cost burden	69.56242782
Low-inc renter severe housing cost burden	76.63287566
Uncrowded housing	34.15886052
Health Outcomes	—
Insured adults	38.36776594
Arthritis	94.2
Asthma ER Admissions	45.5
High Blood Pressure	96.6
Cancer (excluding skin)	93.3
Asthma	72.9
Coronary Heart Disease	94.7
Chronic Obstructive Pulmonary Disease	89.8
Diagnosed Diabetes	67.4

Life Expectancy at Birth	58.2
Cognitively Disabled	92.5
Physically Disabled	92.6
Heart Attack ER Admissions	59.6
Mental Health Not Good	49.5
Chronic Kidney Disease	85.5
Obesity	60.5
Pedestrian Injuries	45.3
Physical Health Not Good	66.1
Stroke	91.3
Health Risk Behaviors	—
Binge Drinking	17.1
Current Smoker	52.6
No Leisure Time for Physical Activity	45.0
Climate Change Exposures	—
Wildfire Risk	73.6
SLR Inundation Area	0.0
Children	33.8
Elderly	92.4
English Speaking	61.8
Foreign-born	71.1
Outdoor Workers	75.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	63.1
Traffic Density	67.4
Traffic Access	55.4
Other Indices	—

Hardship	46.0
Other Decision Support	—
2016 Voting	51.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	57.0
Healthy Places Index Score for Project Location (b)	50.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	221 Units, 23.8 acres Landscape - 260,783 sf (22,482 sf Rec Areas)
Construction: Construction Phases	Construction schedule provided by applicant

Operations: Vehicle Data	Detached - 10 weekday trips/unit Multi-family - 8 weekday trips/unit Weekend trips adjusted proportionately based on weekday trip rates and CalEEMod defaults
Operations: Hearths	No fireplaces or wood stoves