Greenhouse Gas Analysis for the Creek Plan Specific Plan Update San Marcos, California

EIR 2006121080

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Acronyms and Abbreviations

2017 Scoping Plan	2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target
2022 Scoping Plan	2022 Scoping Plan Update for Achieving Carbon Neutrality
AB	Assembly Bill
ACC	Advanced Clean Cars
BAU	business as usual
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
Checklist	Climate Action Plan Consistency Checklist
City	City of San Marcos
CO_2	carbon dioxide
County	County of San Diego
Energy Code	Building Energy Efficiency Standards
EO	Executive Order
GHG	greenhouse gas
GWP	global warming potential
IPCC	Intergovernmental Panel on Climate Change
MMT CO_2E	million metric tons carbon dioxide equivalent
MPO	Metropolitan Planning Organizations
MT CO_2E	metric tons of carbon dioxide equivalent
N_2O	nitrous oxide
project	Creek Plan Specific Plan Update
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SCS	Sustainable Communities Strategy
Scoping Plan	Climate Change Scoping Plan: A Framework for Change
SFE	single-family equivalency
TDM	Transportation Demand Management
U.S. EPA	U.S. Environmental Protection Agency
ZEV	zero-emission vehicle

Executive Summary

The Creek Plan Specific Plan Update (project) is in the southwest central portion of the City of San Marcos (City), California. The previously certified San Marcos Creek Specific Plan and Floodway Improvement Project Environmental Impact Report (2007 EIR; State Clearinghouse No. 2006121080; certified June 24, 2007) addressed impacts associated with the adopted San Marcos Creek Specific Plan (Adopted Specific Plan). The project proposes to modify the Adopted Specific Plan to establish a renewed vision for a distinct, mixed-use district that would serve as the City's cultural focal point and provide a mix of residential opportunities that couples urban living with a connection to nature. The project includes a General Plan Amendment, Specific Plan Amendment, and Rezone.

This analysis evaluates the significance of potential greenhouse gas (GHG) emissions impacts that may be generated by the proposed project in accordance with the California Environmental Quality Act (CEQA). This report evaluates the significance of potential impacts in terms of (1) the proposed project's contribution of GHGs to cumulative statewide emissions and (2) whether the proposed project would conflict with local and/or state regulations, plans, and policies adopted to reduce GHG emissions.

The City has an adopted Climate Action Plan (CAP) which is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP. The City has also developed a CAP Consistency Checklist (Checklist), in conjunction with the CAP, to provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

GHG emissions would result from future development within the Planning Area. Construction activities emit GHGs primarily through combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and the commute vehicles of the construction workers. Operational GHG emissions would result from mobile sources, energy use (electricity and natural gas), area sources (landscaping equipment), water and wastewater, solid waste, and refrigerants. For this program-level analysis, GHG emissions were calculated for buildout of the project and compared to GHG emissions associated with buildout of the Adopted Specific Plan to demonstrate if the project would be consistent with the CAP's projections. As shown in Table 9, buildout of the Adopted Specific Plan would result in 84,536 metric tons of carbon dioxide equivalent (MT CO_2E) per year and buildout of the project would result in 52,536 MT CO_2E per year for a total GHG emission reduction of 22,000 MT CO_2E. The CAP GHG emission forecasts and reductions account for growth anticipated under the Adopted Specific Plan. Because the project would result in a reduction in development and associated GHG emissions when compared to the Adopted Specific Plan, GHG emissions associated with the project are accounted for in the CAP. Because the CAP is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5, future development proposed under the project would be determined not to be cumulatively considerable if it complies with the requirements of the CAP. This would be demonstrated through completion of a Checklist where all future development would demonstrate that it would be less than the GHG screening threshold of 500 MT CO_2E per year

(see Table 7) or would implement the measures outlined in Step 2 of the Checklist. Therefore, because the project would not exceed the CAP projections and future development would demonstrate consistency with the CAP through completion of the Checklist, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

Additionally, the project would not conflict with implementation of statewide GHG reduction goals, the 2022 Scoping Plan, the 2025 Regional Plan, the San Diego County General Plan, or the CAP. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs, and impacts would be less than significant. No mitigation is required.

1.0 Introduction

This report evaluates the significance of potential impacts associated with greenhouse gas emissions that would be generated during construction and operation of the San Marcos Creek Specific Plan Update (project).

1.1 Understanding Global Climate Change

To evaluate the incremental effect of the proposed project on statewide greenhouse gas (GHG) emissions and global climate change, it is important to have a basic understanding of the nature of the global climate change problem. Global climate change is an alteration in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1760, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat trapped in Earth's atmosphere. Recently observed increased concentrations of GHGs in the atmosphere appear to be related to increases in human activity. Therefore, the current cycle of "global warming" is believed to be largely due to human activity. Of late, the issue of global warming, or global climate change, has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is believed that the increased GHG concentrations around the world are related to human activity and the collective of human actions taking place throughout the world, it is quintessentially a global or cumulative issue.

1.2 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring and anthropogenic. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP. GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide (CO_2). Because CO_2 is the reference gas for establishing GWP, by definition its GWP is 1. Although methane (CH_4) has a shorter atmospheric lifetime than CO_2, it has a 100-year GWP of 28; this means that CH_4 has 28 times more effect on global warming than CO_2.

GWP is officially defined as (U.S. Environmental Protection Agency [U.S. EPA] 2010):

> The cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas.

GHG emissions estimates are typically represented in terms of equivalent metric tons of CO_2 (MT CO_2E). CO_2E emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT CO_2E and can be summed to represent the total potential of these gases to warm the global climate. Table 1 summarizes some of the most common GHGs.

Table 1
Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO_2)	50–200	1	1
Methane (CH_4)	12.4	25/28*	84
Nitrous oxide (N_2O)	121	298/265*	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF_4	50,000	6,630	4,880
C_2F_6	10,000	11,100	8,210
C_3F_8	2,600	8,900	6,640
C_4F_{10}	2,600	9,200	6,870
c-C_4F_8	3,200	9,540	7,110
C_5F_{12}	4,100	8,550	6,350
C_6F_{14}	3,100	7,910	5,890

Table 1 Global Warming Potentials and Atmospheric Lifetimes			
Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
SF_6	3,200	23,500	17,500
GWP = global warming potential SOURCE: Intergovernmental Panel on Climate Change 2007, 2014. *The CH_4 and N_2O 100-year GWPs included in CalEEMod are 25 and 298, respectively, from the Intergovernmental Panel on Climate Change Fourth Assessment Report. All other values are from the current Fifth Assessment Report.			

It should be noted that the U.S. EPA and other organizations update the GWP values they use occasionally. This change can be due to updated scientific estimates of the energy absorption or lifetime of the gases or to changing atmospheric concentrations of GHGs that result in a change in the energy absorption of one additional ton of a gas relative to another. The GWPs shown in Table 1 are the most current. However, it should be noted that in the California Emissions Estimator Model (CalEEMod), which is the model used in this analysis to calculate emission, CH_4 has a GWP of 25 and nitrous oxide (N_2O) has a GWP of 298, consistent with the 2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target (2017 Scoping Plan; California Air Resources Board [CARB] 2017).

All of the gases in Table 1 are produced by either biogenic (natural) sources or anthropogenic (human) sources or both. These are the GHGs of primary concern in this analysis. CO_2 would be emitted by the proposed project due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, from water use, and from solid waste disposal. Smaller amounts of CH_4 and N_2O would be emitted from the same sources.

2.0 Project Location and Description

2.1 Project Location

The Creek District (Planning Area) is in the southwest central portion of the City of San Marcos (City), approximately one mile southwest of the City's Town Center, and one mile northwest of California State University, San Marcos. The Planning Area is generally bounded on the north by San Marcos Boulevard, on the south and west by Discovery Street, and on the east by Grand Avenue and State Route 78 (SR-78). A mix of commercial and industrial land uses are located north and east of the Planning Area, and residential uses and schools are located south and west of the Planning Area. The northern portion of the Planning Area is generally developed with a mix of commercial, industrial, and residential uses and undeveloped lots, and the southern portion of the Planning Area is preserved as park and open space. Figure 1 shows the regional location. Figure 2 shows an aerial photograph of the project site and vicinity.

2.2 Project Background and History

The previously certified San Marcos Creek Specific Plan and Floodway Improvement Project Environmental Impact Report (2007 EIR; State Clearinghouse No. 2006121080; certified June 24, 2007) addressed impacts associated with the adopted San Marcos Creek Specific Plan (Adopted Specific Plan). The project analyzed in the 2007 EIR included three component parts: (1) a program-level analysis of implementation of the San Marcos Creek Specific Plan (Adopted Specific Plan); (2) project-level analyses of floodway improvements to San Marcos Creek, including hydraulic improvements to SR-78; and (3) roadway and infrastructure improvements. The Adopted Specific Plan was adopted in 2007 to provide a comprehensive vision for the Planning Area, along with goals, policies, and development standards to guide future public and private actions relating to the Planning Area's development and conservation of open space and natural resources (City of San Marcos 2007). The Adopted Specific Plan was found to be consistent with, and currently serves as an extension of, the San Marcos General Plan. The Adopted Specific Plan includes goals and policies specific to the Planning Area. Development within the Planning Area was also held to design guidelines and development standards focused on a transformation from its uncoordinated and underutilized condition into a vibrant, commercial, mixed-use town center.

Since 2007, several major events have impeded the feasibility of on-going private development in the Planning Area, including the following:

- Economic uncertainty, starting with the 2008 global financial crisis
- Dissolution of redevelopment agencies by the State of California (taking away an important funding source)
- Build-out of the adjacent University District/North City area
- Shifting market demands for retail and office space following the COVID-19 pandemic

2.3 Project Description

The project proposes to modify the Adopted Specific Plan to establish a renewed vision for a distinct, mixed-use district that would serve as the City's cultural focal point and provide a mix of residential opportunities that couples urban living with a connection to nature. The project includes a General Plan Amendment, Specific Plan Amendment, and Rezone.

2.3.1 Land Use

The Planning Area is organized into nine distinct land use districts, each intended to support a cohesive mix of housing, commercial activity, cultural amenities, and open space while maintaining compatibility with surrounding uses. Together, these districts establish a graduated range of residential intensities, mixed-use and commercial areas, parkland, and protected open space along San Marcos Creek. The framework is designed to promote walkability, economic vitality, community gathering spaces, and environmental stewardship.

Housing H-1: This district would accommodate lower-intensity, small-scale residential development featuring a variety of housing types, including small-lot subdivisions, cottage clusters, townhomes,

duplexes, triplexes, and fourplexes. Developments are encouraged to integrate multiple compatible housing types within a single project to respond to site conditions, expand housing choice, and create varied streetscapes that reinforce a cohesive neighborhood character. Limited neighborhood-serving commercial uses are permitted as a secondary use, provided they do not involve late-night operations or activities that generate excessive noise.

Housing H-2: This district would allow for medium-intensity housing consisting of garden apartments, stacked flats, and units wrapped around a parking structure. Commercial uses would be allowed as a secondary use..

Housing H-3: This district would allow for the highest-density housing within the plan area, at an urban scale, consisting of multi-level apartments and condominiums, generally constructed over a podium containing commercial uses and parking. Fully integrated mixed-use buildings are encouraged, with commercial and office uses occupying the ground floor and offices allowed on upper floors as well. The district would also accommodate horizontal mixed-use development approaches, where stand-alone commercial buildings are constructed on the same site as residential, with the uses able to share parking facilities.

Entertainment, Arts, and Culture (EAC): This district would provide areas for live entertainment venues, museums, art galleries, community centers, public plazas, and similar facilities serving a broad community. Complementary commercial uses are allowed.

Commercial (C): This district would incorporate a broad array of retail commercial, dining, service-oriented, and office business uses that serve local residents and San Marcos visitors. The focus would be on active commercial uses. Specifically prohibited are self-storage facilities and drive-through establishments. .

Creekside Promenade (CSP): This district would apply to properties fronting Creekside Drive, where the back parts of properties may have a separate district applied. Commercial uses are required along the Creekside Drive frontage, with ground-floor uses consisting of those that benefit from views to the creek, such as restaurants and cafes with an outdoor dining component. Given the pedestrian-oriented character of this district, drive-through establishments would not be allowed. Rooftop active uses would be encouraged.

Unmodified Specific Plan Area (USPA): The USPA designation would apply to properties developed prior to 2025 and pursuant to the Adopted Specific Plan. As these properties would not be subject to redevelopment, the use regulations reflect the original intent of this sub-district: mixed-use development combining moderate-density housing with ground-floor commercial uses, with new flexibility for ground-floor uses.

Open Space – Parks (OS-P): This district would reflect existing park space and recreation uses along San Marcos Creek and allows for any future enhancement. The intent of this district would be development of trails, green space, and recreation equipment within these public spaces, with full public access. Parks and recreation uses would also be permitted within any of the other land use districts, except for Open Space-Conservation. .

Open Space – Conservation (OS-C): In contrast to the Open Space-Parks district, the Open Space-Conservation district consist consists of natural open space areas that would not allow public access. The designated areas are intended to support habitat and flood control areas, including properties subject to conservation easements. .

The project's land use plan is shown in Figure 3, and Table 2 identifies the nine districts with dedicated acreages.

Table 2
Land Use Districts/Acreages

Land Use District	Area (acres)
H-1 (Lowest Intensity Housing Focused)	15.87
H-2 (Medium Intensity Housing Focused)	24.42
H-3 (Highest Intensity Housing Focused)	8.31
EAC (Entertainment, Arts, and Culture)	9.44
C (Commercial)	12.18
CSP (Creekside Promenade)	2.47
USPA (Unmodified Specific Plan Area)	8.01
OS-P (Open Space – Parks)	17.89
OS-C (Open Space – Conservation)	83.45

2.3.2 Mobility Concepts

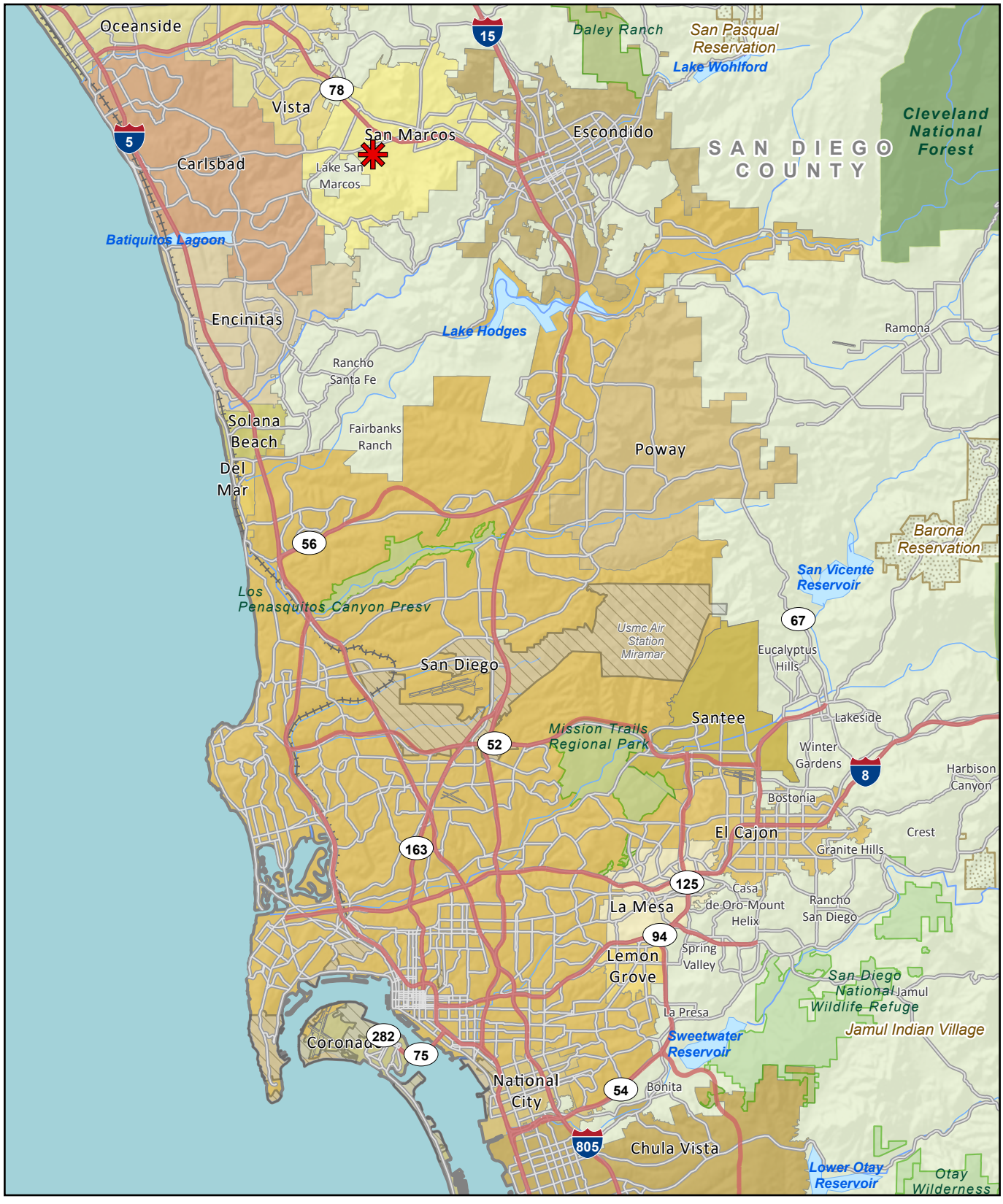
The Specific Plan Update includes a framework aimed at improving the internal circulation within the Planning Area. As an existing grid system, the street network currently consists of collectors and local access streets interconnected within a framework of primary, major, and secondary arterials that serve the Planning Area. The Specific Plan Update would improve opportunities to connect to planned regional bike routes and enhance access for cyclists and pedestrians. Additional connections to both light rail and regional transit would be encouraged. The proposed circulation system and its relationship to surrounding city and regional roadways is shown in Figure 4.

2.3.3 Development Potential

The general mix of land uses within the 214-acre Planning Area would remain the same under the Specific Plan Update compared to the Adopted Specific Plan. The Planning Area would continue to support commercial and mixed-use residential development along with designated open space and community amenities. Tables 3 and 4 summarize modification to the land use mix and development potential under both plans.

Table 3 Development Acreages		
Districts	Adopted Specific Plan (acres)	Specific Plan Update (acres)
Developable Areas (includes residential, commercial uses)	81.3	72.97
USPA	Included in acreages for development and parks	8.01
Open Space - Parks	20.6	17.89
Open Space - Conservation	73.6	83.45
ROW	38.5	31.96
Total	**214**	**214**

Table 4 Build-Out Projections		
Use	Adopted Specific Plan	Specific Plan Update
Population	6,831 residents	6,831 residents
Employment	2,530 jobs	1,312 jobs
Residential	2,760,000 sf/ 2300 DU	2,261,701 sf/ 2,300 DU
Commercial	1,265,000 sf	655,856 sf
DU = dwelling units sf=square feet		



Project Location

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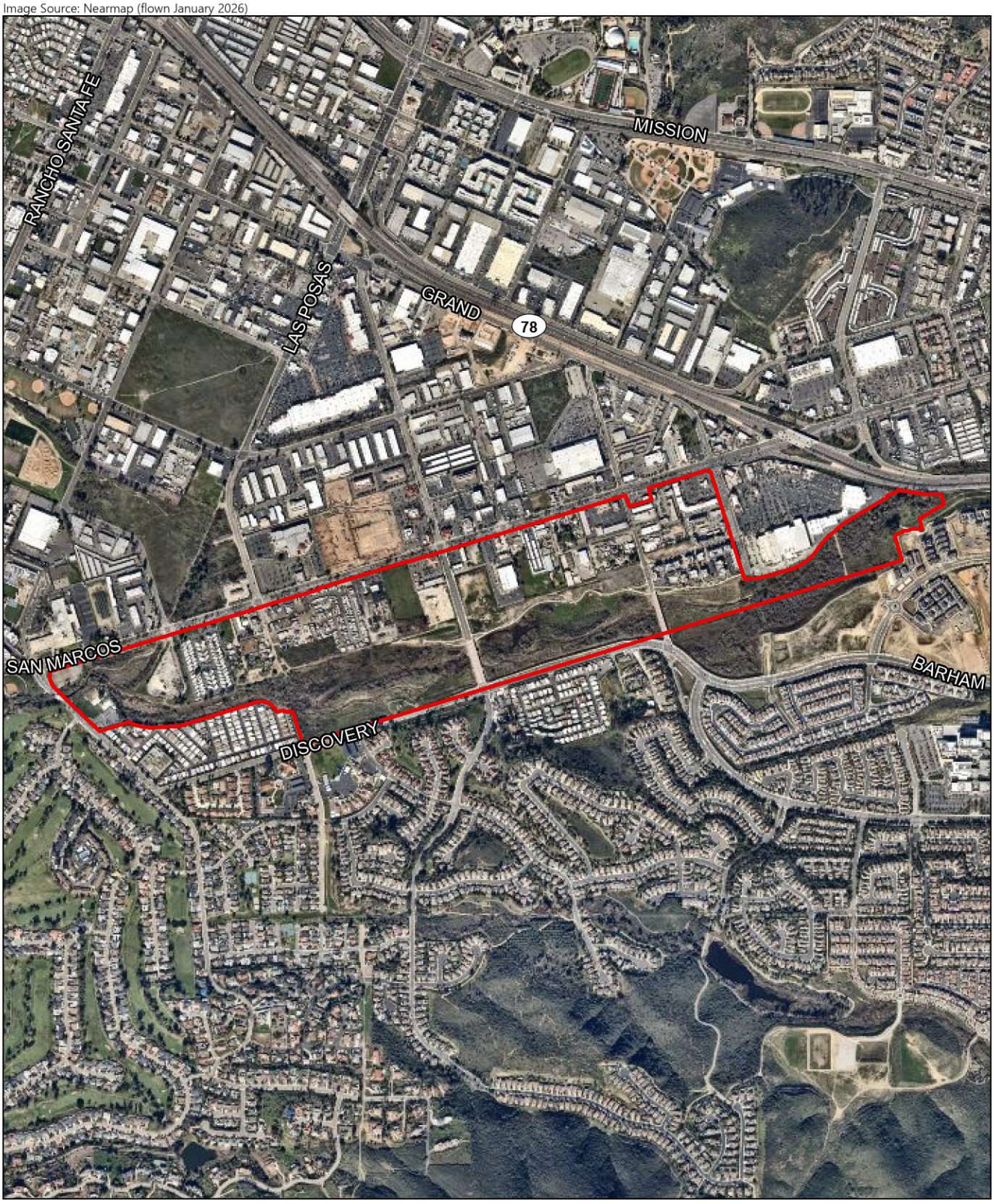
FIGURE 1
Regional Location

Image Source: Nearmap (flown January 2026)



0 Feet 1,400

Planning Area Boundary

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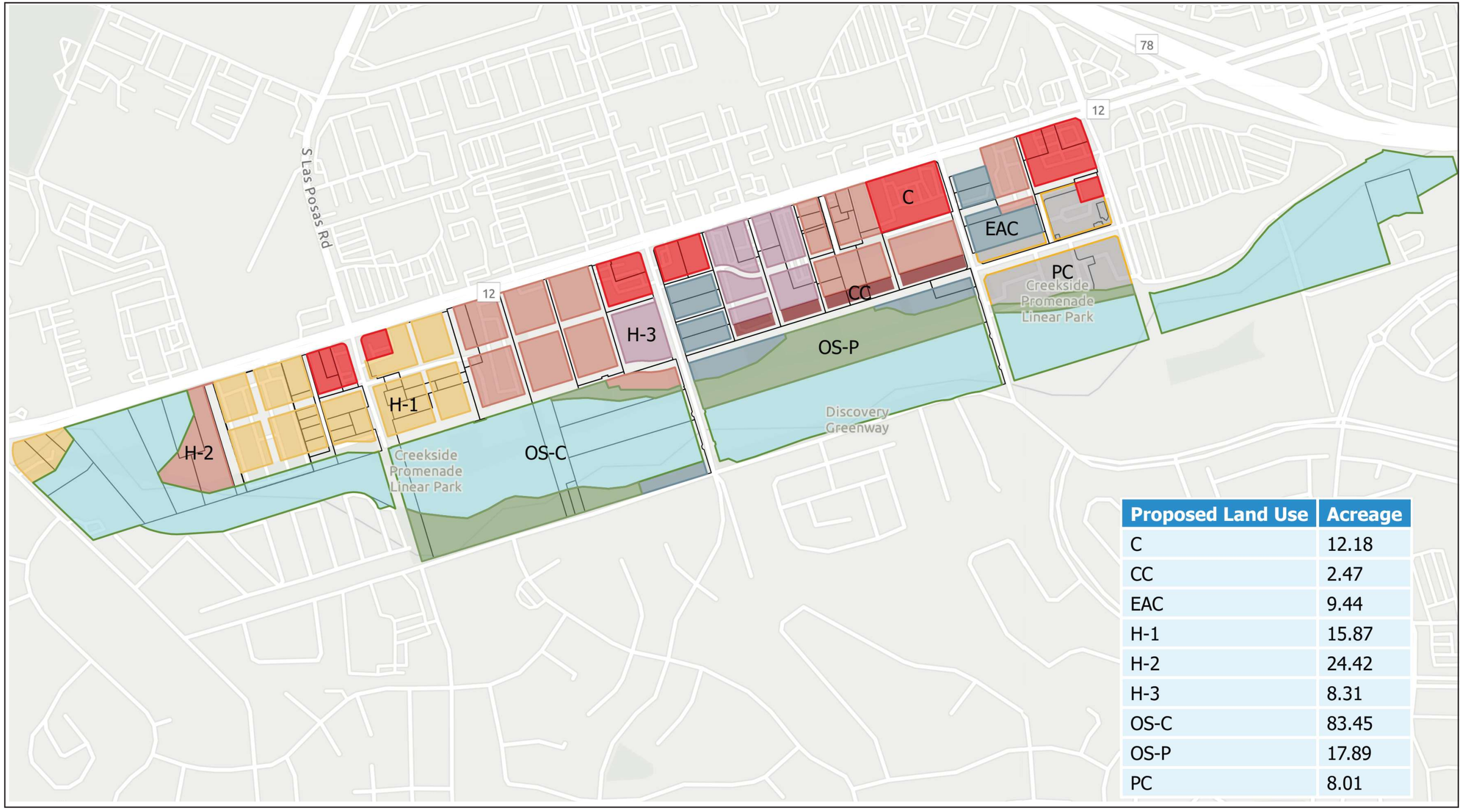
FIGURE 2
Project Location on Aerial Photograph



Proposed Land Use	Acreage
C	12.18
CC	2.47
EAC	9.44
H-1	15.87
H-2	24.42
H-3	8.31
OS-C	83.45
OS-P	17.89
PC	8.01

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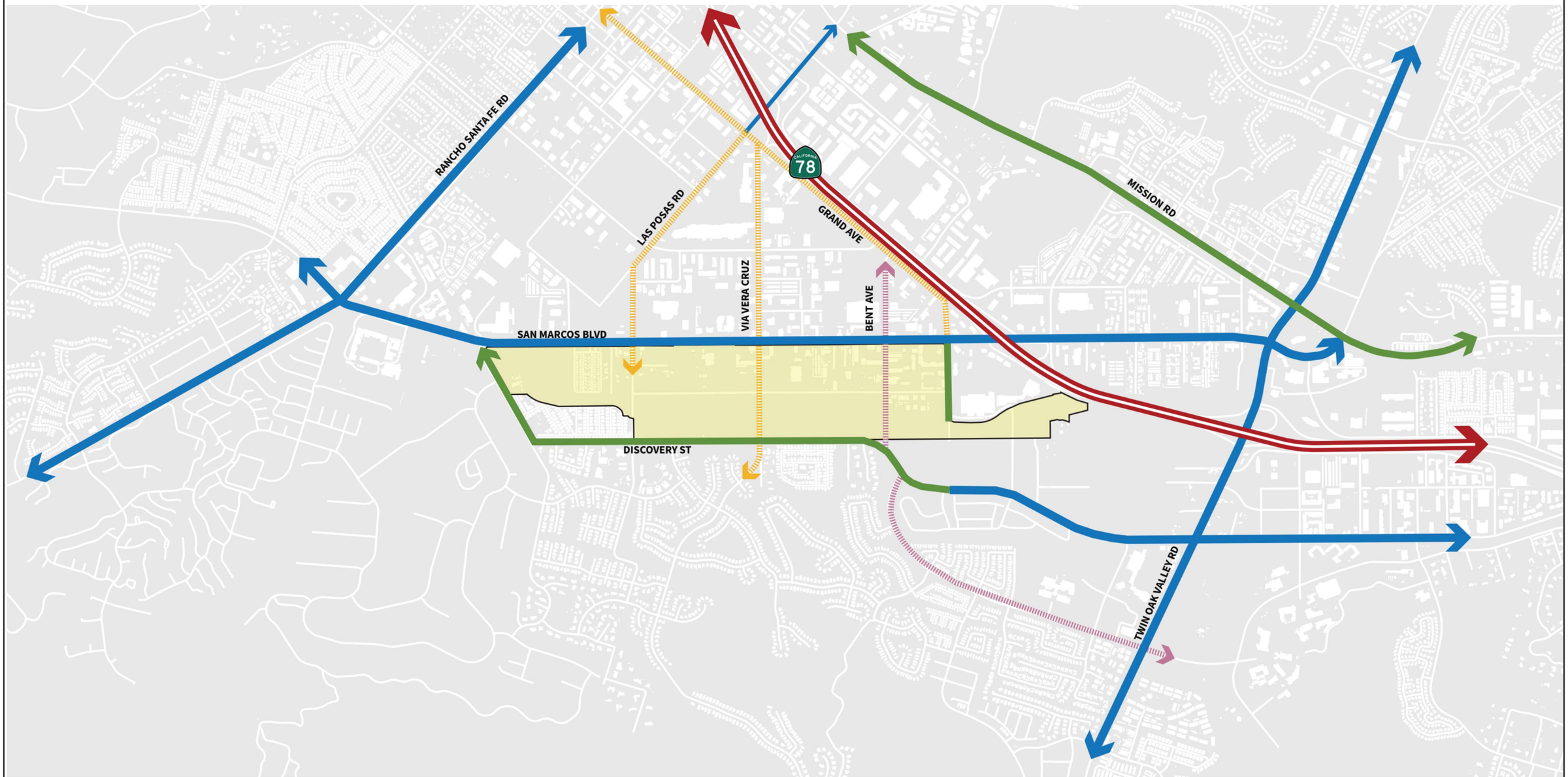
FIGURE 3
Proposed Land Use Plan



Plan Area Boundary

State Freeway

Primary Arterial

Major Arterial

Secondary Arterial

Collector

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FIGURE 4
Proposed Circulation System Use

3.0 Environmental Setting

3.1 State GHG Inventory

The CARB performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of CO_2 equivalent (MMT CO_2E). Table 5 shows the estimated statewide GHG emissions for the years 1990, 2005, 2012, and 2023. Although annual GHG inventory data is available for years 2000 through 2023, the years 1990, 2005, 2012, and 2023 are highlighted in Table 5 because 1990 is the baseline year for established reduction targets, 2005 and 2012 correspond to the same years for which inventory data for the City is available, and 2023 is the most recent data available.

Table 5
California GHG Emissions by Sector

Sector	1990[1] Emissions in MMT CO_2E (% total)[2]	2005[3] Emissions in MMT CO_2E (% total)[2]	2012[3] Emissions in MMT CO_2E (% total)[2]	2023[3] Emissions in MMT CO_2E (% total)[2]
Electricity Generation	110.5 (25.7%)	108.2 (22.9%)	99.7 (22.9%)	57.3 (15.9%)
Transportation	150.6 (35.0%)	187.0 (39.7%)	161.5 (37.1%)	137.2 (38.1%)
Industrial	105.3 (24.4%)	96.0 (20.4%)	88.8 (20.4%)	78.4 (21.8%)
Commercial	14.4 (3.4%)	16.1 (3.4%)	20.1 (4.6%)	23.5 (6.5%)
Residential	29.7 (6.9%)	30.4 (6.4%)	30.9 (7.1%)	34.7 (9.6%)
Agriculture & Forestry	18.9 (4.4%)	33.8 (7.2%)	34.9 (8.0%)	29.2 (8.1%)
Not Specified	1.3 (0.3%)	--	--	--
TOTAL[4]	**430.7**	**471.5**	**435.8**	**360.4**

GHG = greenhouse gas; MMT CO_2E = million metric tons of carbon dioxide equivalent; % = percent
SOURCE: California Air Resources Board (CARB) 2007 and 2025.
[1]1990 data was obtained from the CARB 2007 source and are based on the Intergovernmental Panel on Climate Change fourth assessment report global warming potentials.
[2]Percentages may not total 100 due to rounding.
[3]2005, 2012, and 2023 data was retrieved from the CARB 2025 source and are based on Intergovernmental Panel on Climate Change fourth assessment report global warming potentials.
[4]Totals may vary due to independent rounding.

As shown in Table 5, statewide GHG source emissions totaled approximately 430.7 MMT CO_2E in 1990, 471.5 MMT CO_2E in 2005, 435.8 MMT CO_2E in 2012, and 360.4 MMT CO_2E in 2023. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. As shown in Table 5, transportation-related emissions consistently contribute to the most GHG emissions.

3.2 City of San Marcos GHG Inventory

GHG emission inventories were prepared as a part of the City's original 2013CAP and the current CAP that was adopted in 2020. The year 2005 GHG inventory from the original CAP and the year 2012 GHG inventory from the current CAP are presented in Table 6.

Table 6
City of San Marcos GHG Emissions in 2005 and 2012

Source	2005 Inventory		2012 Inventory	
	MT CO_2E	%	MT CO_2E	%
On-Road Transportation	144,517	35	322,000	54
Electricity and Natural Gas[1]	185,946	45	237,000	39
Solid Waste	21,714	5	15,000	3
Off-Road Transportation	40,437	10	14,000	2
Water	12,757	3	9,000	1
Wastewater	6,568	2	3,000	<1
TOTAL[2]	**411,939**	**100**	**599,000**	**100**

GHG = greenhouse gas; MT CO_2E = metric tons of carbon dioxide equivalent; % = percent
SOURCE: City of San Marcos 2013 and 2020a.
[1]The 2005 inventory provides combined electricity and natural gas emissions for the residential sector and the commercial/industrial sector, while the 2012 inventory provides total combined electricity emissions and total combined natural gas emissions. All energy-related GHG emissions were combined for the purposes of this summary.
[2]Total may vary due to independent rounding.

4.0 Regulatory Background

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a discussion of the federal, state, and local plans and regulations most applicable to the proposed project.

4.1 Federal

4.1.1 U.S. Environmental Protection Agency

In 2009, the U.S. EPA issued its science-based finding that the buildup of heat-trapping GHGs in the atmosphere endangers public health and welfare. The "Endangerment Finding" reflects the overwhelming scientific evidence on the causes and impacts of climate change. It was made after a thorough rulemaking process, which considered thousands of public comments, and was upheld by the federal courts.

The U.S. EPA has many federal-level programs and projects to reduce GHG emissions. The U.S. EPA provides regulatory actions and initiatives to reduce GHGs associated with high global warming chemicals; transportation/mobile sources; and stationary sources such as oil and gas industries, power plants, and landfills. The GHG Reporting Program collects GHG data from large emission sources across a range of industry sectors, as well as suppliers of products that would emit GHGs if released or combusted. Under the federal Clean Air Act (CAA; 40 Code of Federal Regulations Part 98), facilities that meet reporting thresholds must report GHG emissions to the program annually (U.S. EPA 2025).

In *Massachusetts et al. v. Environmental Protection Agency et al.,* 549 U.S. 497 (2007), the Supreme Court of the United States ruled that CO_2 is an air pollutant as defined under the CAA and that the U.S. EPA has the authority to regulate GHG emissions. In 2010, the U.S. EPA started to address GHG emissions from stationary sources through its New Source Review permitting program, including operating permits for "major sources" issued under Title V of the CAA.

On February 12, 2026, the U.S. EPA repealed the Endangerment Finding along with all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines pursuant to CAA Section 202(a).

4.1.2 Corporate Average Fuel Economy Standards

The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the United States. The National Highway Traffic Safety Administration sets CAFE standards for passenger cars and for light trucks (collectively, light-duty vehicles) and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel. The most recent standards require an industry-wide fleet average of approximately 50.4 miles per gallon for passenger cars and light trucks in model year 2031. The final CAFE standards increase at a rate of 2 percent per year for passenger cars in model years 2027 to 2031 and 2 percent per year for light trucks in model years 2029 to 2031.

4.1.3 Public Laws

There have been recent congressional actions that affect California emission standards. They are discussed below.

4.1.3.1 Public Law No. 119-15

On June 12, 2025, Public Law No. 119-15, enacting House Joint Resolution 87, was signed into law. The law used the Congressional Review Act to nullify U.S. EPA's rule that had granted California a waiver to enforce stricter emissions standards for heavy-duty vehicles under the CAA. The disapproved rule included programs such as the Advanced Clean Trucks regulation and zero-emission requirements for airport shuttles. Passed under the Congressional Review Act, the law prevents U.S. EPA from implementing or reissuing the same or similar rules without new

congressional authorization. This effectively blocks California, and other states that follow its standards, from enforcing these specific vehicle emission and warranty regulations.

4.1.3.2 Public Law No. 119-16

Similarly on June 12, 2025, Public Law No. 119-16, enacting House Joint Resolution 88, became law. The law also relied on the Congressional Review Act to void the U.S. EPA's December 2024 waiver under the CAA that allowed California to implement and enforce the Advanced Clean Cars (ACC) II regulation. ACC II included a zero-emission vehicle (ZEV) mandate targeting 100 percent new light-duty ZEV sales by 2035. Public Law No. 119-16 marks the first ever occurrence that waivers under the CAA have been revoked under the Congressional Review Act. The implications of this law on the state's capability to enforce its independent fuel economy standards are uncertain at this time, as the California Attorney General is pursuing legal action challenging Public Law No. 119-16.

4.2 State

The state of California has adopted a number of plans and regulations aimed at identifying statewide and regional GHG emissions caps, GHG emissions reduction targets, and actions and timelines to achieve the target GHG reductions.

4.2.1 Executive Orders and Statewide GHG Emission Targets

4.2.1.1 Executive Order S-3-05

Executive Order (EO) S-3-05 established the following GHG emission reduction targets for the state of California:

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

This EO also directs the secretary of the California Environmental Protection Agency to oversee the efforts made to reach these targets and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and document mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006 and has since been updated every two years.

4.2.1.2 Executive Order B-30-15

EO B-30-15, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05.

Additionally, this EO directed CARB to update its Climate Change Scoping Plan to address the 2030 goal.

4.2.1.3 Assembly Bill 1279

Assembly Bill (AB) 1279, 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 CO_2 removal solutions and carbon capture, utilization, and storage technologies.

4.2.2 California Global Warming Solutions Act

In response to EO S-3-05, the California Legislature passed AB 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009, indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

In 2008, CARB estimated that annual statewide GHG emissions were 427 MMT CO_2E in 1990 and would reach 596 MMT CO_2E by 2020 under a business as usual (BAU) condition (CARB 2008). To achieve the mandate of AB 32, CARB determined that a 169 MMT CO_2E (or approximately 28.5 percent) reduction in BAU emissions was needed by 2020. In 2010, CARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. CARB determined that the economic downturn reduced the 2020 BAU by 55 MMT CO_2E; as a result, achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 (not 28.5) percent from the 2020 BAU. California has achieved its 2020 goal.

Approved in September 2016, Senate Bill (SB) 32 updates the California Global Warming Solutions Act of 2006 and enacts EO B-30-15. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. This is equivalent to an emissions level of approximately 260 MMT CO_2E for 2030. In implementing the 40 percent reduction goal, CARB is required to prioritize emissions reductions to consider the social costs of the emissions of GHGs; where "social costs" is defined as "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emission per year."

4.2.3 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, CARB adopted the Climate Change Scoping Plan: A Framework for Change (Scoping Plan) in 2008, which identifies the main strategies California will implement to achieve the GHG reductions necessary to reduce forecasted

BAU emissions in 2020 to the state's historic 1990 emissions level (CARB 2008). In November 2017, CARB released the 2017 Scoping Plan (CARB 2017). The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, ACC Program, Renewables Portfolio Standard (RPS), Sustainable Communities Strategy (SCS), Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally, the 2017 Scoping Plan proposes new policies to address GHG emissions from natural and working lands. The 2022 Scoping Plan Update for Achieving Carbon Neutrality (2022 Scoping Plan; CARB 2022) 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 other areas, and it 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.

4.2.4 Regional Emissions Targets – Senate Bill 375

SB 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a SCS or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan (RTP). The County's MPO is the San Diego Association of Governments (SANDAG), and the region's SCS/RTP is the 2025 Regional Plan (see Section 4.3.2). The current targets for the region are 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. These targets will be reviewed and updated in 2026.

4.2.5 Renewables Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. SB 350 (2015) increased California's renewable energy mix goal to 50 percent by the year 2030. SB 100 (2018) further increased the standard set by SB 350 establishing the RPS goal of 44 percent by the end of 2024, 52 percent by the end of 2027, and 60 percent by 2030. SB 1020 (2022) again revised the policy establishing the RPS goal of 90 percent by the end of 2035, 95 percent by the end of 2040, and 100 percent by the end of 2045. SB 1020 also broadened the applicability of electricity sources eligible under RPS to include "zero-carbon resources," which allows for large hydroelectric sources to be considered toward RPS procurement targets.

4.2.6 Assembly Bill 341 – Solid Waste Diversion

The Commercial Recycling Requirements mandate that businesses (including public entities) generating 4 cubic yards or more of commercial solid waste per week and multi-family residential development with five units or more arrange for recycling services. Businesses can take one or any combination of the following in order to reuse, recycle, compost, or otherwise divert solid waste from disposal. Additionally, AB 341 mandates that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020.

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

The California Code of Regulations, 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.

4.2.7.1 Title 24, Part 6 – Energy Efficiency Standards

The California Code of Regulations, Title 24, Part 6 is the California Energy Efficiency Standards for Residential and Nonresidential Buildings (also known as the California Energy Code). This code, originally enacted in 1978, establishes energy-efficiency standards for residential and nonresidential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficient technologies and methodologies as they become available, and incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum standards.

The current 2025 Title 24 Building Energy Efficiency Standards went into effect on January 1, 2026. The 2025 Energy Code builds on previous versions and expands the use of heat pumps in newly constructed residential buildings, encourages electric readiness, and strengthens ventilation standards. New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The compliance reports must demonstrate a building's energy performance through use of CEC approved energy performance software that shows iterative increases in energy efficiency given the selection of various heating, ventilation, and air conditioning; sealing; glazing; insulation; and other components related to the building envelope.

4.2.7.2 Title 24, Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The current 2025 CALGreen standards became effective January 1, 2026. CALGreen institutes mandatory minimum environmental performance standards for all ground-up

new construction of nonresidential and residential structures. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements. The mandatory measures are related to planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CALGreen also includes two tiers of residential and nonresidential voluntary measures that encourage local jurisdictions to raise the sustainability goals: Tier 1 adds additional requirements beyond the mandatory measures, and Tier 2 further increases the requirements.

Similar to the reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen mandatory requirements must be demonstrated through completion of compliance forms and worksheets.

4.3 Local

4.3.1 City of San Marcos Climate Action Plan

The City's CAP was first adopted in 2013 in compliance with the adopted policies in the General Plan and consistent with the State of California's AB 32. On December 8, 2020, the City adopted an updated CAP. The updated 2020 CAP contains a baseline 2012 City GHG inventory and establishes projected GHG emissions and reduction targets for the year 2030 to meet the State's GHG reduction goals mandated by SB 32 and to make reasonable progress toward the State's post-2030 GHG reduction goals, including achieving carbon neutrality statewide by 2045. The City plans to achieve the following municipal and community GHG emissions reductions (City of San Marcos 2020a):

- 4 percent below 2012 levels by 2020
- 42 percent below 2012 levels by 2030

The CAP identifies 8 strategies and 22 measures to achieve these GHG emissions reduction targets and achieve proportionate progress towards the State's post-2030 GHG reduction goals. The City's CAP is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5. Development projects consistent with an applicable local qualified GHG reduction plan are eligible for streamlined GHG analysis.

4.3.2 Regional Transportation Plan/Sustainable Communities Strategy

The 2025 Regional Plan was adopted by SANDAG on December 12, 2025 (SANDAG 2025). The 2025 Regional Plan consists of the following three components: (1) the RTP that describes existing and projected transportation needs, conditions, and financing affecting all modes of transportation, (2) the SCS that integrates transportation, land use, and housing into the planning process and demonstrates how GHG emissions will be reduced to meet state mandated targets, and (3) the Regional Comprehensive Plan based on local general and regional plans that integrates land uses, transportation systems, infrastructure needs, and public investment strategies within a regional framework, in cooperation with member agencies and the public. The 2025 Regional Plan includes a blueprint for a regional transportation system, serving existing and projected residents and workers

within the San Diego region that further enhances quality of life and offers more mobility options for people and goods. The 2025 Regional Plan looks ahead to 2050 and accommodates for more than 112,000 new residents, approximately 170,000 new jobs, and over 202,000 new housing units.

The underlying purpose of the 2025 Regional Plan is to develop a regional strategy that meets federal and state planning requirements and addresses the regional transportation needs of both the population of today and the population of the future. These transportation needs impact the quality of life in the San Diego region, including ensuring access to economic opportunities, remedying historical social inequities, planning for climate change, and prioritizing public health and safety. The 2025 Regional Plan envisions a sustainable and resilient future for the region and economy supported by a transportation network that is convenient, equitable, healthy, and safe. To accomplish this purpose, the objectives of the 2025 Regional Plan are as follows:

- Focus population and employment growth to protect sensitive habitat and natural resource areas.
- Provide transportation investments that support compact land development patterns and reduce VMT.
- Meet GHG emissions targets established for the San Diego region by CARB.
- Provide transportation investments and a land use pattern that promotes social equity.
- Provide transportation investments and a land use pattern that improves air quality.
- Provide multimodal access to employment centers and key destinations for all communities.
- Enhance the efficiency of the transportation network for moving people and goods through the deployment of new technologies.

The SCS portion of the 2025 Regional Plan directly applies to GHG emissions. The purpose of an SCS is to align regional transportation, housing, and land use planning to attain the regional GHG reduction target. The SCS land use pattern identifies areas in the region sufficient for housing for the required eight-year projection of the regional housing need. The proposed SCS land use pattern is derived from jurisdictions' general plans, those general plan amendments pending at the time of SCS land use pattern development, and more specifically the most recent adopted housing elements approved by the California Department of Housing and Community Development. The 2025 Regional Plan's transportation network would make travel safer and more efficient, while offering people more alternatives to driving alone, including more transit options, more Flexible Fleets (i.e., on-demand, shared services), and more opportunities for biking, walking, and other forms of active transportation. Capital investments include an updated Regional Active Transportation Network that represents a significant increase in investment in safety and mobility for people who travel the region by foot, bike, scooter, transit, or other means outside of a car. They also include Complete Corridors that incorporate various transportation improvements to enhance connectivity, including managed lanes, connectors and direct access ramps for managed lanes, transportation technology and Smart Intersection Systems, and goods movement. Lastly, capital investments include transit investments that include regional rail, light rail, streetcar, a variety of bus options, an Airport Transit Connection,

and pricing strategies for transit, Flexible Fleets, and parking. The 2025 Regional Plan also includes several supporting policies and programs and investments to support them, as well as investments in systemwide support services.

5.0 Thresholds of Significance

Based on the CEQA Guidelines Appendix G, impacts related to GHG emissions would be significant if the proposed project would:

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

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

As stated in the State CEQA Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance" (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, Environmental Checklist Form). The State CEQA Guidelines encourage lead agencies to adopt regionally specific thresholds of significance. When adopting these thresholds, the amended Guidelines allow lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

As discussed in Section 4.3.1, the City has adopted a CAP which is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP. The City has also developed a Checklist, in conjunction with the CAP, to provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA. A memorandum titled *Guidance to Demonstrating Consistency with the City of San Marcos Climate Action Plan: For Discretionary Projects Subject to CEQA* (GHG Memorandum) provides guidance on demonstrating consistency with the CAP through use of the Checklist or other methods (City of San Marcos 2020b).

The City has established a GHG screening threshold of 500 MT CO_2E per year for new development projects in order to determine if a project would need to demonstrate consistency with the CAP through the Checklist. Under City screening criteria, projects that are projected to emit fewer than 500 MT CO_2E per year would not make a considerable contribution to the cumulative impact of climate change and would not need to provide additional analysis to demonstrate consistency with the CAP. Table 7 summarizes the types and sizes of projects that correspond to 500 MT CO_2E annually. Projects that are projected to emit more than 500 MT CO_2E of GHGs annually would need to comply with applicable CAP strategies and measures through completion of the Checklist.

Table 7 Project Review Thresholds		
Project/Plan Type[1]	Screening Threshold[2]	SFE Factor
Single-Family Housing	36 dwelling units	1.0
Multi-Family Housing	55 dwelling units	0.7
Office	43 ksf	0.8
Commercial Space	20 ksf	1.8
Regional Shopping Center	18 ksf	2.0
Hotel	37 rooms	1.0
Restaurant (Sit-Down)	6.5 ksf	5.5
Restaurant (Drive-Thru, High Turnover)	2.4 ksf	15.0
General Light Industrial	58 ksf	0.6
University	263 students	0.1
Mixed-Use	See Footnote 3.	--

SOURCE: City of San Marcos 2020b.
NOTES: ksf = thousand square feet; SFE = single-family equivalency
[1]For project types not listed in this table, the need for GHG analysis and mitigation will be made on a project-specific basis, considering the 500 MT CO_2E per year screening level.
[2]The screening threshold represents the maximum project size at which a project is estimated to emit less than 500 MT CO_2E per year without the application of additional mitigation measures or project design features. Projects proposing greater unit, square footage, rooms, or student amounts than the above screening thresholds would be required to complete the Checklist.
[3]Mixed-Use projects can provide a comparison to the screening thresholds using a single-family equivalent (SFE) factor. All projects that demonstrate they would propose development equal to or less than 36 SFE units are considered below the screening threshold. For example, a mixed-use development proposing 20 multi-family dwelling units and 10 ksf of commercial space would have an SFE value of 32 [equation: (20 x 0.7) + (10 x 1.8) = 32] and would be below the screening threshold.

For proposed projects at or above the screening threshold of 500 MT CO_2E e, applicants are required to complete the Checklist, which is meant to provide a streamlined review process for proposed new development projects. A properly completed Checklist documents how a proposed project complies with the CAP, and in so doing, demonstrates that the project's contribution to climate change impacts is not cumulatively considerable. Additionally, a project requiring a land use designation change that is more GHG-intensive than the land use assumed under the CAP must prepare a project-specific GHG analysis in accordance with the applicable CEQA Guidelines.

If a project would exceed the screening threshold, the next step in the Checklist assesses a project's consistency with the growth projections and land use assumptions made in the CAP. If a project is consistent with the projections in the CAP, its associated growth in terms of GHG emissions was accounted for in the CAP's BAU projection and is within the scope of the CAP's analysis and program of measures that contribute toward reducing overall City GHG emissions below identified GHG targets. If a project is consistent with the existing General Plan land use designation(s), it can be determined to be consistent with the CAP projections and can move forward to Step 2 of the Checklist. Not all projects that are proposing development that is not consistent with the existing General Plan land use designations would be in conflict with the CAP's projections. For example, if a

project includes a General Plan land use amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations, it would still be within the projections assumed in the CAP. In addition to providing evidence to support the conclusion that the project would generate fewer emissions than existing designations, these projects would demonstrate consistency with the CAP through completion of Step 2 of the Checklist. If a land use designation amendment results in a more GHG-intensive project, the project is required to prepare a quantitative GHG analysis based on applicable sections of the CEQA Guidelines and is not eligible for GHG analysis streamlining using the Checklist.

The GHG Memo also provides an alternative compliance threshold for projects that are consistent with the General Plan but have unique land uses or circumstances for which no measures in the Checklist would apply. Projects that are consistent with the City's General Plan may apply the City's recommended numerical GHG threshold of 2.1 MT CO_2E per service population per year. Service population is defined as the sum of the number of residents and jobs anticipated to be generated by the project. This threshold was established based on the CAP GHG reduction target in 2030 and demographics projections (i.e., population and employment) for the same year.

Based on this guidance, for this program-level analysis, GHG emissions were calculated for buildout of the project and compared to GHG emissions associated with buildout of the Adopted Specific Plan to demonstrate if the project would be consistent with the CAP's projections.

6.0 GHG Calculations

The proposed project's GHG emissions were calculated using the CalEEMod Version 2022.1.44 (California Air Pollution Control Officers Association [CAPCOA] 2022). The CalEEMod program is a tool used to estimate air emissions resulting from land development projects based on California-specific emission factors. CalEEMod can be used to calculate emissions from mobile (on-road vehicles), energy (electricity and natural gas), area (landscape maintenance equipment), water and wastewater, solid waste sources, stationary sources, and refrigerants. GHG emissions are estimated in terms of total MT CO_2E.

The analysis methodology and input data are described in the following sections. Where project-specific data was not available, model inputs were based on information provided in the CalEEMod User's Guide (CAPCOA 2022).

Inputs to CalEEMod include such items as the air basin containing the proposed project, land uses, trip generation rates, trip lengths, vehicle fleet mix (percentage of autos, medium trucks, etc.), trip destination (i.e., percent of trips from home to work), duration of construction phases, construction equipment usage, grading areas, season, and ambient temperature, as well as other parameters. CalEEMod output files for project operation are contained in Attachment 1. CalEEMod output files for Adopted Specific Plan operation are contained in Attachment 2.

6.1 Construction Emissions

Construction activities emit GHGs primarily through combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-

road construction vehicles and the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in water use for fugitive dust control. Every phase of the construction process, including demolition, grading, paving, and building, emits GHGs in volumes directly related to the quantity and type of construction equipment used when building the proposed project. GHG emissions associated with each phase of construction are calculated by multiplying the total fuel consumed by the construction equipment and worker trips by applicable emission factors.

GHG emissions generated by future development within the Planning Area would vary depending upon the number of projects occurring simultaneously and the size of each individual project. The exact number and timing of all development projects that could occur under project buildout are unknown. At a program level, it would be speculative to estimate the schedule and construction requirements of each individual site-specific project that could occur as a result of the project. Based on the City's GHG inventory shown in Table 6, off-road transportation emissions are estimated as 2 percent of the total GHG emissions inventory. Thus, for the purposes of this analysis, construction emissions were calculated as 2 percent of the total operational emissions. This is conservative since this emission category includes gasoline and diesel fuel use from recreational vehicles, construction equipment, and residential and commercial equipment and is therefore an overestimate of emissions from construction equipment alone.

6.2 Operational Emissions

Operational GHG emissions would result from mobile sources, energy use (electricity and natural gas), area sources (landscaping equipment), water and wastewater, solid waste, and refrigerants. For comparison to the analysis provided in the 2007 EIR as well as CAP projections, operational emissions were calculated for both buildout of the project and buildout of the Adopted Specific Plan.

6.2.1 Mobile Emissions

Mobile source operational emissions are based on the trip rate and trip length. Table 8 summarizes the trip generation and VMT associated with buildout of the project and the Adopted Specific Plan (Intersecting Metrics 2026a and 2026b). Default vehicle emission factors for the buildout year of 2050 were used.

Table 8
Trip Generation and Vehicle Miles Traveled

Land Use	Adopted Specific Plan		Specific Plan Update	
	Trips	VMT	Trips	VMT
Residential	12,420	83,249	11,480	81,574
Commercial	101,682	568,632	65,888	375,562
Total	114,102	651,881	77,368	457,136
SOURCE: Intersecting Metrics 2026a and 2026b				

6.2.2 Energy Use Emissions

For typical development projects, GHGs are emitted through activities in buildings utilizing electricity and natural gas as energy sources. GHGs are also emitted during the generation of electricity from fossil fuels off-site in power plants. These emissions are considered indirect but are calculated in association with a building's overall operation. Electric power generation accounts for the second largest sector contributing to both inventoried and projected statewide GHG emissions. Combustion of fossil fuel emits criteria pollutants and GHGs directly into the atmosphere. When this occurs in a building, it is considered a direct emissions source associated with the building. CalEEMod estimates emissions from the direct combustion of natural gas for space and water heating. The Specific Plan Update includes development and design standards that would apply to all future development within the Planning Area. These standards include all-electric development with no natural gas appliances. However, as a conservative quantification of emissions, energy-source emissions associated with natural gas were modeled using CalEEMod default assumptions

CalEEMod estimates GHG emissions from energy use by multiplying average rates of residential and nonresidential energy consumption by the quantities of residential units and nonresidential square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the proposed project location and utility provider.

Within Title 24 of the California Code of Regulations (Building Standards Code) is Part 6, the Building Energy Efficiency Standards (Energy Code). The Energy Code contains energy conservation standards applicable to particular end-use categories for all new or altered residential and nonresidential buildings throughout California. Energy consumption values are based on the CEC's 2018–2030 Uncalibrated Commercial Sector Forecast and the 2019 Residential Appliance Saturation Survey. GHG emissions were calculated using the default CalEEMod Version 2022.1 emission factors.

6.2.3 Area Source Emissions

Area sources include criteria pollutant and GHG emissions that would occur from the use of landscaping equipment. The use of landscape equipment emits criteria pollutant and GHGs associated with the equipment's fuel combustion. Default statewide emission rates from landscaping equipment were developed using the CARB Small Off-Road Engines Model v1.1. 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.

6.2.4 Water and Wastewater Emissions

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both CH_4 and N_2O.

CalEEMod Version 2022.1 calculates outdoor water use based the Department of Water Resources Model Water Efficient Landscape Ordinance and calculates nonresidential indoor water use based on the Pacific Institute's *Waste Not, Want Not: The Potential for Urban Water Conservation in California* 2003 (as cited in CAPCOA 2022). Wastewater treatment is based on the region-specific distribution of wastewater treatment methods (CAPCOA 2022).

6.2.5 Solid Waste Emissions

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by disposing of solid waste for the proposed project, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery. The methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change (IPCC) method, using the degradable organic content of waste. GHG emissions associated with the proposed project's waste disposal were calculated using these parameters.

6.2.6 Refrigerants

Small amounts of GHG emissions are generated by 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. GHG emissions associated with refrigerants were calculated using CalEEMod defaults.

6.3 Total GHG Emissions

Table 9 provides a summary of the operational emissions generated by the Adopted Specific Plan and the project. CalEEMod output files for project operation are contained in Attachment 1. CalEEMod output files for Adopted Specific Plan operation are contained in Attachment 2. As shown, the project would result in a reduction in GHG emissions when compared to the Adopted Specific Plan.

Table 9 Project GHG Emissions (MT CO_2E per year)			
Source	Adopted Specific Plan	Specific Plan Update	Difference
Mobile	69,102	48,388	-20,714
Energy	47	38	-9
Area	2,633	2,075	-558
Water/Wastewater	341	255	-86
Solid Waste	946	746	-200
Refrigerants	5	3	-1
Total Operational Emissions	73,074	51,506	-21,569
Construction (2% of Operational Emissions)	1,461	1,030	-431
TOTAL	**74,536**	**52,536**	**-22,000**
SOURCE: Attachments 1 and 2. NOTE: Totals may vary due to independent rounding.			

7.0 Project Impacts, Significance, and Mitigation Measures/Project Design Features

7.1 Threshold 1: GHG Emissions

Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

7.1.1 Analysis of Impacts

As discussed in Section 5.0, for this program-level analysis, GHG emissions were calculated for buildout of the project and compared to GHG emissions associated with buildout of the Adopted Specific Plan to demonstrate if the project would be consistent with the CAP's projections. As shown in Table 9, buildout of the Adopted Specific Plan would result in 74,563 MT CO_2E per year and buildout of the project would result in 52,563 MT CO_2E per year for a total GHG emission reduction of 22,000 MT CO_2E. The CAP GHG emission forecasts and reductions account for growth anticipated under the Adopted Specific Plan. Because the project would result in a reduction in development and associated GHG emissions when compared to the Adopted Specific Plan, GHG emissions associated with the project are accounted for in the CAP. Because the CAP is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5, future development proposed under the project would be determined not to be cumulatively considerable if it complies with the requirements of the CAP. This would be demonstrated through completion of a Checklist where individual future development projects would demonstrate that GHG emissions would be less than the GHG screening threshold of 500 MT CO_2E per year (see Table 7) or would implement the measures outlined in Step 2 of the Checklist. These measures include the following (City of San Marcos 2020a):

1. Electric Vehicle Charging Stations (Measure T-2)

   Multi-Family Residential and Non-Residential: Will the project install electric vehicle charging stations (Level 2 or better) in at least five percent of the total parking spaces provided on-site?

2. Bicycle Infrastructure (Measure T-8)

   Residential and Non-Residential Projects: If the following conditions are met, would the project pay its fair-share contribution to bicycle infrastructure improvements?

   - Intersection or roadway segment improvements are proposed as part of the project and,
   - The City's General Plan Mobility Element identifies bicycle infrastructure improvements at any intersection(s) or roadway segment(s) that would be improved as part of the project.

3. Transportation Demand Management (Measure T-9)

   Residential and Non-Residential: Will the project comply with the City's Transportation Demand Management (TDM) Ordinance (Chapter 20.350 of the Municipal Code) and the TDM Policy?

4. Reduce Parking Near Transit (Measure T-12)

   Multi-Family Residential: If located within a half-mile of a major transit stop 2, would the project provide at least 27 percent fewer parking spaces than required for the same use based on the City's municipal code parking requirements?

5. Water Heaters (Measure E-1)

   Residential: Will the project install one of, or a combination of, the following water heater types in place of natural gas water heaters?

   - Electric heat pump water heater
   - Instantaneous electric water heater
   - Electric tank
   - Solar water heater with heat pump water heater backup
   - Solar water heater with electric tank backup

6. Photovoltaic Installation (Measure E-2)

   Non-Residential: Will the project install photovoltaic systems with a minimum capacity of two watts per square foot of gross floor area?

7. Landscaping Water Use (Measure W-1)

   Residential and Non-Residential: Will the project comply with the City's Water Efficient Landscape Ordinance?

8. Urban Tree Canopy (Measure C-2)

   Single-Family Residential: Will the project plant a minimum of one tree per single-family residential unit?

   -or-

   Multi-Family Residential and Non-Residential: If the project is providing more than 10 parking spaces, will the project plant at least one tree per five parking spaces provided?

Because the project would not exceed the CAP projections and future development would be required to demonstrate consistency with the CAP through completion of the Checklist, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

7.1.2 Mitigation Measures and Design Considerations

Because the project would not exceed the CAP projections and future development would demonstrate consistency with the CAP through completion of the Checklist, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant. No mitigation is required.

7.1.3 Significance After Mitigation

Impacts associated with GHG emissions would be less than significant. No mitigation is required.

7.2 Threshold 2: GHG Reduction Plans

Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs?

7.2.1 Analysis of Impacts

EOs S-3-05 and B-30-15 established GHG emission reduction targets for the state, and AB 32 launched the CARB Climate Change Scoping Plan that outlined the reduction measures needed to reach the 2020 target, which the state has achieved. As required by SB 32, CARB's 2017 Scoping Plan outlines reduction measures needed to achieve the interim 2030 target, and the 2022 Scoping Plan outlines the path towards carbon neutrality by 2045. As detailed in Section 7.1 above, the project would be consistent with the City's CAP, which is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5. The CAP includes reduction targets for the year 2030 to meet the State's GHG reduction goals mandated by SB 32 and identifies how the City would make reasonable progress toward the State's post-2030 GHG reduction goals, including achieving carbon neutrality statewide by 2045. Construction and operation of future development implemented under the project would not result in emissions that would adversely affect statewide attainment of GHG emission reduction goals as described in AB 32, EOs S-3-05 and B-30-15, and SB 32. Therefore, the

proposed project would have a less than cumulatively considerable contribution to global climate change.

The project was also evaluated for consistency with the 2025 Regional Plan. As discussed in Section 4.3.2, the 2025 Regional Plan is the RTP/SCS that demonstrates how the region will meet its transportation-related GHG reduction goals. The 2025 Regional Plan maintains the region's commitment to multimodal, sustainable, and equitable mobility while expanding transit, updating regional growth forecasts (Series 15), advancing equity, health, and safety through improved access to jobs and essential services, and applying updated modeling tools and performance metrics to meet state GHG reduction targets (SANDAG 2025). A reduction in regional VMT (and VMT-related GHG emissions) is a primary objective of the 2025 Regional Plan as the region's RTP/SCS in accordance with the mandates of SB 375. Implementation of the RTP/SCS plans in the state's metropolitan areas to reduce VMT is a key component of the mobile source GHG emissions reduction policies and control measures in the CARB 2022 Scoping Plan. The guiding principles of the project along with the proposed land use plan would be consistent with VMT reduction strategies identified in the 2025 Regional Plan. The following guiding principles provide the planning framework underlying the project and inform assumptions used in the environmental analysis. These principles are intended to guide future development patterns and implementation decisions within the Planning Area.

- Demand Distinctive Design: Quality, distinctive design attracts residents, visitors, and investors. Require all buildings and public realm improvements to incorporate high-quality site planning, architecture, and climate-appropriate landscaping.

- Create a Destination: Leverage the presence of San Marcos Creek and the district's centralized location to create a unique arts, cultural, retail, and entertainment destination that celebrates outdoor life. .

- Achieve Housing Variety: Promote and support variety in housing design, cost, and density, with a firm commitment to integrate affordable housing district-wide..

- Accommodate All Travel Modes: Create a multimodal network within the district that promotes walking, biking, and "park once" strategies, and that transitions easily to the surrounding street system..

- Merge City and Nature: Highlight San Marcos Creek as a community amenity. Provide open space, mobility, and commercial land use creek connections that invite interactions, enjoyment, and respect.

- Encourage Partnerships: Use creative approaches to funding infrastructure and public realm improvements that will expedite their implementation.

A Transportation Impact Study was prepared for the Specific Plan Update (Intersecting Metrics 2026a). Consistent with the City's Transportation Impact Analysis Guidelines, the Transportation Impact Study determined whether the project would (1) result in residential uses that generate VMT per capita that exceeds the VMT per resident under existing conditions and/or (2) result in retail uses that bring a net increase in existing total citywide VMT. The analysis was derived using the latest

SANDAG mapping tool and travel demand model. The project is anticipated to have a VMT per capita less than the regional average and would result in less than significant VMT impacts for its residential units. However, the project's commercial component is anticipated to result in a significant impact. The Specific Plan Update includes several components focused on the reduction of Planning Area reliance on motor vehicles and the encouragement of alternative modes of transportation. Specifically, multi-use pathways, Class IV Cycle Tracks, and bicycle routes would be constructed and extended to existing roadways and new internal roadways within the Planning Area. Roadway improvements are planned along the existing Las Posas Road, Via Vera Cruz, Bent Avenue, and Creekside Drive that would contribute to an expanded multimodal transportation network by providing new bicycle and pedestrian facilities on those roadways. Additionally, the proposed roadway connections along Pacific Street, McMahr Drive, and Creekside Drive would provide direct connections through the Planning Area, as well as onto major arterial roadways and would improve traffic congestion in the area, as well as add new bicycle and pedestrian facilities that would improve connectivity to the surrounding area. To further reduce VMT impacts associated with commercial development, future commercial projects within the Planning Area would be required to implement the following mitigation measures:

> S-VMT-1: Applications for future commercial development under the Proposed Project shall conduct a project level VMT analysis that determines whether the proposed development would meet the screening criteria outlined in the City's Transportation Impact Analysis Guidelines (November 16, 2020), or any subsequent updates to these guidelines. If the proposed development does not meet any of the screening criteria outlined in the City's Transportation Impact Analysis Guidelines, the applicant shall conduct a project-level VMT analysis and identify VMT impacts associated with the proposed development. The project applicant shall reduce project-induced VMT impacts through implementation of VMT-reducing infrastructure and/or strategies that would mitigate the project's VMT-related impacts that would be incorporated into commercial development.
>
> In addition, the applicant shall also prepare and submit a Transportation Demand Management (TDM) Plan to the City for approval, and/or participate in a local, regional, or stateside VMT mitigation program, if available. The TDM Plan shall include a series of measures to reduce project-related VMT. Measures may include strategies such as ridesharing initiatives (e.g., carpooling), promoting alternative work schedules and telework, subsidizing employee use of public transit, and promoting bicycling, walking, and the use of public transit. The TDM Plan will be subject to the City's review and approval, and no development shall proceed until the TDM Plan is deemed acceptable by the City.

The project inclusion of VMT-reducing project features as well as mitigation measure S-VMT-1, which would require identification and implementation of project level VMT-reducing strategies, would be consistent with the VMT reduction goals of the 2025 Regional Plan. Additionally, as shown in Table 9, the project would result in an overall reduction in GHG emission projections when compared to the Adopted Specific Plan. The project would encourage and not conflict with SANDAG's efforts to invest in transportation networks and technologies. Because the project would be consistent with the regional VMT reduction goals and result in a reduction in GHG emissions compared to the Adopted Specific Plan, the project would not conflict with the 2025 Regional Plan.

The project would not conflict with implementation of statewide GHG reduction goals, the 2022 Scoping Plan, the 2025 Regional Plan, the County General Plan, or the CAP. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs, and impacts would be less than significant.

7.1.2 Mitigation Measures and Design Considerations

Construction and operation of future development implemented under the project would not result in emissions that would adversely affect statewide attainment of GHG emission reduction goals as described in AB 32, EOs S-3-05 and B-30-15, and SB 32. The project would not conflict with implementation of statewide GHG reduction goals, the 2022 Scoping Plan, the 2025 Regional Plan, the County General Plan, or the CAP. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs, and impacts would be less than significant. No mitigation is required.

7.1.3 Significance After Mitigation

Impacts associated with consistency with GHG reduction plans would be less than significant. No mitigation is required.

8.0 Conclusions

The City has adopted a CAP which is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP. The City has also developed a Checklist, in conjunction with the CAP, to provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

GHG emissions would result from future development within the Planning Area. Construction activities emit GHGs primarily through combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and the commute vehicles of the construction workers. Operational GHG emissions would result from mobile sources, energy use (electricity and natural gas), area sources (landscaping equipment), water and wastewater, solid waste, and refrigerants. For this program-level analysis, GHG emissions were calculated for buildout of the project and compared to GHG emissions associated with buildout of the Adopted Specific Plan to demonstrate if the project would be consistent with the CAP's projections. As shown in Table 9, buildout of the Adopted Specific Plan would result in 74,536 MT CO_2E per year and buildout of the project would result in 52,536 MT CO_2E per year for a total GHG emission reduction of 22,000 MT CO_2E. The CAP GHG emission forecasts and reductions account for growth anticipated under the Adopted Specific Plan. Because the project would result in a reduction in development and associated GHG emissions when compared to the Adopted Specific Plan, GHG emissions associated with the project are accounted for in the CAP. Because the CAP is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5,

future development proposed under the project could be determined not to be cumulatively considerable if it complies with the requirements of the CAP. This would be demonstrated through completion of a Checklist where all future individual development projects would demonstrate that GHG emissions would be less than the GHG screening threshold of 500 MT CO_2E per year (see Table 7) or would implement the measures outlined in Step 2 of the Checklist. Therefore, because the project would not exceed the CAP projections and future development would demonstrate consistency with the CAP through completion of the Checklist, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

Additionally, the project would not conflict with implementation of statewide GHG reduction goals, the 2022 Scoping Plan, the 2025 Regional Plan, the County General Plan, or the CAP. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs, and impacts would be less than significant. No mitigation is required.

9.0 Summary of Mitigation Measures/Project Design Features

GHG impacts would be less than significant. No mitigation measures or project design features beyond those identified in the Checklist would be required.

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11.0 List of Preparers

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ATTACHMENTS

ATTACHMENT 1

CalEEMod Output – Operational Emissions – Specific Plan Update

San Marcos Creek Specific Plan Update Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	San Marcos Creek Specific Plan Update
Operational Year	2050
Lead Agency	City of San Marcos
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.20000
Precipitation (days)	9.80000
Location	33.134156038444246, -117.18492354341717
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6271
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.44

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 Mid Rise	2,300.00	Dwelling Unit	54.7300	2,261,701	476,764	—	6,417.00	—
Strip Mall	655.856	1000sqft	26.2500	655,856	228,733	—	—	—

City Park	17.8900	Acre	17.8900	0.00000	389,644	389,644	—	—
Other Asphalt Surfaces	31.9600	Acre	31.9600	0.00000	0.00000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. 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.	244.218	232.509	86.9520	1,201.78	2.98833	1.69635	322.346	324.042	1.59233	81.6983	83.2906	1,536.52	313,385	314,921	166.697	12.1066	53.6531	322,750
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	227.104	216.355	93.9796	986.707	2.84631	1.58822	322.346	323.934	1.51068	81.6983	83.2089	1,536.52	299,299	300,835	167.327	12.7932	21.1485	308,852
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	233.170	221.931	92.8069	1,064.83	2.87019	1.64147	320.313	321.954	1.55087	81.1901	82.7410	1,536.52	301,576	303,113	167.153	12.6502	34.6921	311,096
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	42.5534	40.5025	16.9373	194.332	0.52381	0.29957	58.4571	58.7567	0.28303	14.8172	15.1002	254.388	49,929.4	50,183.8	27.6741	2.09438	5.74367	51,505.5
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	No	No	Yes	No	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	No	No	Yes	No	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—

2.4. 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	159.020	148.619	80.6345	1,039.72	2.95016	1.19708	322.346	323.543	1.11958	81.6983	82.8178	—	300,009	300,009	10.6040	11.3272	33.3699	303,683
Area	84.6331	83.6069	1.44463	159.671	0.00736	0.10899	—	0.10899	0.08247	—	0.08247	0.00000	466.178	466.178	0.01950	0.00390	—	467.829
Energy	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	12,438.6	12,438.6	1.77004	0.16036	—	12,530.7
Water	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Waste	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Total	244.218	232.509	86.9520	1,201.78	2.98833	1.69635	322.346	324.042	1.59233	81.6983	83.2906	1,536.52	313,385	314,921	166.697	12.1066	53.6531	322,750
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	158.955	148.488	89.1067	984.317	2.81550	1.19794	322.346	323.544	1.12040	81.6983	82.8187	—	286,389	286,389	11.2530	12.0176	0.86538	290,252
Area	67.5842	67.5842	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Energy	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	12,438.6	12,438.6	1.77004	0.16036	—	12,530.7
Water	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Waste	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Total	227.104	216.355	93.9796	986.707	2.84631	1.58822	322.346	323.934	1.51068	81.6983	83.2089	1,536.52	299,299	300,835	167.327	12.7932	21.1485	308,852

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	156.613	146.163	87.2216	983.700	2.83575	1.19744	320.313	321.510	1.11992	81.1901	82.3100	—	288,437	288,437	11.0694	11.8728	14.4090	292,266
Area	75.9919	75.4858	0.71242	78.7418	0.00363	0.05375	—	0.05375	0.04067	—	0.04067	0.00000	229.896	229.896	0.00962	0.00192	—	230.710
Energy	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	12,438.6	12,438.6	1.77004	0.16036	—	12,530.7
Water	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Waste	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Total	233.170	221.931	92.8069	1,064.83	2.87019	1.64147	320.313	321.954	1.55087	81.1901	82.7410	1,536.52	301,576	303,113	167.153	12.6502	34.6921	311,096
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	28.5818	26.6748	15.9179	179.525	0.51752	0.21853	58.4571	58.6756	0.20439	14.8172	15.0216	—	47,754.0	47,754.0	1.83267	1.96567	2.38557	48,388.0
Area	13.8685	13.7762	0.13002	14.3704	0.00066	0.00981	—	0.00981	0.00742	—	0.00742	0.00000	38.0619	38.0619	0.00159	0.00032	—	38.1967
Energy	0.10309	0.05155	0.88930	0.43609	0.00562	0.07123	—	0.07123	0.07123	—	0.07123	—	2,059.36	2,059.36	0.29305	0.02655	—	2,074.60
Water	—	—	—	—	—	—	—	—	—	—	—	41.0486	78.0074	119.056	4.22424	0.10185	—	255.012
Waste	—	—	—	—	—	—	—	—	—	—	—	213.339	0.00000	213.339	21.3225	0.00000	—	746.402
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.35810	3.35810
Total	42.5534	40.5025	16.9373	194.332	0.52381	0.29957	58.4571	58.7567	0.28303	14.8172	15.1002	254.388	49,929.4	50,183.8	27.6741	2.09438	5.74367	51,505.5

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	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 Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,624.63	3,624.63	0.70512	0.08547	—	3,667.73
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,686.79	2,686.79	0.52267	0.06335	—	2,718.74
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,311.42	6,311.42	1.22779	0.14882	—	6,386.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,624.63	3,624.63	0.70512	0.08547	—	3,667.73
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,686.79	2,686.79	0.52267	0.06335	—	2,718.74
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,311.42	6,311.42	1.22779	0.14882	—	6,386.46
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	600.099	600.099	0.11674	0.01415	—	607.234
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	444.829	444.829	0.08653	0.01049	—	450.118

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,044.93	1,044.93	0.20327	0.02464	—	1,057.35

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 Mid Rise	0.48102	0.24051	4.11055	1.74917	0.02624	0.33234	—	0.33234	0.33234	—	0.33234	—	5,217.63	5,217.63	0.46176	0.00982	—	5,232.10
Strip Mall	0.08386	0.04193	0.76233	0.64036	0.00457	0.05794	—	0.05794	0.05794	—	0.05794	—	909.589	909.589	0.08050	0.00171	—	912.112
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	6,127.22	6,127.22	0.54226	0.01154	—	6,144.21
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.48102	0.24051	4.11055	1.74917	0.02624	0.33234	—	0.33234	0.33234	—	0.33234	—	5,217.63	5,217.63	0.46176	0.00982	—	5,232.10
Strip Mall	0.08386	0.04193	0.76233	0.64036	0.00457	0.05794	—	0.05794	0.05794	—	0.05794	—	909.589	909.589	0.08050	0.00171	—	912.112
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.56488	0.28244	4.87288	2.38953	0.03081	0.39028	—	0.39028	0.39028	—	0.39028	—	6,127.22	6,127.22	0.54226	0.01154	—	6,144.21
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.08779	0.04389	0.75018	0.31922	0.00479	0.06065	—	0.06065	0.06065	—	0.06065	—	863.838	863.838	0.07645	0.00163	—	866.234
Strip Mall	0.01530	0.00765	0.13913	0.11687	0.00083	0.01057	—	0.01057	0.01057	—	0.01057	—	150.593	150.593	0.01333	0.00028	—	151.011
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.10309	0.05155	0.88930	0.43609	0.00562	0.07123	—	0.07123	0.07123	—	0.07123	—	1,014.43	1,014.43	0.08978	0.00191	—	1,017.24

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	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	62.7667	62.7667	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.81757	4.81757	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	17.0488	16.0226	1.44463	159.671	0.00736	0.10899	—	0.10899	0.08247	—	0.08247	—	466.178	466.178	0.01950	0.00390	—	467.829
Total	84.6331	83.6069	1.44463	159.671	0.00736	0.10899	—	0.10899	0.08247	—	0.08247	0.00000	466.178	466.178	0.01950	0.00390	—	467.829
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	62.7667	62.7667	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.81757	4.81757	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	67.5842	67.5842	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	11.4549	11.4549	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.87921	0.87921	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.53439	1.44204	0.13002	14.3704	0.00066	0.00981	—	0.00981	0.00742	—	0.00742	—	38.0619	38.0619	0.00159	0.00032	—	38.1967
Total	13.8685	13.7762	0.13002	14.3704	0.00066	0.00981	—	0.00981	0.00742	—	0.00742	0.00000	38.0619	38.0619	0.00159	0.00032	—	38.1967

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 Mid Rise	—	—	—	—	—	—	—	—	—	—	—	154.843	277.127	431.970	15.9313	0.38378	—	944.619
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	93.0925	162.128	255.221	9.57711	0.23062	—	563.374
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	31.9141	31.9141	0.00621	0.00075	—	32.2935
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	154.843	277.127	431.970	15.9313	0.38378	—	944.619
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	93.0925	162.128	255.221	9.57711	0.23062	—	563.374
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	31.9141	31.9141	0.00621	0.00075	—	32.2935
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	247.936	471.169	719.105	25.5147	0.61515	—	1,540.29
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	25.6361	45.8815	71.5176	2.63761	0.06354	—	156.393

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	15.4125	26.8422	42.2547	1.58560	0.03818	—	93.2729
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	5.28374	5.28374	0.00103	0.00012	—	5.34656
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	41.0486	78.0074	119.056	4.22424	0.10185	—	255.012

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 Mid Rise	—	—	—	—	—	—	—	—	—	—	—	916.613	0.00000	916.613	91.6122	0.00000	—	3,206.92
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	371.140	0.00000	371.140	37.0941	0.00000	—	1,298.49
City Park	—	—	—	—	—	—	—	—	—	—	—	0.82918	0.00000	0.82918	0.08287	0.00000	—	2.90102
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	916.613	0.00000	916.613	91.6122	0.00000	—	3,206.92

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	371.140	0.00000	371.140	37.0941	0.00000	—	1,298.49
City Park	—	—	—	—	—	—	—	—	—	—	—	0.82918	0.00000	0.82918	0.08287	0.00000	—	2.90102
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	1,288.58	0.00000	1,288.58	128.789	0.00000	—	4,508.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	151.756	0.00000	151.756	15.1674	0.00000	—	530.942
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	61.4464	0.00000	61.4464	6.14135	0.00000	—	214.980
City Park	—	—	—	—	—	—	—	—	—	—	—	0.13728	0.00000	0.13728	0.01372	0.00000	—	0.48030
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	213.339	0.00000	213.339	21.3225	0.00000	—	746.402

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 Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.1983	16.1983

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.08482	4.08482
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.1983	16.1983
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.08482	4.08482
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.2831	20.2831
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.68182	2.68182
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67629	0.67629
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.35810	3.35810

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	77,368.0	77,368.0	77,368.0	28,239,320	457,136	457,136	457,136	166,854,640

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	0	0
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	2,285	2,285
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Strip Mall	Wood Fireplaces	0	0
Strip Mall	Gas Fireplaces	0	0
Strip Mall	Propane Fireplaces	0	0
Strip Mall	Electric Fireplaces	0	0
Strip Mall	No Fireplaces	0	0
Strip Mall	Conventional Wood Stoves	0	0
Strip Mall	Catalytic Wood Stoves	0	0
Strip Mall	Non-Catalytic Wood Stoves	0	0
Strip Mall	Pellet Wood Stoves	0	0
City Park	Wood Fireplaces	0	0
City Park	Gas Fireplaces	0	0
City Park	Propane Fireplaces	0	0
City Park	Electric Fireplaces	0	0
City Park	No Fireplaces	0	0
City Park	Conventional Wood Stoves	0	0

City Park	Catalytic Wood Stoves	0	0
City Park	Non-Catalytic Wood Stoves	0	0
City Park	Pellet Wood Stoves	0	0
Other Asphalt Surfaces	Wood Fireplaces	0	0
Other Asphalt Surfaces	Gas Fireplaces	0	0
Other Asphalt Surfaces	Propane Fireplaces	0	0
Other Asphalt Surfaces	Electric Fireplaces	0	0
Other Asphalt Surfaces	No Fireplaces	0	0
Other Asphalt Surfaces	Conventional Wood Stoves	0	0
Other Asphalt Surfaces	Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Non-Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Pellet Wood Stoves	0	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)
4,579,945	1,526,648	983,784	327,928	83,530.7

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

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 Mid Rise	7,799,001	169.636	0.0330	0.0040	16,280,404
Strip Mall	5,781,081	169.636	0.0330	0.0040	2,838,162
City Park	0.00000	169.636	0.0330	0.0040	0.00000
Other Asphalt Surfaces	0.00000	169.636	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	80,806,073	8,708,137
Strip Mall	48,580,908	3,418,223
City Park	0.00000	12,939,786
Other Asphalt Surfaces	0.00000	0.00000

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	1,700.77	0.00000
Strip Mall	688.649	0.00000
City Park	1.53854	0.00000
Other Asphalt Surfaces	0.00000	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922.00	0.00040	7.50000	7.50000	20.0000
City Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	14.7400	annual days of extreme heat
Extreme Precipitation	5.15000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.4800	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	42.5638
AQ-PM	28.1394
AQ-DPM	76.8015
Drinking Water	24.1539
Lead Risk Housing	39.5337
Pesticides	35.7241
Toxic Releases	27.8445
Traffic	61.5375
Effect Indicators	—
CleanUp Sites	78.6114
Groundwater	67.4747
Haz Waste Facilities/Generators	82.7399
Impaired Water Bodies	43.7841
Solid Waste	96.6323
Sensitive Population	—
Asthma	3.21535

Cardio-vascular	14.0952
Low Birth Weights	40.4670
Socioeconomic Factor Indicators	—
Education	78.3346
Housing	82.7883
Linguistic	77.8590
Poverty	78.2035
Unemployment	36.4394

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	14.57718465
Employed	17.95200821
Median HI	15.05196972
Education	—
Bachelor's or higher	34.96727833
High school enrollment	100
Preschool enrollment	1.873476197
Transportation	—
Auto Access	7.878865649
Active commuting	68.52303349
Social	—
2-parent households	81.04709355
Voting	41.66559733
Neighborhood	—
Alcohol availability	17.16925446

Park access	56.96137559
Retail density	84.51174131
Supermarket access	77.74926216
Tree canopy	38.40626203
Housing	—
Homeownership	8.623123316
Housing habitability	19.36353137
Low-inc homeowner severe housing cost burden	79.81521879
Low-inc renter severe housing cost burden	64.18580778
Uncrowded housing	31.19466188
Health Outcomes	—
Insured adults	5.902733222
Arthritis	9.2
Asthma ER Admissions	99.1
High Blood Pressure	21.8
Cancer (excluding skin)	21.2
Asthma	30.0
Coronary Heart Disease	3.1
Chronic Obstructive Pulmonary Disease	5.5
Diagnosed Diabetes	18.3
Life Expectancy at Birth	13.9
Cognitively Disabled	11.9
Physically Disabled	7.5
Heart Attack ER Admissions	99.6
Mental Health Not Good	25.4
Chronic Kidney Disease	2.7
Obesity	34.9
Pedestrian Injuries	81.7

Physical Health Not Good	17.6
Stroke	5.6
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	35.6
No Leisure Time for Physical Activity	16.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	23.2
English Speaking	15.1
Foreign-born	80.3
Outdoor Workers	11.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	47.4
Traffic Density	77.2
Traffic Access	23.0
Other Indices	—
Hardship	72.9
Other Decision Support	—
2016 Voting	49.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	59.0000
Healthy Places Index Score for Project Location (b)	15.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Residential - 2,300 du, 2,261,701 sf Commercial - 655,856 sf Total commercial + residential acreage = 80.98 Landscaping modeled as 20% acreage Park - 17.89 acres, 50% modeled as landscaping ROW - 31.96 acres
Operations: Hearths	No fireplaces or wood stoves

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	60.5263	54.7300
Building Area	sq. ft	2,208,000	2,261,701
Landscape Area	sq. ft	—	476,764
Lot Area	acre	15.0564	26.2500

Landscape Area	sq. ft	—	228,733

8.5. Operations

8.5.2. Area Sources

8.5.2.1. Hearths

Land Use	Model Parameter	Units	Default Value	New Value
Apartments Mid Rise	Wood Fireplaces	—	805	0
Apartments Mid Rise	Gas Fireplaces	—	1,265	0
Apartments Mid Rise	No Fireplaces	—	230	2,285
Apartments Mid Rise	Hours/Day	—	3	0
Apartments Mid Rise	Days/Year	—	82	0
Apartments Mid Rise	Wood Mass	lb/year	3,078	0
Apartments Mid Rise	Catalytic Wood Stoves	—	115	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	—	115	0
Apartments Mid Rise	Days/Year	—	82	0
Apartments Mid Rise	Wood Mass	lb/year	3,019	0

ATTACHMENT 2

CalEEMod Output – Operational Emissions – Adopted Specific Plan

Adopted San Marcos Creek Specific Plan Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Adopted San Marcos Creek Specific Plan
Operational Year	2050
Lead Agency	City of San Marcos
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.20000
Precipitation (days)	9.80000
Location	33.134156038444246, -117.18492354341717
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6271
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.44

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 Mid Rise	2,300.00	Dwelling Unit	54.9400	2,760,000	478,648	—	6,417.00	—
Strip Mall	1,265.00	1000sqft	26.3600	1,265,000	229,637	—	—	—

City Park	20.6000	Acre	20.6000	0.00000	448,668	448,668	—	—
Other Asphalt Surfaces	38.5000	Acre	38.5000	0.00000	0.00000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. 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.	348.096	331.448	124.054	1,683.94	4.25616	2.31390	459.668	461.982	2.16486	116.503	118.667	1,967.81	445,324	447,291	215.385	17.4013	75.2317	457,937
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	326.293	310.922	134.673	1,421.98	4.05526	2.15911	459.668	461.828	2.04802	116.503	118.551	1,967.81	425,335	427,302	216.328	18.3972	28.8799	438,222
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	333.556	317.529	132.733	1,511.95	4.08852	2.23533	456.770	459.005	2.10554	115.778	117.884	1,967.81	428,535	430,503	216.067	18.1879	48.1932	441,373
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	60.8740	57.9491	24.2238	275.930	0.74616	0.40795	83.3605	83.7684	0.38426	21.1295	21.5137	325.794	70,948.9	71,274.7	35.7723	3.01121	7.97893	73,074.3
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	Yes	No	Yes	No	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250.000	250.000	550.000	250.000	—	—	100.0000	—	—	67.0000	—	—	—	—	—	—	—
Unmit.	—	Yes	No	Yes	No	—	—	Yes	—	—	Yes	—	—	—	—	—	—	—

2.4. 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	232.697	217.759	116.805	1,494.79	4.21216	1.71376	459.668	461.382	1.60273	116.503	118.105	—	428,351	428,351	15.3682	16.3464	47.5859	433,654
Area	114.757	113.367	1.66756	186.164	0.00894	0.15605	—	0.15605	0.11804	—	0.11804	0.00000	575.122	575.122	0.02407	0.00484	—	577.165
Energy	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	15,778.9	15,778.9	2.33026	0.22079	—	15,902.9
Water	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Waste	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Total	348.096	331.448	124.054	1,683.94	4.25616	2.31390	459.668	461.982	2.16486	116.503	118.667	1,967.81	445,324	447,291	215.385	17.4013	75.2317	457,937
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	232.660	217.612	129.092	1,418.99	4.02020	1.71502	459.668	461.383	1.60393	116.503	118.107	—	408,937	408,937	16.3351	17.3472	1.23404	414,516
Area	92.9894	92.9894	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Energy	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	15,778.9	15,778.9	2.33026	0.22079	—	15,902.9
Water	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Waste	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Total	326.293	310.922	134.673	1,421.98	4.05526	2.15911	459.668	461.828	2.04802	116.503	118.551	1,967.81	425,335	427,302	216.328	18.3972	28.8799	438,222

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	229.189	214.169	126.330	1,417.16	4.04906	1.71429	456.770	458.484	1.60323	115.778	117.381	—	411,854	411,854	16.0616	17.1354	20.5473	417,382
Area	103.724	103.039	0.82236	91.8070	0.00441	0.07696	—	0.07696	0.05821	—	0.05821	0.00000	283.622	283.622	0.01187	0.00238	—	284.629
Energy	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	15,778.9	15,778.9	2.33026	0.22079	—	15,902.9
Water	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Waste	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Total	333.556	317.529	132.733	1,511.95	4.08852	2.23533	456.770	459.005	2.10554	115.778	117.884	1,967.81	428,535	430,503	216.067	18.1879	48.1932	441,373
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	41.8271	39.0859	23.0552	258.631	0.73895	0.31286	83.3605	83.6734	0.29259	21.1295	21.4221	—	68,187.1	68,187.1	2.65917	2.83696	3.40185	69,102.4
Area	18.9296	18.8045	0.15008	16.7548	0.00080	0.01404	—	0.01404	0.01062	—	0.01062	0.00000	46.9568	46.9568	0.00197	0.00039	—	47.1236
Energy	0.11730	0.05865	1.01852	0.54463	0.00640	0.08105	—	0.08105	0.08105	—	0.08105	—	2,612.37	2,612.37	0.38580	0.03655	—	2,632.91
Water	—	—	—	—	—	—	—	—	—	—	—	55.3634	102.461	157.825	5.69682	0.13730	—	341.160
Waste	—	—	—	—	—	—	—	—	—	—	—	270.430	0.00000	270.430	27.0285	0.00000	—	946.144
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.57708	4.57708
Total	60.8740	57.9491	24.2238	275.930	0.74616	0.40795	83.3605	83.7684	0.38426	21.1295	21.5137	325.794	70,948.9	71,274.7	35.7723	3.01121	7.97893	73,074.3

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	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 Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,624.63	3,624.63	0.70512	0.08547	—	3,667.73
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	5,182.22	5,182.22	1.00812	0.12220	—	5,243.84
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,806.85	8,806.85	1.71324	0.20766	—	8,911.56
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,624.63	3,624.63	0.70512	0.08547	—	3,667.73
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	5,182.22	5,182.22	1.00812	0.12220	—	5,243.84
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,806.85	8,806.85	1.71324	0.20766	—	8,911.56
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	600.099	600.099	0.11674	0.01415	—	607.234
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	857.976	857.976	0.16691	0.02023	—	868.177

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,458.07	1,458.07	0.28365	0.03438	—	1,475.41

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 Mid Rise	0.48102	0.24051	4.11055	1.74917	0.02624	0.33234	—	0.33234	0.33234	—	0.33234	—	5,217.63	5,217.63	0.46176	0.00982	—	5,232.10
Strip Mall	0.16174	0.08087	1.47037	1.23511	0.00882	0.11175	—	0.11175	0.11175	—	0.11175	—	1,754.39	1,754.39	0.15526	0.00330	—	1,759.26
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	6,972.02	6,972.02	0.61702	0.01313	—	6,991.36
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.48102	0.24051	4.11055	1.74917	0.02624	0.33234	—	0.33234	0.33234	—	0.33234	—	5,217.63	5,217.63	0.46176	0.00982	—	5,232.10
Strip Mall	0.16174	0.08087	1.47037	1.23511	0.00882	0.11175	—	0.11175	0.11175	—	0.11175	—	1,754.39	1,754.39	0.15526	0.00330	—	1,759.26
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.64276	0.32138	5.58092	2.98428	0.03506	0.44409	—	0.44409	0.44409	—	0.44409	—	6,972.02	6,972.02	0.61702	0.01313	—	6,991.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.08779	0.04389	0.75018	0.31922	0.00479	0.06065	—	0.06065	0.06065	—	0.06065	—	863.838	863.838	0.07645	0.00163	—	866.234
Strip Mall	0.02952	0.01476	0.26834	0.22541	0.00161	0.02039	—	0.02039	0.02039	—	0.02039	—	290.460	290.460	0.02571	0.00055	—	291.266
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Other Asphalt Surfaces	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.11730	0.05865	1.01852	0.54463	0.00640	0.08105	—	0.08105	0.08105	—	0.08105	—	1,154.30	1,154.30	0.10215	0.00217	—	1,157.50

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	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	86.5219	86.5219	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.46752	6.46752	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	21.7672	20.3774	1.66756	186.164	0.00894	0.15605	—	0.15605	0.11804	—	0.11804	—	575.122	575.122	0.02407	0.00484	—	577.165
Total	114.757	113.367	1.66756	186.164	0.00894	0.15605	—	0.15605	0.11804	—	0.11804	0.00000	575.122	575.122	0.02407	0.00484	—	577.165
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	86.5219	86.5219	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.46752	6.46752	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	92.9894	92.9894	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	15.7902	15.7902	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.18032	1.18032	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.95905	1.83396	0.15008	16.7548	0.00080	0.01404	—	0.01404	0.01062	—	0.01062	—	46.9568	46.9568	0.00197	0.00039	—	47.1236
Total	18.9296	18.8045	0.15008	16.7548	0.00080	0.01404	—	0.01404	0.01062	—	0.01062	0.00000	46.9568	46.9568	0.00197	0.00039	—	47.1236

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 Mid Rise	—	—	—	—	—	—	—	—	—	—	—	154.843	277.212	432.055	15.9314	0.38378	—	944.705
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	179.555	304.912	484.467	18.4706	0.44464	—	1,078.73
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	36.7485	36.7485	0.00715	0.00087	—	37.1854
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	154.843	277.212	432.055	15.9314	0.38378	—	944.705
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	179.555	304.912	484.467	18.4706	0.44464	—	1,078.73
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	36.7485	36.7485	0.00715	0.00087	—	37.1854
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	334.398	618.872	953.271	34.4091	0.82928	—	2,060.62
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	25.6361	45.8956	71.5317	2.63762	0.06354	—	156.407

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	29.7273	50.4817	80.2090	3.05802	0.07361	—	178.597
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	6.08413	6.08413	0.00118	0.00014	—	6.15647
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	55.3634	102.461	157.825	5.69682	0.13730	—	341.160

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 Mid Rise	—	—	—	—	—	—	—	—	—	—	—	916.613	0.00000	916.613	91.6122	0.00000	—	3,206.92
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	715.845	0.00000	715.845	71.5462	0.00000	—	2,504.50
City Park	—	—	—	—	—	—	—	—	—	—	—	0.95478	0.00000	0.95478	0.09543	0.00000	—	3.34046
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	916.613	0.00000	916.613	91.6122	0.00000	—	3,206.92

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	715.845	0.00000	715.845	71.5462	0.00000	—	2,504.50
City Park	—	—	—	—	—	—	—	—	—	—	—	0.95478	0.00000	0.95478	0.09543	0.00000	—	3.34046
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	1,633.41	0.00000	1,633.41	163.254	0.00000	—	5,714.76
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	151.756	0.00000	151.756	15.1674	0.00000	—	530.942
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	118.516	0.00000	118.516	11.8453	0.00000	—	414.649
City Park	—	—	—	—	—	—	—	—	—	—	—	0.15808	0.00000	0.15808	0.01580	0.00000	—	0.55305
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	270.430	0.00000	270.430	27.0285	0.00000	—	946.144

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 Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.7671	19.7671

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.87871	7.87871
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.7671	19.7671
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.87871	7.87871
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.6458	27.6458
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.27267	3.27267
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.30441	1.30441
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.57708	4.57708

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	114,102	114,102	114,102	41,647,230	651,881	651,881	651,881	237,936,565

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	0	0
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	2,300	2,300
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Strip Mall	Wood Fireplaces	0	0
Strip Mall	Gas Fireplaces	0	0
Strip Mall	Propane Fireplaces	0	0
Strip Mall	Electric Fireplaces	0	0
Strip Mall	No Fireplaces	0	0
Strip Mall	Conventional Wood Stoves	0	0
Strip Mall	Catalytic Wood Stoves	0	0
Strip Mall	Non-Catalytic Wood Stoves	0	0
Strip Mall	Pellet Wood Stoves	0	0
City Park	Wood Fireplaces	0	0
City Park	Gas Fireplaces	0	0
City Park	Propane Fireplaces	0	0
City Park	Electric Fireplaces	0	0
City Park	No Fireplaces	0	0
City Park	Conventional Wood Stoves	0	0

City Park	Catalytic Wood Stoves	0	0
City Park	Non-Catalytic Wood Stoves	0	0
City Park	Pellet Wood Stoves	0	0
Other Asphalt Surfaces	Wood Fireplaces	0	0
Other Asphalt Surfaces	Gas Fireplaces	0	0
Other Asphalt Surfaces	Propane Fireplaces	0	0
Other Asphalt Surfaces	Electric Fireplaces	0	0
Other Asphalt Surfaces	No Fireplaces	0	0
Other Asphalt Surfaces	Conventional Wood Stoves	0	0
Other Asphalt Surfaces	Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Non-Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Pellet Wood Stoves	0	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)
5,589,000	1,863,000	1,897,500	632,500	100,624

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

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 Mid Rise	7,799,001	169.636	0.0330	0.0040	16,280,404
Strip Mall	11,150,417	169.636	0.0330	0.0040	5,474,182
City Park	0.00000	169.636	0.0330	0.0040	0.00000
Other Asphalt Surfaces	0.00000	169.636	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	80,806,073	8,742,548
Strip Mall	93,701,740	3,431,733
City Park	0.00000	14,899,929
Other Asphalt Surfaces	0.00000	0.00000

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	1,700.77	0.00000
Strip Mall	1,328.25	0.00000
City Park	1.77160	0.00000
Other Asphalt Surfaces	0.00000	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922.00	0.00040	7.50000	7.50000	20.0000
City Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	14.7400	annual days of extreme heat
Extreme Precipitation	5.15000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.4800	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	42.5638
AQ-PM	28.1394
AQ-DPM	76.8015
Drinking Water	24.1539
Lead Risk Housing	39.5337
Pesticides	35.7241
Toxic Releases	27.8445
Traffic	61.5375
Effect Indicators	—
CleanUp Sites	78.6114
Groundwater	67.4747
Haz Waste Facilities/Generators	82.7399
Impaired Water Bodies	43.7841
Solid Waste	96.6323
Sensitive Population	—
Asthma	3.21535

Cardio-vascular	14.0952
Low Birth Weights	40.4670
Socioeconomic Factor Indicators	—
Education	78.3346
Housing	82.7883
Linguistic	77.8590
Poverty	78.2035
Unemployment	36.4394

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	14.57718465
Employed	17.95200821
Median HI	15.05196972
Education	—
Bachelor's or higher	34.96727833
High school enrollment	100
Preschool enrollment	1.873476197
Transportation	—
Auto Access	7.878865649
Active commuting	68.52303349
Social	—
2-parent households	81.04709355
Voting	41.66559733
Neighborhood	—
Alcohol availability	17.16925446

Park access	56.96137559
Retail density	84.51174131
Supermarket access	77.74926216
Tree canopy	38.40626203
Housing	—
Homeownership	8.623123316
Housing habitability	19.36353137
Low-inc homeowner severe housing cost burden	79.81521879
Low-inc renter severe housing cost burden	64.18580778
Uncrowded housing	31.19466188
Health Outcomes	—
Insured adults	5.902733222
Arthritis	9.2
Asthma ER Admissions	99.1
High Blood Pressure	21.8
Cancer (excluding skin)	21.2
Asthma	30.0
Coronary Heart Disease	3.1
Chronic Obstructive Pulmonary Disease	5.5
Diagnosed Diabetes	18.3
Life Expectancy at Birth	13.9
Cognitively Disabled	11.9
Physically Disabled	7.5
Heart Attack ER Admissions	99.6
Mental Health Not Good	25.4
Chronic Kidney Disease	2.7
Obesity	34.9
Pedestrian Injuries	81.7

Physical Health Not Good	17.6
Stroke	5.6
Health Risk Behaviors	—
Binge Drinking	68.3
Current Smoker	35.6
No Leisure Time for Physical Activity	16.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	23.2
English Speaking	15.1
Foreign-born	80.3
Outdoor Workers	11.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	47.4
Traffic Density	77.2
Traffic Access	23.0
Other Indices	—
Hardship	72.9
Other Decision Support	—
2016 Voting	49.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	59.0000
Healthy Places Index Score for Project Location (b)	15.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Residential - 2,300 du, 2,760,000 sf Commercial - 1,265,000 sf Total commercial + residential acreage = 81.3 Landscaping modeled as 20% acreage Park - 20.6 acres, 50% modeled as landscaping ROW - 38.5 acres
Operations: Hearths	No fireplaces or wood stoves

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	60.5263	54.9400
Building Area	sq. ft	2,208,000	2,760,000
Landscape Area	sq. ft	—	478,648
Lot Area	acre	29.0404	26.3600

Landscape Area	sq. ft	—	229,637

8.5. Operations

8.5.2. Area Sources

8.5.2.1. Hearths

Land Use	Model Parameter	Units	Default Value	New Value
Apartments Mid Rise	Wood Fireplaces	—	805	0
Apartments Mid Rise	Gas Fireplaces	—	1,265	0
Apartments Mid Rise	No Fireplaces	—	230	2,300
Apartments Mid Rise	Hours/Day	—	3	0
Apartments Mid Rise	Days/Year	—	82	0
Apartments Mid Rise	Wood Mass	lb/year	3,078	0
Apartments Mid Rise	Catalytic Wood Stoves	—	115	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	—	115	0
Apartments Mid Rise	Days/Year	—	82	0
Apartments Mid Rise	Wood Mass	lb/year	3,019	0