Appendix A

Air Quality and Greenhouse Gas Emissions Impact Analysis

AIR QUALITY AND GREENHOUSE GAS IMPACT ANALYSIS

23755 Newhall Avenue Apartments Project
Santa Clarita, CA

Envicom Project #2022-059-01

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SECTION

TABLES

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APPENDIX

1.0 INTRODUCTION

This report is an analysis of the potential air quality and greenhouse gas (GHG) emissions impacts of the proposed 23755 Newhall Avenue Apartments project (project), a proposed mixed-use development in the City of Santa Clarita pursuant to the California Environmental Quality Act (CEQA).

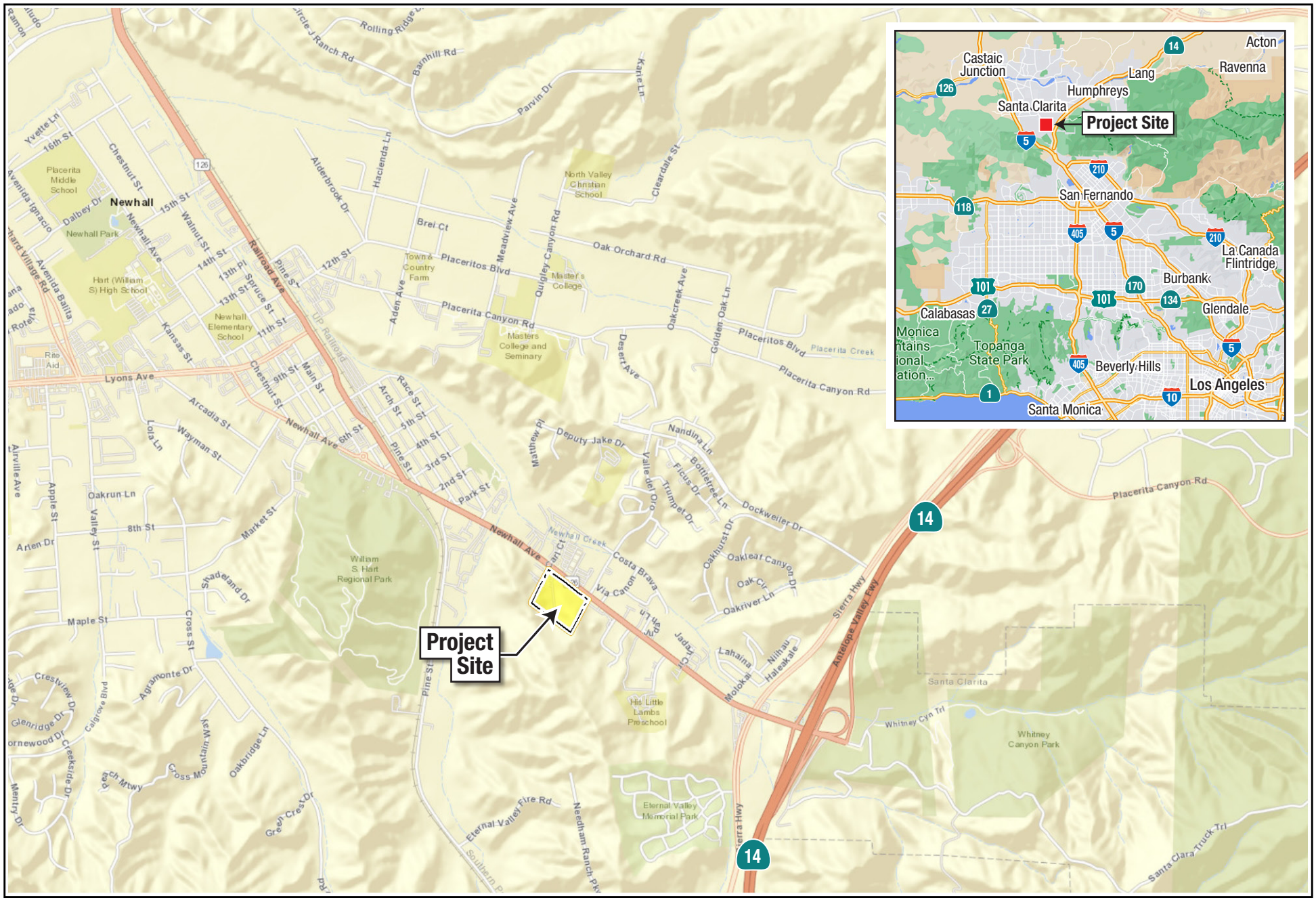
2.0 ATMOSPHERIC SETTING

The proposed project would be located at 23755 Newhall Avenue (project site, or subject property) in the City of Santa Clarita (City), within the South Coast Air Basin (SCAB, or air basin). The SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and is bounded by the Pacific Ocean and Ventura County to the west, the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and San Diego County to the south. In general, the SCAB encompasses a metropolitan area with a high level of human activity. The climate characteristics of the SCAB, such as low temperature inversions, light winds, shallow vertical mixing, and extensive sunlight, in combination with topographical features, such as the adjacent mountain ranges, inhibit the vertical and horizontal dispersion of air pollutants, which can result in degraded air quality within the air basin.

3.0 PROPOSED DEVELOPMENT

The proposed project would re-develop approximately 4.5 acres of the roughly 10-acre property, shown in **Figure 1, Regional Location Map**. The northeastern portion of the site that is located adjacent to Newhall Avenue is currently developed with an 8,578-square foot commercial structure, and paved areas. Recent uses on the site have included an automotive service/oil change facility and a used car sales lot. Two temporary modular/trailer mounted offices associated with the used car lot are also located on the site. The southwestern portion of the project site is generally vacant. Existing land uses adjacent to the project site consist of a convalescent home facility to the west, commercial/retail uses to the north and east, undeveloped land to the south, and single-family residences to the southeast.

The project would construct a multi-family residential development on the subject property with a total of 106 units, including 70 apartments and 36 townhome units distributed throughout the development area as shown in **Figure 2, Conceptual Site Plan**. The project would also include a total of 4,000 square feet of commercial space within a stand-alone structure along Newhall Avenue. A total of 262 parking spaces would be provided within the site, including private garages within each of the townhome units (72 spaces total), a parking garage level beneath the residential levels of the apartment building (110 spaces), and uncovered parking lot spaces for guests and customers of the commercial uses (80 spaces). The townhome structures would provide a total of 69,470 square feet of floor area including private garages, the apartment structure would provide a total of 85,159 square feet of floor area, the underground parking garage would have 34,895 square feet of floor area, and the retail suite 4,000 square-feet of floor area. Recreation amenities including a swimming pool and open space areas would be provided onsite. Access would be provided by two driveways from Newhall Avenue. Grading activities during construction would require approximately 66,259 cubic yards (cy) of soil to be exported from the project site, and demolition is estimated to result in the removal of 1,633 tons of material from the site.



Source: ESRI, World Street Map, 2021.

envicom

Regional Location Map

FEET 0 1,000 2,000

FIGURE 1

Aerial Source: Google Earth Pro, Feb. 28, 2021. Map Source: Oakes Architects Inc., Nov. 4, 2022.

Proposed Site Plan

FEET 0 75 150

FIGURE 2

4.0 AIR QUALITY SETTING

Ambient Air Quality Standards

National and state ambient air quality standards (AAQS),[1] shown in **Table 1, Ambient Air Quality Standards**, are the air quality levels considered safe, with an adequate margin of safety, to protect the public health and welfare of "sensitive receptors," which include the elderly, young children, the acutely and chronically ill (e.g., those with cardio-respiratory disease, including asthma), and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (O_3), the primary ingredient in photochemical smog, may lead to adverse respiratory health, even at concentrations close to the ambient standard. Sources and health effects of various air pollutants are shown in **Table 2, Health Effects of Major Criteria Pollutants.**

Baseline Air Quality

Existing levels of ambient air quality and historical trends and projections in the project area are documented from measurements by the SCAQMD, the agency responsible for regulating stationary sources of emissions in the air basin. SCAQMD's Santa Clarita Valley air monitoring station (Station 90) is the air monitoring station nearest the project site; therefore, monitoring data recorded at that station for regional air pollutants, such as ozone O_3, carbon monoxide (CO), nitrogen oxides (NOx), and 10-micron diameter or less particulate matter (PM-10 and PM-2.5) are most representative of the air quality in the project area. **Table 3, Project Area Air Quality Monitoring Summary** provides data from this monitoring station for the previous five years (2018-2022) for which this data is available from the SCAQMD website.[2]

The following key conclusions regarding air quality monitoring data reported for 2018-2022 as shown in Table 3 are summarized below:

1. From 2018 -2022, O_3 levels exceeded the 1-hour State standard, the Federal 8-hour standard, and the 8-hour State standard on multiple occasions. In 2021, the maximum recorded 1-hour and 8-hour concentrations were 0.129 and 0.114 parts per million (ppm), respectively, compared to the State standards for 1-hour and 8-hour concentrations of 0.09 ppm and 0.07 ppm, respectively.
2. PM-10 levels exceeded the State 24-hour standard on just one day monitored from 2018-2022. The National 24-hour PM-10 standard was not exceeded in the same period.
3. CO and NOx levels have not exceeded National or State standards in the previous five years of monitoring data (2018-2022).

Air Quality Planning

In the air basin, the agencies designated to develop the regional Air Quality Management Plan (AQMP) are the SCAQMD and the Southern California Association of Governments. The 2022 AQMP is a regional blueprint for achieving air quality standards and healthful air, and it represents a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures. According to the AQMP, the principal contributor to air quality challenges in the air basin is mobile source emissions.

[1] California Air Resources Board. California and National Ambient Air Quality Standards. Available at: https://www.arb.ca.gov/research/aaqs/aaqs2.pdf?_ga=2.111850244.1417595818.1550763932-1724706578.1550763932

[2] South Coast Air Quality Management District, Historical Data by Year, Available at https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year.

Table 1
Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	**Averaging Time**	**California Standards** [1]		**National Standards** [2]		
		Concentration [3]	**Method** [4]	**Primary** [3,5]	**Secondary** [3,6]	**Method** [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

Table 2
Health Effects of Major Criteria Pollutants

Pollutant	Health Effects
Ozone (O_3)	• Respiratory symptoms • Worsening of lung disease leading to premature death • Damage to lung tissue
PM-2.5 (particulate matter less than 2.5 microns in aerodynamic diameter)	• Premature death • Hospitalization for worsening of cardiovascular disease • Hospitalization for respiratory disease • Asthma-related emergency room visits • Increased symptoms, increased inhaler usage
PM-10 (particulate matter less than 10 microns in aerodynamic diameter)	• Premature death & hospitalization, primarily for worsening of respiratory disease
Nitrogen Oxides (NO_X)	• Lung irritation • Enhanced allergic responses
Carbon Monoxide (CO)	• Chest pain in patients with heart disease • Headache • Light-headedness • Reduced mental alertness
Sulfur Oxides (SO_X)	• Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits
Source: California Air Resources Board, Common Air Pollutants, accessed at https://ww2.arb.ca.gov/resources/common-air-pollutants.	

Table 3
Project Area Air Quality Monitoring Summary

Pollutant/Standard*	2018	2019	2020	2021	2022
Ozone (O_3)					
Number of Days Standards Exceeded					
1-Hour > 0.09 ppm (S)	21	34	44	30	28
8-Hour > 0.07 ppm (S)[1]	52	56	77	61	68
Maximum Observed Concentration					
Max. 1-Hour Conc. (ppm)	0.132	0.128	0.148	0.125	0.129
Max. 8-Hour Conc. (ppm)	0.106	0.106	0.122	0.103	0.114
Carbon Monoxide (CO)					
Number of Days Standards Exceeded					
8-Hour > 9.0 ppm (S, F)	0	0	0	0	0
Maximum Observed Concentration					
Max 8-Hour Conc. (ppm)	0.8	1.2	0.8	0.7	0.6
Nitrogen Dioxide (NO_2)					
Number of Days Standards Exceeded					
1-Hour > 0.18 ppm (S)	0	0	0	0	0
Maximum Observed Concentration					
Max. 1-Hour Conc. (ppm)	0.059	0.046	0.046	0.057	0.051
Inhalable Particulates (PM-10)					

Pollutant/Standard*	2018	2019	2020	2021	2022
Number of Days Standards Exceeded/Days Monitored					
24-Hour > 50 µg/m^3 (S)	0/54	1/60	0/36	0/60	0/61
24-Hour > 150 µg/m^3 (F)	0/54	0/60	0/36	0/60	0/61
Maximum Observed Concentration					
Max. 24-Hr. Conc. (µg/m^3)	49	63	48	47	36

Source: SCAQMD Santa Clarita Monitoring Station Reports, available at http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year.
Notes: S = State; F = Federal; µg/m^3 = micrograms per cubic meter of air
* Annual monitoring data provided by SCAQMD for the Santa Clarita Valley Monitoring Station does not include data for Ultra-Fine Particulates (PM-2.5).
[1] Federal standard of 0.075 is not reported as State 0.07 is more stringent

Primary Pollutants

Primary pollutants are those emitted in an unhealthful form. CO is an example of such a pollutant, which can have effects at a very localized level, near an individual source of emissions or a collection of sources, such as a crowded intersection or parking lot. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the SCAB for PM-10, SCAQMD Rule 403 requires construction projects to implement an aggressive dust control program.

Secondary Pollutants

Secondary pollutants are those that transform over time from more benign components directly emitted from a source(s) to a more unhealthful contaminant. O_3 is an example of a secondary pollutant, which is created through chemical reactions involving primary precursors (reactive organic gases (ROG), and NOx) and sunlight.

Emissions Forecasts

The SCAQMD emissions forecast for O_3 precursors (ROG and NOx) and for CO and PM are shown in **Table 4, South Coast Air Basin Emissions Forecasts** (emissions in tons/day). Substantial reductions in emissions of ROG, NOx and CO are forecast to continue throughout the next several decades. Emissions of PM-10 and PM-2.5 are forecast to slightly increase unless new particulate control programs are implemented.

Table 4
South Coast Air Basin Emissions Forecasts

Pollutant	2025	2030	2035
Nitrogen Oxide (NOx)	289	266	257
Volatile Organic Compounds (VOCs)*	393	393	391
PM-10	165	170	172
PM-2.5	68	70	71

Source: California Air Resources Board, Almanac 2013, Chapter 4: Regional Trends and Forecasts, Table 4-1
* For purposes of this analysis, VOC and ROG (Reactive Organic Gas) are used interchangeably since ROG represents approximately 99.9 percent of VOC.

5.0 AIR QUALITY IMPACTS

Significance Criteria

State CEQA Guidelines

Air quality impacts of a project are considered significant if they cause clean air standards to be violated where they are currently met, or if they substantially contribute to an existing violation of standards. Substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, that are generated by a project, would also be considered significant impacts.

As set forth in Appendix G, Environmental Checklist, of the state CEQA Guidelines, a project could have a potentially significant impact if it would:

a. Conflict with or obstruct implementation of the applicable air quality plan;
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard;
c. Expose sensitive receptors to substantial pollutant concentrations; and/or
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

SCAQMD Emissions Thresholds

The SCAQMD's 2022 AQMP is the region's applicable air quality plan. Growth estimates, including land use patterns, used to prepare the AQMP are derived from the Southern California Association of Governments (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). These same estimates are used in the Regional Housing Needs Assessment (RHNA) which determines how many dwelling units a City must plan for. A housing project that conforms to the land use assumptions of the RTP/SCS would be contributing toward fulfillment of the RHNA allocation while maintaining the land use assumptions contained in the AQMP, the purpose of which is to bring the region into AAQS attainment.

The sixth cycle RHNA determined the City must plan for 10,031 new dwelling units between 2021 and 2029.[3] Population in the City as forecast by SCAG would increase by 40,600 people by 2045 over the baseline population of 218,200 in 2016. Employment growth would increase by 14,000 more employees in 2045 over the base year figure of 91,200 employees. The project proposes 106 residential units and 4,000 square-feet of commercial space. Based upon the average household size in the City of 3.07 people,[4] the project could be estimated to potentially attract up to 325 new residents. The number of jobs produced by the commercial space would depend on the nature of the tenant(s) but would be fairly minimal regardless. The amount of potential population or job growth the project represents fits well within growth assumptions and positively contributes to the RHNA allocation. As the project is proposed on an infill location, does not require rezoning or a General Plan amendment, and contributes 106 dwelling units toward the City's RHNA requirements while retaining 4,000 square-feet of commercial space at the same location, the project is consistent with the growth and land use assumptions that underlie applicable air quality plan.

[3] SCAG 6th Cycle Final RHNA Allocation Plan, approved March 22, 2021, Modified July 1, 2021.
[4] US Census, QuickFacts Santa Clarita city, California, Accessed at: https://www.census.gov/quickfacts/fact/table/santaclaritacitycalifornia/INC110221 on January 8, 2024.

However, the project's consistency with the AQMP is primarily based upon its consistency with SCAQMD's project impact evaluation thresholds. The SCAQMD significance thresholds were established to assess regional and localized impacts of project-related criteria pollutant emissions, and non-exceedance of these thresholds demonstrates consistency with the AQMP. As the amount of a secondary pollutant that may result from a project cannot be quantified by direct measurement of its emissions from a source, the SCAQMD has designated significant emissions levels of precursor components as surrogates for evaluating whether a project's emissions could result in significant regional air quality impacts associated with secondary pollutants. Projects with daily emissions that exceed any of the following emission thresholds shown in **Table 5, SCAQMD CEQA Daily Emissions Thresholds**, (pounds/day) are recommended by the SCAQMD to be considered significant impacts under CEQA.

Table 5
SCAQMD CEQA Daily Emissions Thresholds

Pollutant	Construction	Operations
Reactive Organic Gasses (ROG)	75	55
Oxides of Nitrogen (NO_X)	100	55
Carbon Monoxide (CO)	550	550
Particulate Matter (PM-10)	150	150
Particulate Matter (PM-2.5)	55	55
Sulphur Oxides (SO_X)	150	150
Source: SCAQMD CEQA Air Quality Significance Thresholds. Revision March 2023.		

Existing Land Use Emissions

Air pollutant emissions associated with the existing uses at the project site would be nominal, and as such, no emission "credits" for the existing uses were assumed for this study.

Sensitive Receptors

The impact of emissions on air quality is analyzed for those persons with the greatest sensitivity to air pollution exposure. Such persons are called "sensitive receptors." Sensitive receptors include the elderly, young children, the acutely and chronically ill (e.g., those with cardio-respiratory disease, including asthma), and persons engaged in strenuous work or exercise. For this project, the nearest sensitive receptors would be residents of a convalescent home facility located adjacent to the western project site boundary.

Construction Activity Impacts

Dust is typically the primary concern during the construction of projects that would involve land clearing and grading. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Emission rates vary as a function of many parameters (including soil silt, soil moisture, wind speed, area disturbed, number of vehicles, and depth of disturbance or excavation).

The California Emissions Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model was developed for the California Air Pollution Officers Association in collaboration with the California Air Districts.

The proposed project's estimated construction emissions were modeled using CalEEMod Version 2022.1.1.21 to identify maximum daily emissions for each pollutant during project construction. The output report from CalEEMod is included as **Appendix A** to this report. Construction emissions were modeled based on lot acreage, amount of debris to be removed during demolition, volume of soil exported, the size of proposed structures, use of each structure, number of dwelling units, and amount of surface parking and associated paving. A conceptual construction equipment fleet list and approximate duration of each construction phase on which this analysis was conducted is shown in **Table 6, Conceptual Construction Equipment Fleet**. The construction fleet and construction phase durations were modified per input from the consulting contractor associated with the applicant.

The project's estimated maximum daily construction emissions, as calculated by CalEEMod, are listed in **Table 7, Maximum Daily Construction Emissions (pounds/day)**. All construction grading projects in the SCAB must comply with the requirements of SCAQMD Rule 403, Fugitive Dust, which requires the implementation of Best Available Control Measures for all fugitive dust sources. SCAQMD Rule 403, Control Measure 08-2 states that during earth moving activities, projects are required to "Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction." Therefore, pursuant to SCAQMD Rule 403, the project would be required to implement adequate watering of exposed surfaces during grading. This is estimated by selecting the application of water to the site twice a day in the CalEEMod program.

Table 6
Conceptual Construction Equipment Fleet

Construction Phase	Duration (Working days)	Equipment Type (Quantity)
Demolition	25	1 Dozer
		3 Excavators
		1 Concrete/Industrial Saw
		1 Loader
Site Preparation (Grubbing and Stump removal)	20	1 Dozer
		1 Tractor/Loader/Backhoe
Grading (including soil import)	45	1 Excavator
		1 Grader
		1 Dozer
		3 Tractor/Loader/Backhoe
		1 Water Truck
		1 Loader
Building Construction	320	3 Tractor/Loader/Backhoes
		1 Crane
		3 Forklifts
		1 Generator Set
		1 Welder
Paving	35	1 Paver
		2 Paving equipment
		2 Rollers
		2 Cement and Mortar Mixers
		1 Tractor/Loader/Backhoe
Architectural Coating (painting)	35	1 Air Compressor
Source: CalEEMod report, January 2024 (Appendix A) as modified by Chandler Partners.		

Table 7
Maximum Daily Construction Emissions (pounds/day)

	ROG	NO_X	CO	SO_2	PM-10	PM-2.5
Maximum Daily Construction Emissions	29.4	51.1	43.4	0.1	10.8	5.3
SCAQMD Thresholds	75	100	550	150	150	55
Significant Impact? Yes/No	No	No	No	No	No	No
Source: CalEEMod Report, January 2024 (Appendix A). Winter or Summer season emissions, whichever is greatest. Estimates based on application of water for dust suppression as required by SCAQMD Rule 403 – Fugitive Dust.						

As seen in Table 7, peak daily construction activity emissions of criteria air pollutants are estimated to be below the SCAQMD thresholds of significance. Therefore, construction period air quality impacts of the project would be less than significant.

Localized Significance Thresholds Analysis

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to the SCAQMD Governing Board's Environmental Justice Enhancement Initiative 1-4, and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005. LSTs are only applicable to the following criteria pollutants: NO_X, CO, PM-10, and PM-2.5. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and they are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

Use of an LST analysis for a project is optional, not required by the SCAQMD. For the proposed project, the primary source of possible LST impact would be construction activity, based on the maximum onsite daily emissions estimated by CalEEMod. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours, such as a residence, hospital, or convalescent facility.

SCAQMD's LST screening tables provide thresholds for 25, 50, 100, 200 and 500-meter (m) source-receptor distances. As discussed above, the nearest sensitive receptors to the project site is a convalescent home facility located adjacent to the western site boundary. LST pollutant screening level concentration data is currently published for 1, 2 and 5-ac sites. Therefore, this analysis will be conservatively based on the LST screening levels for a 2-ac site, with a source-receptor distance of 25 m.[5] This evaluation is based on estimated maximum daily onsite emissions for the construction phase representing the highest daily emissions. Daily averages would be lower than the reported maximum amounts. **Table 8, Local Significance Thresholds and Peak Daily Onsite Emissions (pounds/day)** shows the relevant thresholds and the estimated peak daily onsite emissions during the construction phases that would generate the highest level of onsite emissions for each pollutant evaluated for LST impacts.[6] As previously described, the project would be required to implement adequate watering of exposed surfaces during grading to reduce dust emissions to comply with SCAQMD Rule 403, Fugitive Dust.

[5] According to SCAQMD guidance, "Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters." South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, Revised July 2008.

[6] Offsite construction emissions, such as export hauling, are not considered in localized significance evaluations.

Table 8
Local Significance Thresholds
and Peak Daily Onsite Emissions (pounds/day)

LST 2.0 ac/25 m Santa Clarita Valley	NO_X	CO	PM-10	PM-2.5
Peak Onsite Daily Emissions	23.2	25.0	3.8	2.3
LST Threshold	163	877	6	4
Significant Impact? Yes/No	No	No	No	No
Source: CalEEMod Report, January 2024 (Appendix A). Figures are from Winter or Summer emissions, whichever is greater.				

As seen in Table 8, the peak onsite emissions during construction would not exceed the applicable SCAQMD LSTs, and as such, potential LST impacts would be less than significant.

Operational Impacts

During operations, the proposed uses would result in emissions of criteria pollutants from area sources (i.e., consumer products, architectural coatings, and landscaping equipment), energy sources (electricity and natural gas usage), and mobile sources (vehicle use). The operational profile includes modeling the commercial suite as a "Strip Mall" land use in CalEEMod. This land use represents a worst-case scenario in terms of emissions from all three sources, including mobile emissions greater than would be returned if trips estimates from the project's traffic impact assessment were used, and therefore results in a conservative estimate. The remaining land use profile of the model includes the apartments and townhouses as separate uses per CalEEMod defaults, the basement parking as an enclosed parking structure with elevator, and other site parking as a surface parking lot, the square-footage of which includes all of the asphalt driveways of the complex to properly account for off-gassing emissions from the pavement. In-unit townhouse garages are captured within the gross square-footage of the townhouse land use. The project was also modeled with no wood, gas, or other types of hearths or fireplaces included in any unit. This is a design feature of the project that effects its emissions profile, as such the City may wish to require as a condition of approval. The SCAQMD thresholds for air quality impacts from operations are shown in Table 4. Operations of the proposed development would not be anticipated to exceed SCAQMD significance thresholds for criteria pollutants, as shown in **Table 9, Maximum Daily Operations Emissions (pounds/day)**.

Table 9
Maximum Daily Operations Emissions (pounds/day)

Project Emissions Sources	ROG	NO_X	CO	SO_2	PM-10	PM-2.5
Mobile	3.0	2.8	30.5	0.1	7.0	1.8
Area	4.5	<0.1	7.7	< 0.1	< 0.1	< 0.1
Energy	<0.1	0.4	0.2	< 0.1	< 0.1	<0.1
Total	**7.6**	**3.3**	**38.4**	**0.1**	**7.0**	**1.8**
SCAQMD Thresholds	55	55	550	150	150	55
Significant Impact? Yes/No	No	No	No	No	No	No
Source: CalEEMod Report, January 2024 (Appendix A). Figures are for Summer or Winter season emissions, whichever is greater. Totals may not add due to rounding.						

As seen in Table 9, the project's total operational emissions would be far below SCAQMD thresholds, and the net change in emissions would be even less. Therefore, operational impacts of the project would be less than significant.

Carbon Monoxide Hot-Spots

A localized CO concentration from induced traffic at an intersection that exceeds the 1-hour concentration standard is referred to as a "CO hot-spot." A project could potentially add to or result in a CO hot-spot if traffic generated by the project resulted in especially severe congestion at an intersection. The project will not result in the production of a CO hot-spot as these phenomenon are generally only produced when an intersection's traffic exceeds 400,000 vehicles per day. In the 2003 AQMP, the SCAQMD provided analysis of CO attainment in the Basin. CO modeling was conducted for the four worst-case intersections within the Basin: (a) Wilshire Boulevard and Veteran Avenue; (b) Sunset Boulevard and Highland Avenue; (c) La Cienega Boulevard and Century Boulevard; and (d) Long Beach Boulevard and Imperial Highway. The SCAQMD noted that the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. The emission data provided in Table 4-10 of Appendix V of the 2003 AQMP showed the peak modeled 1-hour CO concentration at this intersection was 4.6 ppm, which demonstrated that the 1-hour CO standard of 20.0 ppm would likely not be exceeded unless traffic at the intersection exceeded 400,000 vehicles per day. Therefore, if a project intersection is not anticipated to approach or exceed 400,000 vehicle per day, it can be reasonably concluded that the project would not generate a significant CO hot spot and no further CO screening is warranted. There are no intersections in the City approaching this volume, therefore the project's traffic contribution of approximately 644 trips per day per the Traffic Impact Analysis from Hirsch/Green Transportation Consulting would not result in a CO hot-spot.

Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne pollutants identified by CARB which may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health. TACs are not criteria pollutants and are regulated separately. The USEPA regulates TACs through technology-based requirements which are implemented by state & local agencies. California regulates TACs through the air toxics program (H&SC §§ 39660 et seq.) and the Air Toxics "Hot Spots" Information and Assessment Act (H&SC §§ 44300 et seq.). Sources of TACs include some industrial and commercial activities, and mobile emissions from cars and trucks, particularly diesel particulate matter (DPM). The "Hot Spots" Act applies to stationary sources and requires operators of specified facilities (those that produce TACs) to submit emission inventories to the AQMD. Those deemed as high priority must prepare a health risk assessment which may result in notification to the surrounding population and development of a risk reduction plan. There are also "industry-wide" inventories and assessed risks of small business facilities with emissions that are easily characterized such as gas stations, small auto body shops, small dry cleaners, plating shops, and fiberglass product manufacturers. This information can be used when considering siting such a facility near a sensitive receptor, or vice versa. As residential projects do not generate a substantial quantity of diesel truck trips during operations, measurable diesel TAC emissions from the proposed project would occur for only a brief period during construction activities that would require the onsite use of heavy-duty equipment. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365-day per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk, due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a nine-, 30-, or 70-year timeframe, rather than for a relatively brief construction period, due to the lack of health risk associated with such a brief exposure. As such, potential impacts of the proposed project due to TAC emissions would be less than significant.

Odor Impacts

As stated above, a significant impact may occur if a project would result in other emissions, such as those leading to odors that would adversely affect a substantial number of people. However, objectionable odors are typically associated with manufacturing, industrial, or sewage treatment processes, and typically are not associated with residential development and small scale general commercial uses. Nevertheless, the SCAQMD's rules for odor compliance are mandated under the California Health and Safety Code, Section 41700, and also addressed in SCAQMD Rule 402. This rule on Public Nuisance states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals." During construction and operation of the project, trash receptacles would be provided and covered and properly maintained in order to control odors, as required by law. For operations, enclosed trash storage areas are proposed at various locations throughout the site. Therefore, odor impacts of the project during construction and operation would be less than significant.

6.0 GREENHOUSE GAS EMISSIONS (GHG) IMPACT

Greenhouse gases (GHGs) emitted by human activity are implicated in global climate change. These GHGs contribute to an increase in the temperature of the earth's atmosphere by preventing long wavelength heat radiation in some parts of the infrared spectrum from leaving the atmosphere. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs as including CO2, CO, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Carbon dioxide is the primary GHG emitted in California, accounting for 84 percent of total GHG emissions in 2015. Because the warming potential of the identified GHGs differ, GHG emissions are typically expressed in terms of CO2 equivalents (CO2e), providing a common expression for the combined volume and warming potential of the GHGs generated by a particular emitter. The total GHG emissions from individual sources are generally reported in metric tons (MT) and are expressed as MT of CO2 (MTCO2e).

Fossil fuel combustion in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. The transportation sector, primarily on-road travel, is the single largest source of CO2 emissions in California. Additionally, about 50 percent of the industrial source emissions of CO2 are from the refinery and oil and gas sectors. When the industrial source emissions from the oil and gas sectors are attributed to the transportation sector, the emissions associated with transportation amount to approximately half of statewide GHG emissions.

A number of regulatory steps have been taken by the state in the past two decades. These steps have cumulated in GHG emission targets, and for land use the methods for implementing the targets have been developed. Executive order S-3-05 issued by Governor Arnold Schwarzenegger in 2005 created GHG emissions target for the state and required the California EPA (CalEPA) to report progress every two years. Executive Order B-30-15 signed by Governor Jerry Brown in 2015 replaced the 2005 targets with a new target of GHG emissions 40 percent below 1990 levels by 2030. Governor Brown followed this in 2018 with Executive Order B-55-18 which established a state goal to achieve carbon neutrality no later than 2045.

California Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006, provided authorization to CARB to develop regulations and market mechanisms to reach the GHG emissions goals established in 2005. Subsequently the first Climate Change Scoping Plan produced by CARB was adopted in December 2008. The most recent update is the 2022 Scoping Plan California Senate Bill 32 (SB 32), the California Global Warming Solutions Act of 2006: emissions limit, was passed in 2016 as a follow-up to AB 32.

Assembly Bill 1279, known as the California Climate Crisis Act, was enacted September 16, 2022. It codifies previous executive orders by requiring California to achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. It also requires that statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels by 2045.

Senate Bill 375, the Sustainable Communities and Climate Protection Act, passed in 2008, required CARB to develop and set regional targets for greenhouse gas (GHG) emission reductions from passenger vehicles. Targets are set regionally for each of the 18 metropolitan planning organization (MPO) regions. Each MPO is required to develop a Sustainable Communities Strategy (SCS) that will reduce GHG emissions to achieve the regional targets. The SCS is a component to the Regional Transportation Plan (RTP), which regulates transportation financing in each region. The RTP and SCS must complement each other and accommodate the Regional Housing Needs Allocation (RHNA). The bill modified the RHNA requirements to align with production of the RTP/SCS. The purpose of this coordination is for each MPO to arrive at a mix of transportation and land use strategies that will direct the region's growth in such a way that emissions from car trips meet the GHG reduction targets.

The Southern California Association of Governments (SCAG) is the MPO for the County of Los Angeles (along with the Counties of Imperial, San Bernardino, Riverside, Orange, and Ventura). The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS aka Connect SoCal) is the most recent RTP/SC adopted by SCAG. The RTP/SCS is a regional plan for integrating the transportation network and related strategies with an overall land use pattern to accommodate projected growth, housing needs, and transportation demands. The 2020-2045 RTP/SCS has been found by CARB to meet the state targets for reducing GHG emissions from cars and light trucks, as it achieves per capita GHG emission reductions relative to 2005 levels of eight percent in 2020, and 19 percent in 2035, which meet the GHG reduction targets that were established by CARB for the SCAG region.

Thresholds of Significance

Because individual projects do not generate sufficient GHG emissions that would substantially affect climate change, the issue of climate change typically involves an analysis of whether a project's contribution toward an impact is cumulatively considerable. As defined by the California Environmental Quality Act (CEQA Guidelines) Section 15355, "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

The CEQA Guidelines Section 15064.4(a) states that a lead agency shall have discretion to determine, in the context of a particular project, whether to:

1) Quantify greenhouse gas emissions resulting from a project; and/or
2) Rely on a qualitative analysis or performance based standards.

Additionally, the Section 15064.4(b) states that "In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change," and that the following factors should be considered:

1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)).

CEQA Guidelines Section 15064.4 does not establish a threshold of significance for GHG emissions. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies or suggested by other experts (see CEQA Guidelines Section 15064.7(c)). Pursuant to CEQA Guidelines Section 15064.7(b), "Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence." Neither the City nor the SCAQMD have adopted a numeric threshold for the analysis of GHG impacts. In the absence of any applicable adopted numeric threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(3) by considering the "extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b))."

Construction Activity GHG Emissions

As shown in the CalEEMod output for the proposed project in Appendix A, during project construction, the CalEEMod computer model estimates that the construction activities would generate a total of 1,096.3 $MTCO_2e$ emissions. The SCAQMD's GHG emissions evaluation guidance is to amortize construction emissions over a 30-year lifetime, which results in a project amortized annual emissions of approximately 36.5 $MTCO_2e$ emissions.

Project Operational GHG Emissions

Based on the CalEEMod output files provided in Appendix A of this report, the project's annual operational GHG emissions from a combination of area sources, energy use, mobile, water use, and waste disposal would be 1,382.6 $MTCO_2e$, as shown below in **Table 10, Annual Greenhouse Gas Emissions**. With the addition of the amortized construction GHG emissions discussed above, the project would result in annual emissions of approximately 1,100.7 $MTCO_2e$.

Plan Consistency

According to the City of Santa Clarita Climate Action Plan (CAP),[7] projects that are consistent with the City's General Plan and Zoning ordinance will by association be consistent with the CAP. However, the CAP was only certified through to the year 2020. Nonetheless, the proposed project does not require a General Plan Amendment or Zoning change, and as such under the CAP assumptions the project would be

[7] City of Santa Clarita Community Development Department, City of Santa Clarita Climate Action Plan Final Report, August, 2012.

considered to be consistent with City's efforts to reduce emissions of GHGs citywide. The City does not yet have a new CAP so the project cannot be compared to any new underlying assumptions at this time.

Table 10
Annual Greenhouse Gas Emissions

Generation Source	$MTCO_2e$/year
Project Emissions	
Mobile Sources	1,152.0
Area Sources	2.6
Energy Utilization	190.3
Water Supply	10.4
Solid Waste Generation	27.0
Refrigerants	0.2
Construction (Amortized)	36.5
Total Project Operational Emissions	**1,419.1**
Source: CalEEMod Report, January 2024 (Appendix A). Totals may not add due to rounding.	

Currently the only applicable plan adopted to "implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions" is the SCAG RTP/SCS as it has been determined by CARB to meet state targets for reducing GHG emissions from cars and light trucks. The RTP/SCS would achieve this goal provided residential density follows the land use patterns assumed by the plan. The project site is not identified by SCAG as a Priority Growth Area[8], meaning development according to the existing land use designation and zoning will achieve GHG reduction goals. As the project is an infill development taking advantage of the available residential and commercial density of the zoning, the project is consistent with the 2020-2045 RTP/SCS.

An additional tool for evaluating a project's consistency with state climate goals is provided by the 2022 Scoping Plan Update's Appendix D, Local Actions. It is not regulatory nature but provide guidance for local governments in their pursuit of creating local GHG reduction plans that align with the 2022 Scoping Plan Update. Appendix D makes clear the nature of the Scoping Plan and other state regulatory programs as they relate to CEQA evaluation of local private development projects:

> "CEQA requires lead agencies to analyze the potential GHG-related impacts from their proposed projects. As part of these analyses, agencies consider the extent to which their projects are consistent with the State's climate goals and requirements. Land use plans (e.g., general plans, specific plans, area plans) and development projects have long operational lifespans, potentially locking in GHG emissions for decades. Some agencies have improperly attempted to use compliance with statewide regulatory programs to determine that their projects' GHG impacts are mitigated or are otherwise consistent with the Scoping Plan. While CARB has developed programs such as the State vehicle emissions standards (e.g., Advanced Clean Cars), the Low Carbon Fuel Standard, and the Cap-and-Trade program to reduce sector-wide GHG emissions, these programs were not designed to directly mitigate individual land use development project emissions from a CEQA perspective. Therefore, claimed consistency with these programs should not be used to conclude that motor vehicle emissions from a land use development project are fully mitigated or that such projects are definitively consistent with the Scoping Plan—particularly where the project at issue is not itself directly regulated by these programs."[9]

[8] SCAG, Priority Growth Areas (PGA) – SCAG Region, GIS feature layer from SCAG Regional Data Platform, Accessed January 9, 2024 at: https://hub.scag.ca.gov/

[9] CARB 2022 Scoping Plan for Achieving Carbon Neutrality, Appendix D, Section 3.2 Evaluating Plan-Level and Project-Level Alignment with the State's Climate Goals in CEQA GHG Analyses, December 2022

As stated, attempting to demonstrate a development project's consistency with state climate goals through compliance with statewide regulatory programs is an improper application of said programs, as each is intended to guide state, regional, and sometimes local climate planning. A private development project can neither comply nor be noncompliant with a program developed to guide agency rulemaking. As such, the 2020-2045 RTP/SCS remains the only available climate plan available for evaluation of project consistency. As SCAG is the MPO for Los Angeles County, and the SCAG 2020–2045 RTP/SCS is the document that outlines the land use and transportation strategies necessary for the SCAG region to meet GHG emission reduction targets set by CARB in the Scoping Plan, if a project is consistent with the land use assumptions of the RTP/SCS, it is by definition consistent with the Scoping Plan.

However, Appendix D provides attributes for local development projects that can be used to assess a project's alignment with state climate goals on an informational basis. Table 3 in Appendix D is titled "Key Residential and Mixed-Use Project Attributes that Reduce GHGs." This table provides a list of project-level attributes that have been determined to: "reduce operational GHG emissions while simultaneously advancing fair housing." The table is intended to guide local jurisdictions in rulemaking and therefore cannot be used to determine consistency.

Table 11, 2022 Scoping Plan Residential and Mixed-Use Project Attributes discusses the project's similarity with the attributes found in Table 3 of Appendix D.

Table 11
2022 Scoping Plan Residential and Mixed-Use Project Attributes

Priority Areas	Key Project Attribute	Project Consistency
Transportation Electrification	Provides EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval.	The project is subject to the current CalGreen Building Standards Code (Part 11, Title 24 of the California Code of Regulations) and will be required to provide EV capable and EV charging stations as per the code.
VMT Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer)	The project would construct a mixed-use residential development on an infill site in an urbanized area that is increasing its density. It is replacing an underutilized low-density commercial use. The site is served by all utilities and near multiple transit options.
	Does not result in the loss or conversion of natural and working lands	The project site is an urban infill location. There are no natural or working lands within the confines of the project site.
	Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or Is in proximity to existing transit stops (within a half mile), or Satisfies more detailed and stringent criteria specified in the region's SCS	Of the 4.5 utilized acres of the project the density is 23.5 dwelling units per acre. Considering the total 10 acre site the project density is 10.6 du/acre. The project abuts a vegetated ridge and the entirety of the site would likely not be considered buildable, therefore the project is taking advantage of maximum or nearly maximum density of the site. There are bus stops on either side of

Priority Areas	Key Project Attribute	Project Consistency
		Newhall Avenue within a half mile of the project site.
	Reduces parking requirements by: Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or Providing residential parking supply at a ratio of less than one parking space per dwelling unit; or For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	The project is providing the number of parking spaces as required by City code, plus seven additional spaces.
	At least 20 percent of units included are affordable to lower-income residents	The project will provide 100 market rate units. The City of Santa Clarita does not have an inclusionary housing requirement. The City distributes CDBG monies for the purposes of maintaining existing affordable housing stock and assisting low-income individuals. As such the majority of new housing constructed within the City is market rate.
	Results in no net loss of existing affordable units	No residential units are being removed for development of the project.
Building Decarbonization	Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking	The buildings will be supplied with a gas connection.
Source: CARB 2022 Scoping Plan, Appendix D, Table 3, November 2022.		

As stated Table 3 of Appendix D is provided for informational purposes only as it is intended to be used by local jurisdictions in crafting local climate plans. As the 2020-2045 RTP/SCS is the available climate plan for evaluation of project consistency with state climate goals, and the project's land use aligns with the patterns established by SCAG in the RTP/SCS and will construct 106 units toward the City's RHNA requirements on an underutilized infill property, the project can be determined consistent with state climate goals and impacts related to GHG emissions would be less than significant.

APPENDIX A

CalEEMod Version 2021.1.1.21
Detailed Report

Newhall Village Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Newhall Village
Construction Start Date	7/8/2024
Operational Year	2026
Lead Agency	City of Santa Clarita
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	16.0
Location	23755 Newhall Ave, Santa Clarita, CA 91321, USA
County	Los Angeles-South Coast
City	Santa Clarita
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3684
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Apartments Mid Rise	70.0	Dwelling Unit	4.44	85,159	131,124	—	207	—
Condo/Townhouse	36.0	Dwelling Unit	0.00	69,470	0.00	—	107	—
Strip Mall	4.00	1000sqft	0.00	4,000	0.00	—	—	—
Enclosed Parking with Elevator	110	Space	0.00	34,895	0.00	—	—	—
Parking Lot	81.0	Space	1.40	0.00	0.00	—	—	—
Recreational Swimming Pool	0.70	1000sqft	0.00	700	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	29.4	51.1	43.4	0.14	10.8	5.26	20,484
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	29.4	40.1	32.5	0.13	7.68	3.46	18,698
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	2.92	8.82	13.6	0.02	1.55	0.71	3,353
Annual (Max)	—	—	—	—	—	—	—
Unmit.	0.53	1.61	2.49	< 0.005	0.28	0.13	555
Exceeds (Daily Max)	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	150	55.0	—
Unmit.	No	No	No	No	No	No	—

Exceeds (Average Daily)	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	150	55.0	—
Unmit.	No	No	No	No	No	No	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—
2024	4.16	51.1	43.4	0.14	10.8	5.26	20,484
2025	1.54	11.5	19.8	0.03	1.80	0.73	4,296
2026	29.4	0.93	2.33	< 0.005	0.27	0.08	388
Daily - Winter (Max)	—	—	—	—	—	—	—
2024	2.95	40.1	32.5	0.13	7.68	3.46	18,698
2025	1.54	11.6	18.8	0.03	1.80	0.73	4,224
2026	29.4	10.9	18.4	0.03	1.75	0.68	4,189
Average Daily	—	—	—	—	—	—	—
2024	0.82	8.82	8.94	0.02	1.55	0.71	3,353
2025	1.10	8.28	13.6	0.02	1.28	0.52	3,031
2026	2.92	0.86	1.42	< 0.005	0.09	0.04	237
Annual	—	—	—	—	—	—	—
2024	0.15	1.61	1.63	< 0.005	0.28	0.13	555
2025	0.20	1.51	2.49	< 0.005	0.23	0.09	502
2026	0.53	0.16	0.26	< 0.005	0.02	0.01	39.3

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	7.55	3.08	38.4	0.08	7.04	1.85	9,208
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	6.70	3.26	27.9	0.07	7.03	1.84	8,841
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	7.00	3.11	31.7	0.07	6.42	1.69	8,362
Annual (Max)	—	—	—	—	—	—	—
Unmit.	1.28	0.57	5.79	0.01	1.17	0.31	1,384
Exceeds (Daily Max)	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	150	55.0	—
Unmit.	No	No	No	No	No	No	—
Exceeds (Average Daily)	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	150	55.0	—
Unmit.	No	No	No	No	No	No	—

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	3.04	2.59	30.5	0.08	7.00	1.81	7,797
Area	4.49	0.07	7.70	< 0.005	0.01	< 0.005	23.1
Energy	0.02	0.42	0.18	< 0.005	0.03	0.03	1,149
Water	—	—	—	—	—	—	74.5
Waste	—	—	—	—	—	—	163
Refrig.	—	—	—	—	—	—	1.14

Total	7.55	3.08	38.4	0.08	7.04	1.85	9,208
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	3.00	2.83	27.7	0.07	7.00	1.81	7,453
Area	3.68	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.02	0.42	0.18	< 0.005	0.03	0.03	1,149
Water	—	—	—	—	—	—	74.5
Waste	—	—	—	—	—	—	163
Refrig.	—	—	—	—	—	—	1.14
Total	6.70	3.26	27.9	0.07	7.03	1.84	8,841
Average Daily	—	—	—	—	—	—	—
Mobile	2.74	2.64	26.3	0.07	6.38	1.65	6,958
Area	4.23	0.05	5.28	< 0.005	< 0.005	< 0.005	15.8
Energy	0.02	0.42	0.18	< 0.005	0.03	0.03	1,149
Water	—	—	—	—	—	—	74.5
Waste	—	—	—	—	—	—	163
Refrig.	—	—	—	—	—	—	1.14
Total	7.00	3.11	31.7	0.07	6.42	1.69	8,362
Annual	—	—	—	—	—	—	—
Mobile	0.50	0.48	4.79	0.01	1.17	0.30	1,152
Area	0.77	0.01	0.96	< 0.005	< 0.005	< 0.005	2.62
Energy	< 0.005	0.08	0.03	< 0.005	0.01	0.01	190
Water	—	—	—	—	—	—	12.3
Waste	—	—	—	—	—	—	27.0
Refrig.	—	—	—	—	—	—	0.19
Total	1.28	0.57	5.79	0.01	1.17	0.31	1,384

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.79	16.3	16.5	0.02	0.70	0.64	2,557
Demolition	—	—	—	—	0.90	0.14	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.12	1.12	1.13	< 0.005	0.05	0.04	175
Demolition	—	—	—	—	0.06	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.20	0.21	< 0.005	0.01	0.01	29.0
Demolition	—	—	—	—	0.01	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.07	0.07	1.13	0.00	0.20	0.05	215
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.44	0.56	0.01	0.32	0.10	1,213
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.01	< 0.005	14.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.10	0.04	< 0.005	0.02	0.01	83.0

Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	2.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	13.7

3.3. Site Preparation (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.6	10.3	0.02	0.52	0.47	1,674
Dust From Material Movement	—	—	—	—	2.56	1.31	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.63	0.57	< 0.005	0.03	0.03	91.7
Dust From Material Movement	—	—	—	—	0.14	0.07	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.10	< 0.005	0.01	< 0.005	15.2
Dust From Material Movement	—	—	—	—	0.03	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.02	0.02	0.38	0.00	0.07	0.02	71.7

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	3.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	2.60	23.2	25.0	0.04	1.05	0.96	4,806
Dust From Material Movement	—	—	—	—	2.79	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	2.60	23.2	25.0	0.04	1.05	0.96	4,806
Dust From Material Movement	—	—	—	—	2.79	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.32	2.85	3.08	0.01	0.13	0.12	593

Dust From Material Movement	—	—	—	—	0.34	0.17	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.52	0.56	< 0.005	0.02	0.02	98.1
Dust From Material Movement	—	—	—	—	0.06	0.03	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.09	0.10	1.51	0.00	0.26	0.06	287
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.28	16.2	6.25	0.09	3.57	1.10	13,645
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.09	0.11	1.28	0.00	0.26	0.06	271
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.27	16.8	6.23	0.09	3.57	1.10	13,621
Average Daily	—	—	—	—	—	—	—
Worker	0.01	0.01	0.17	0.00	0.03	0.01	33.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.11	0.76	0.01	0.44	0.13	1,680
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.01	< 0.005	5.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.38	0.14	< 0.005	0.08	0.02	278

3.7. Building Construction (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	0.46	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.78	2.08	< 0.005	0.08	0.07	381
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.32	0.38	< 0.005	0.01	0.01	63.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.41	0.52	5.90	0.00	1.21	0.28	1,254
Vendor	0.02	0.70	0.34	< 0.005	0.16	0.05	599
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	0.06	0.08	0.98	0.00	0.19	0.04	202
Vendor	< 0.005	0.11	0.05	< 0.005	0.03	0.01	95.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	0.01	0.02	0.18	0.00	0.03	0.01	33.4
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	15.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	0.40	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	0.40	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.80	7.46	9.31	0.02	0.31	0.28	1,719
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.36	1.70	< 0.005	0.06	0.05	285
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.40	0.40	6.44	0.00	1.21	0.28	1,299
Vendor	0.02	0.64	0.31	< 0.005	0.16	0.05	591
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.39	0.44	5.46	0.00	1.21	0.28	1,228
Vendor	0.02	0.67	0.32	< 0.005	0.16	0.05	590
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	0.28	0.34	4.10	0.00	0.86	0.20	891

Vendor	0.01	0.48	0.22	< 0.005	0.11	0.03	422
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	0.05	0.06	0.75	0.00	0.16	0.04	148
Vendor	< 0.005	0.09	0.04	< 0.005	0.02	0.01	69.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	0.35	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.08	< 0.005	< 0.005	< 0.005	14.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	2.34
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.34	0.40	5.10	0.00	1.21	0.28	1,203
Vendor	0.02	0.64	0.30	< 0.005	0.16	0.05	580
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.01	< 0.005	7.18
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.41
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	1.19
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.56
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.80	7.25	10.3	0.01	0.30	0.28	1,575
Paving	0.10	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.70	0.98	< 0.005	0.03	0.03	151
Paving	0.01	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.13	0.18	< 0.005	0.01	< 0.005	25.0
Paving	< 0.005	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.07	0.09	1.10	0.00	0.26	0.06	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.02	0.01	25.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	4.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	0.02	134
Architectural Coatings	29.2	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	0.02	134
Architectural Coatings	29.2	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	< 0.005	12.8
Architectural Coatings	2.80	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	2.13
Architectural Coatings	0.51	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.07	0.07	1.20	0.00	0.24	0.06	255
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.07	0.08	1.02	0.00	0.24	0.06	241
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.02	0.01	23.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	3.88
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	1.31	1.10	12.9	0.03	2.94	0.76	3,274
Condo/Townhouse	1.01	0.84	9.91	0.02	2.26	0.58	2,519
Strip Mall	0.64	0.58	6.92	0.02	1.62	0.42	1,799
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.07	0.07	0.79	< 0.005	0.18	0.05	205
Total	3.04	2.59	30.5	0.08	7.00	1.81	7,797
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	1.30	1.20	11.7	0.03	2.94	0.76	3,130
Condo/Townhouse	1.00	0.92	9.01	0.02	2.26	0.58	2,408
Strip Mall	0.63	0.64	6.24	0.02	1.62	0.42	1,719
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.07	0.07	0.71	< 0.005	0.18	0.05	196
Total	3.00	2.83	27.7	0.07	7.00	1.81	7,453
Annual	—	—	—	—	—	—	—
Apartments Mid Rise	0.22	0.21	2.09	0.01	0.50	0.13	499
Condo/Townhouse	0.16	0.15	1.52	< 0.005	0.37	0.09	362
Strip Mall	0.10	0.11	1.08	< 0.005	0.27	0.07	264

Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.01	0.01	0.11	< 0.005	0.03	0.01	27.1
Total	0.50	0.48	4.79	0.01	1.17	0.30	1,152

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	245
Condo/Townhouse	—	—	—	—	—	—	158
Strip Mall	—	—	—	—	—	—	37.5
Enclosed Parking with Elevator	—	—	—	—	—	—	123
Parking Lot	—	—	—	—	—	—	51.0
Recreational Swimming Pool	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	614
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	245
Condo/Townhouse	—	—	—	—	—	—	158
Strip Mall	—	—	—	—	—	—	37.5
Enclosed Parking with Elevator	—	—	—	—	—	—	123
Parking Lot	—	—	—	—	—	—	51.0

Recreational Swimming Pool	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	614
Annual	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	40.5
Condo/Townhouse	—	—	—	—	—	—	26.1
Strip Mall	—	—	—	—	—	—	6.21
Enclosed Parking with Elevator	—	—	—	—	—	—	20.3
Parking Lot	—	—	—	—	—	—	8.44
Recreational Swimming Pool	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	102

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	0.01	0.20	0.08	< 0.005	0.02	0.02	250
Condo/Townhouse	0.01	0.22	0.09	< 0.005	0.02	0.02	278
Strip Mall	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	7.70
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.02	0.42	0.18	< 0.005	0.03	0.03	536
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	0.01	0.20	0.08	< 0.005	0.02	0.02	250

Condo/Townhouse	0.01	0.22	0.09	< 0.005	0.02	0.02	278
Strip Mall	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	7.70
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.02	0.42	0.18	< 0.005	0.03	0.03	536
Annual	—	—	—	—	—	—	—
Apartments Mid Rise	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	41.4
Condo/Townhouse	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	46.0
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.27
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	< 0.005	0.08	0.03	< 0.005	0.01	0.01	88.7

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	3.40	—	—	—	—	—	—
Architectural Coatings	0.28	—	—	—	—	—	—
Landscape Equipment	0.81	0.07	7.70	< 0.005	0.01	< 0.005	23.1

Total	4.49	0.07	7.70	< 0.005	0.01	< 0.005	23.1
Daily, Winter (Max)	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	3.40	—	—	—	—	—	—
Architectural Coatings	0.28	—	—	—	—	—	—
Total	3.68	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.62	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—
Landscape Equipment	0.10	0.01	0.96	< 0.005	< 0.005	< 0.005	2.62
Total	0.77	0.01	0.96	< 0.005	< 0.005	< 0.005	2.62

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	49.8
Condo/Townhouse	—	—	—	—	—	—	19.7
Strip Mall	—	—	—	—	—	—	4.36
Enclosed Parking with Elevator	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	0.61
Total	—	—	—	—	—	—	74.5

Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	49.8
Condo/Townhouse	—	—	—	—	—	—	19.7
Strip Mall	—	—	—	—	—	—	4.36
Enclosed Parking with Elevator	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	0.61
Total	—	—	—	—	—	—	74.5
Annual	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	8.24
Condo/Townhouse	—	—	—	—	—	—	3.27
Strip Mall	—	—	—	—	—	—	0.72
Enclosed Parking with Elevator	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	0.10
Total	—	—	—	—	—	—	12.3

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	97.5
Condo/Townhouse	—	—	—	—	—	—	50.4

Strip Mall	—	—	—	—	—	—	7.92
Enclosed Parking with Elevator	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	7.52
Total	—	—	—	—	—	—	163
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	97.5
Condo/Townhouse	—	—	—	—	—	—	50.4
Strip Mall	—	—	—	—	—	—	7.92
Enclosed Parking with Elevator	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	7.52
Total	—	—	—	—	—	—	163
Annual	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	16.1
Condo/Townhouse	—	—	—	—	—	—	8.34
Strip Mall	—	—	—	—	—	—	1.31
Enclosed Parking with Elevator	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	1.25
Total	—	—	—	—	—	—	27.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	0.61
Condo/Townhouse	—	—	—	—	—	—	0.50
Strip Mall	—	—	—	—	—	—	0.02
Recreational Swimming Pool	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	1.14
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	0.61
Condo/Townhouse	—	—	—	—	—	—	0.50
Strip Mall	—	—	—	—	—	—	0.02
Recreational Swimming Pool	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	1.14
Annual	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	0.10
Condo/Townhouse	—	—	—	—	—	—	0.08
Strip Mall	—	—	—	—	—	—	< 0.005
Recreational Swimming Pool	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	0.19

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

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

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	7/8/2024	8/9/2024	5.00	25.0	—
Site Preparation	Site Preparation	8/10/2024	9/6/2024	5.00	20.0	—
Grading	Grading	8/10/2024	10/11/2024	5.00	45.0	—
Building Construction	Building Construction	10/12/2024	1/3/2026	5.00	320	—
Paving	Paving	1/5/2026	2/21/2026	5.00	35.0	—
Architectural Coating	Architectural Coating	2/23/2026	4/11/2026	5.00	35.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Grading	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	16.4	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	18.5	LDA,LDT1,LDT2

Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	0.00	10.2	HHDT,MHDT
Grading	Hauling	184	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	92.5	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	17.8	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	18.5	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	313,124	104,375	6,000	2,000	3,659

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	1,633	—
Site Preparation	0.00	0.00	10.0	0.00	—
Grading	0.00	66,259	45.0	0.00	—
Paving	0.00	0.00	0.00	0.00	1.40

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Condo/Townhouse	—	0%
Strip Mall	0.00	0%
Enclosed Parking with Elevator	0.00	0%

Parking Lot	1.40	100%
Recreational Swimming Pool	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	349	0.03	< 0.005
2025	0.00	349	0.03	< 0.005
2026	0.00	346	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	381	344	286	132,130	4,113	3,713	3,093	1,427,284
Condo/Townhouse	264	293	226	95,772	2,847	3,165	2,442	1,034,539
Strip Mall	177	168	81.7	59,249	2,269	2,152	1,046	758,193
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	20.2	6.37	9.52	6,088	258	81.5	122	77,909

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	70
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	36
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
313123.725	104,375	6,000	2,000	3,659

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	256,608	346	0.0330	0.0040	777,479
Condo/Townhouse	165,318	346	0.0330	0.0040	865,093
Strip Mall	39,285	346	0.0330	0.0040	23,948
Enclosed Parking with Elevator	128,813	346	0.0330	0.0040	0.00
Parking Lot	53,422	346	0.0330	0.0040	0.00
Recreational Swimming Pool	0.00	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	2,609,166	2,247,617
Condo/Townhouse	1,341,857	0.00
Strip Mall	296,290	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00
Recreational Swimming Pool	41,400	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	51.7	—
Condo/Townhouse	26.7	—
Strip Mall	4.20	—
Enclosed Parking with Elevator	0.00	—
Parking Lot	0.00	—
Recreational Swimming Pool	3.99	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

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

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	17.5	annual days of extreme heat
Extreme Precipitation	8.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.6	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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	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	95.3
AQ-PM	47.5
AQ-DPM	45.8
Drinking Water	67.8
Lead Risk Housing	26.1
Pesticides	0.00
Toxic Releases	32.9
Traffic	94.5
Effect Indicators	—
CleanUp Sites	68.9
Groundwater	54.8
Haz Waste Facilities/Generators	51.7
Impaired Water Bodies	0.00

Solid Waste	96.7
Sensitive Population	—
Asthma	55.9
Cardio-vascular	56.6
Low Birth Weights	22.2
Socioeconomic Factor Indicators	—
Education	39.5
Housing	74.8
Linguistic	42.8
Poverty	45.5
Unemployment	37.7

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	64.26279995
Employed	62.37649172
Median HI	71.03811113
Education	—
Bachelor's or higher	62.20967535
High school enrollment	100
Preschool enrollment	67.79160785
Transportation	—
Auto Access	48.06877967
Active commuting	55.94764532
Social	—

2-parent households	45.18157321
Voting	60.16938278
Neighborhood	—
Alcohol availability	49.06967792
Park access	16.39933273
Retail density	55.93481329
Supermarket access	23.97022969
Tree canopy	78.26254331
Housing	—
Homeownership	38.3036058
Housing habitability	38.84255101
Low-inc homeowner severe housing cost burden	55.19055563
Low-inc renter severe housing cost burden	23.36712434
Uncrowded housing	33.53009111
Health Outcomes	—
Insured adults	48.91569357
Arthritis	15.0
Asthma ER Admissions	62.4
High Blood Pressure	23.1
Cancer (excluding skin)	13.2
Asthma	49.0
Coronary Heart Disease	13.8
Chronic Obstructive Pulmonary Disease	22.0
Diagnosed Diabetes	50.0
Life Expectancy at Birth	30.8
Cognitively Disabled	7.6
Physically Disabled	42.3

Heart Attack ER Admissions	13.4
Mental Health Not Good	49.5
Chronic Kidney Disease	27.1
Obesity	52.4
Pedestrian Injuries	88.9
Physical Health Not Good	42.2
Stroke	22.5
Health Risk Behaviors	—
Binge Drinking	43.3
Current Smoker	50.3
No Leisure Time for Physical Activity	58.6
Climate Change Exposures	—
Wildfire Risk	60.6
SLR Inundation Area	0.0
Children	51.6
Elderly	23.2
English Speaking	65.6
Foreign-born	36.8
Outdoor Workers	74.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	83.1
Traffic Density	90.7
Traffic Access	23.0
Other Indices	—
Hardship	46.6
Other Decision Support	—
2016 Voting	47.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	60.0
Healthy Places Index Score for Project Location (b)	61.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Apts: 70 du. 85,159 gsf (includes amenities, excludes underground parking garage). Site acreage minus parking and driveways is listed under this use: 4.44 acres. Total landscaping for the site, 131,124 square-feet is included in this use. Townhouses: 36 du. 69,470 gsf. Includes private garages. Retail: 4,000 gsf as "strip mall." Provides conservative operational estimates. Parking enclosed w/ elevator: 110 spaces, 34,895 gsf. Parking lot: 81 spaces (counting loading spot), plus driveways estimated at 1.4 acres total paving.
Construction: Construction Phases	Phase lengths per applicant and previous CalEEMod: Demo 25, Prep 20 concurrent with grading 45, construction 320, paving 35, coating 35.

Construction: Off-Road Equipment	Defaults changed to match previous CalEEMod changes per contractor. Off-highway truck = onsite water truck. Water is available on site.
Construction: Paving	Concrete for enclosed parking garage.
Operations: Hearths	No hearths.

Construction

Source	Percent	Total MTCO2	Gallons Diesel	Gallons Gasoline
2024				
Off-road	37.0%	205	20,118	
Electricity	0.0%	0		
Worker	7.6%	42		4,781
Vendor	2.8%	16	1,538	
Hauling	52.6%	292	28,570	
Onsite Truck	0.0%	0	0	
Total	*100.0%*	*555*	*50,225*	*4,781*
2025				
Off-road	56.7%	285	27,869	
Electricity	0.0%	0		
Worker	29.4%	148		16,830
Vendor	13.9%	70	6,826	
Hauling	0.0%	0	0	
Onsite Truck	0.0%	0	0	
Total	*100.0%*	*502*	*34,695*	*16,830*
2026				
Off-road	57.2%	22	2,202	
Electricity	0.0%	0		
Worker	29.1%	11		1,302
Vendor	13.7%	5	527	
Hauling	0.0%	0	0	
Onsite Truck	0.0%	0	0	
Total	*100.0%*	*39*	*2,729*	*1,302*
Total Construction Period				
Off-road	46.8%	512	50,189	0
Electricity	0.0%	0	0	0
Worker	18.4%	201	0	22,913
Vendor	8.3%	91	8,890	0
Hauling	26.6%	292	28,570	0
Onsite Truck	0.0%	0	0	0
Total	***100.0%***	***1,096***	***87,649***	***22,913***

Operation

Source	Percent	Total MTCO2	Gallons Diesel	Gallons Gasoline
Mobile Exhaust	81.1%	1,122.42	21,862	102,360
Landscape Equipment	0.2%	2.77	271	
Electricity	11.0%	152.24		
Natural Gas Energy	6.3%	87.19		
Water and Wastewater	0.8%	11.07		
Solid Waste	0.6%	8.30		
Off-Road Equipment	0.0%	0.00	0	
Emergency Generators and Fire Pumps	0.0%	0.00	0	
Total	**100.0%**	**1384**	**22,133**	**102,360**

Type	Total	Units
Petroleum	124,494	gallons/year
Electricity	256,608	kWh/year
Natural Gas	777,479	kBTU/year

Constants		
Fuel	**KgCO2/Gallon**	1000 Kg in MT
Gasoline	8.78	
Diesel	10.21	

Source: The Climate Registry 2021

Table 2.1 U.S. Default Factors for Calculating CO_2 Emissions from Combustion of Transport Fuels

Fuel Type	Carbon Content (Per Unit Energy)	Heat Content	Fraction Oxidized	CO_2 Emission Factor (Per Unit Volume)
Fuels Measured in Gallons	**kg C / MMBtu**	**MMBtu / barrel**		**kg CO_2 / gallon**
Gasoline	19.2	5.25	1	8.78
Diesel Fuel	20.2	5.80	1	10.21