Appendix 6.3-1: Air Quality Technical Report

Kimley»Horn

TECHNICAL MEMORANDUM

To: Amanda Acuna and Lisa Kranitz, City of Gardena

From: Olivia Chan and Rita Garcia, Kimley-Horn and Associates

Date: January 26, 20234

Subject: **Air Quality Technical Report 1610 West Artesia Boulevard Project, California Peer Review**

Kimley-Horn has conducted a follow-up third-party peer review of the Project's Air Quality Technical Report (CAJA Environmental Services and DKA Planning, January 2024) on behalf of the City of Gardena to verify that Kimley-Horn's recommendations and Project updates have been incorporated. The revised January 2024 report addressed the third-party peer review comments and thus is in compliance with Kimley-Horn's recommendations. The analysis, as revised, meets the applicable provisions of CEQA and the State CEQA Guidelines and is adequate for inclusion in the Project SCEA.

Please do not hesitate to contact Olivia Chan at 714.939.1030 or olivia.chan@kimley-horn.com with any questions.

Air Quality Technical Report

for the

1610 Artesia Boulevard Project

City of Gardena

Prepared by

CAJA Environmental Services and DKA Planning

January 2024

AIR QUALITY TECHNICAL REPORT

Introduction

This technical report, prepared by CAJA Environmental Services in conjunction with DKA Planning, addresses the air quality impacts generated by construction and operation of the Proposed Project at 1610 Artesia Boulevard in the City of Gardena. The analysis evaluates the consistency of the Project with the air quality policies set forth within the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (AQMP) and the City's General Plan. The analysis of Project-generated air emissions focuses on whether the Project would cause an exceedance of an ambient air quality standard or SCAQMD significance threshold. Calculation worksheets, assumptions, and model outputs used in the analysis are included in the Technical Appendix to this analysis.

The Proposed Project would redevelop an approximately 3.43-acre property into a multi-family residential development with 300 apartment units (283 market rate units and 17 affordable units) in a six-story, podium apartment building. Various apartment types (i.e., studios, and one- and two-bedroom units ranging from 515 square feet to 1,280 square feet) are proposed on levels two to six, with amenities (i.e., pool courtyard, fitness center, golf lounge, business center, and roof deck) on the podium level. Additionally, 528 onsite parking spaces in an on-grade parking garage with one subterranean level are proposed.

Regulatory Framework

Federal

Clean Air Act

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments in 1990. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of some portions of the CAA (e.g., certain mobile source and other requirements). Other portions of the CAA (e.g., stationary source requirements) are implemented by state and local agencies. The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the National Ambient Air Quality Standard (NAAQS). These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. NAAQS have been established for seven major air pollutants: CO (carbon monoxide), NO_2 (nitrogen dioxide), O_3 (ozone), $PM_{2.5}$ (particulate matter, 2.5 microns), PM_{10} (particulate matter, 10 microns), SO_2 (sulfur dioxide), and Pb (lead).

The CAA requires the USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. Title I provisions are implemented for the purpose of attaining NAAQS. The federal standards are summarized in Table 1. The USEPA has classified the Los Angeles County portion of the South Coast Air Basin (Basin) as a nonattainment area for O_3, $PM_{2.5}$, and Pb.

Table 1
State and National Ambient Air Quality Standards and Attainment Status for LA County

Pollutant	Averaging Period	California		Federal	
		Standards	Attainment Status	Standards	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m^3)	Non-attainment	--	--
	8-hour	0.070 ppm (137 µg/m^3)	N/A[1]	0.070 ppm (137 µg/m^3)	Non-attainment
Respirable Particulate Matter (PM_{10})	24-hour	50 µg/m^3	Non-attainment	150 µg/m^3	Maintenance
	Annual Arithmetic Mean	20 µg/m^3	Non-attainment	--	--
Fine Particulate Matter ($PM_{2.5}$)	24-hour	--	--	35 µg/m^3	Non-attainment
	Annual Arithmetic Mean	12 µg/m^3	Non-attainment	12 µg/m^3	Non-attainment
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Maintenance
	8-hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Maintenance
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm (338 µg/m^3)	Attainment	100 ppb (188 µg/m^3)	Maintenance
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Attainment	53 ppb (100 µg/m^3)	Maintenance
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm (655 µg/m^3)	Attainment	75 ppb (196 µg/m^3)	Attainment
	24-hour	0.04 ppm (105 µg/m^3)	Attainment	--	--
Lead (Pb)	30-day average	1.5 µg/m^3	Attainment	--	--
	Calendar Quarter	--	--	0.15 µg/m^3	Non-attainment
Visibility Reducing Particles	8-hour	Extinction of 0.07 per kilometer	N/A	No Federal Standards	
Sulfates	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified	No Federal Standards	
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m^3)	N/A	No Federal Standards	

[1]N/A = not available
Source: CARB, Ambient Air Quality Standards, and attainment status, July 2023 (www.arb.ca.gov/desig/adm/adm.htm).

CAA Title II pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline and automobile pollution control devices are examples of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have been strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have been lowered substantially and the specification requirements for cleaner burning gasoline are more stringent.

The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. USEPA has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet stricter emission standards established by the California Air Resources Board (CARB). USEPA adopted multiple tiers of emission standards to reduce emissions from non-road diesel engines (e.g., diesel-powered construction equipment) by integrating engine and fuel controls as a system to gain the greatest emission reductions. The first federal standards (Tier 1) for new non-road (or off-road) diesel engines were adopted in 1994 for engines over 50 horsepower, to be phased-in from 1996 to 2000. On August 27, 1998, USEPA introduced Tier 1 standards for equipment under 37 kW (50 horsepower) and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. The Tier 1 through 3 standards were met through advanced engine design, with no or only limited use of exhaust gas after-treatment (oxidation catalysts). Tier 3 standards for NO_X and hydrocarbon are similar in stringency to the 2004 standards for highway engines. However, Tier 3 standards for particulate matter were never adopted. On May 11, 2004, USEPA signed the final rule introducing Tier 4 emission standards, which were phased-in between 2008 and 2015. The Tier 4 standards require that emissions of particulate matter and NO_X be further reduced by about 90 percent. Such emission reductions are achieved through the use of control technologies—including advanced exhaust gas after-treatment.

State

California Clean Air Act

In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). In California, the CCAA is administered by CARB at the state level and by the air quality management districts and air pollution control districts at the regional and local levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the state requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The state standards are summarized in Table 1, above.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS thresholds have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the non-desert Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$.

In August 2022, CARB approved regulations to ban new gasoline-powered cars beginning with 2035 models. Automakers will gradually electrify their fleet of new vehicles, beginning with 35 percent of 2026 models sold. In March 2023, USEPA approved CARB's regulations that mandate that all new medium- and heavy-duty trucks would be zero emissions by 2045 where feasible. Trucking companies would also have to gradually convert their existing fleets to zero emission vehicles.

Toxic Air Contaminant Identification and Control Act

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. CARB's statewide comprehensive air toxics program was established in the early 1980s. The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics. Under the Toxic Air Contaminant Identification and Control Act, CARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, CARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community" [Health and Safety Code Section 39666(f)].

The Toxic Air Contaminant Identification and Control Act also requires CARB to use available information gathered from the Air Toxics "Hot Spots" Information and Assessment Act program to include in the prioritization of compounds. CARB identified particulate emissions from diesel-fueled engines (diesel PM) TACs in August 1998. Following the identification process, CARB was required by law to determine if there is a need for further control, which led to the risk management phase of the program. For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Diesel Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The Board approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase. During the control measure phase, specific statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions. Breathing H_2S at levels above the state standard could result in exposure to a disagreeable rotten eggs odor. The state does not regulate other odors.

California Air Toxics Program

The California Air Toxics Program was established in 1983, when the California Legislature adopted Assembly Bill (AB) 1807 to establish a two-step process of risk identification and risk management to

address potential health effects from exposure to toxic substances in the air.[1] In the risk identification step, CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified, or "listed," as a TAC in California. Since inception of the program, a number of such substances have been listed, including benzene, chloroform, formaldehyde, and particulate emissions from diesel-fueled engines, among others.[2] In 1993, the California Legislature amended the program to identify the 189 federal hazardous air pollutants as TACs.

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on results of that review, CARB has promulgated a number of airborne toxic control measures (ATCMs), both for mobile and stationary sources. In 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In addition to limiting exhaust from idling trucks, CARB adopted regulations on July 26, 2007 for off-road diesel construction equipment such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles to reduce emissions by installation of diesel particulate filters and encouraging the replacement of older, dirtier engines with newer emission-controlled models. In April 2021, CARB proposed a 2020 Mobile Source Strategy that seeks to move California to 100 percent zero-emission off-road equipment by 2035.

Assembly Bill 2588 Air Toxics "Hot Spots" Program

The AB 1807 program, described above, is supplemented by the AB 2588 Air Toxics "Hot Spots" program, which was established by the California Legislature in 1987. Under this program, facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks if present. In 1992, the AB 2588 program was amended by Senate Bill (SB) 1731 to require facilities that pose a significant health risk to the community to reduce their risk through implementation of a risk management plan.

Air Quality and Land Use Handbook: A Community Health Perspective

The *Air Quality and Land Use Handbook: A Community Health Perspective* provides important air quality information about certain types of facilities (e.g., freeways, refineries, rail yards, ports) that should be considered when siting sensitive land uses such as residences.[3] CARB provides recommended site distances from certain types of facilities when considering siting new sensitive land uses. The recommendations are advisory and should not be interpreted as defined "buffer zones." If a project is within the siting distance, CARB recommends further analysis. Where possible, CARB recommends a minimum separation between new sensitive land uses and existing sources.

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1 California Air Resources Board, California Air Toxics Program, www.arb.ca.gov/toxics/toxics.htm, last reviewed by CARB September 24, 2015.

2 California Air Resources Board, Toxic Air Contaminant Identification List, www.arb.ca.gov/toxics/id/taclist.htm, last reviewed by CARB July 18, 2011.

3 California Air Resources Board, Air Quality and Land Use Handbook, a Community Health Perspective, April 2005.

Air Quality and Land Use Handbook

CARB published the *Air Quality and Land Use Handbook* (CARB Handbook) on April 28, 2005 to serve as a general guide for considering health effects associated with siting sensitive receptors proximate to sources of TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); and (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines.

California Code of Regulations

The California Code of Regulations (CCR) is the official compilation and publication of regulations adopted, amended or repealed by the state agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, Section 2485 in CCR Title 13 states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) used during construction shall be limited to five minutes at any location. In addition, Section 93115 in CCR Title 17 states that operation of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emission standards.

Regional

South Coast Air Quality Management District

The SCAQMD was created in 1977 to coordinate air quality planning efforts throughout Southern California. The SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain the CAAQS and NAAQS in the district. The SCAQMD has jurisdiction over an area of 10,743 square miles consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The Basin portion of SCAQMD's jurisdiction covers an area of 6,745 square miles. The Basin includes all of Orange County and the non-desert portions of Los Angeles (including the Project Area), Riverside, and San Bernardino counties.

Programs that were developed by the SCAQMD to attain and maintain the CAAQS and NAAQS include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases. However, the SCAQMD has primary authority over about 20 percent of NO_x emissions, a precursor to ozone formation. All projects in the SCAQMD jurisdiction are subject to the SCAQMD rules and regulations, including, but not limited to the following:

- SCAQMD Rule 402, which states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials 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.

- SCAQMD Rule 403, would reduce the amount of particulate matter entrained in ambient air as a result of anthropogenic fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

- SCAQMD Rule 431.2, would require use of low-sulfur fuel in construction equipment.

- SCAQMD Rule 445 would prohibit the inclusion of wood burning fireplaces in any residences.

- SCAQMD Rule 1113, which limits the VOC content of architectural coatings.

- In accordance with Section 2485 in Title 13 of the California Code of Regulations, the idling of all diesel-fueled commercial vehicles (with gross vehicle weight over 10,000 pounds) during construction would be limited to five minutes at any location.

- In accordance with Section 93115 in Title 17 of the California Code of Regulations, operation of any stationary, diesel-fueled, compression-ignition engines would meet specific fuel and fuel additive requirements and emissions standards.

Air Quality Management Plan

The SCAQMD adopted the 2022 Air Quality Management Plan (AQMP) on December 2, 2022, updating the region's air quality attainment plan to address the "extreme" ozone non-attainment status for the Basin and the severe ozone non-attainment for the Coachella Valley Basin by laying a path for attainment by 2037. This includes reducing NOx emissions by 67 percent more than required by adopted rules and regulations in 2037. The AQMP calls on strengthening many stationary source controls and addressing new sources like wildfires, but still concludes that the region will not meet air quality standards without a significant shift to zero emission technologies and significant federal action. The 2022 AQMP relies on the growth assumptions in the Southern California Association of Governments (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Multiple Air Toxics Exposure Study V

To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study V, released in August 2021.[4] The report included refinements in aircraft and recreational boating emissions and diesel conversion factors. It finds a Basin average cancer risk of 455 in a million (population-weighted, multi-pathway), which represents a decrease of 54 percent compared to the estimate in MATES IV (page ES-13). The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by computer modeling that estimated the risk of cancer from breathing toxic air pollution based on emissions and weather data.

[4] South Coast Air Quality Management District, MATES-V Study. https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v

About 88 percent of the risk is attributed to emissions associated with mobile sources, with the remainder attributed to toxics emitted from stationary sources, which include large industrial operations, such as refineries and metal processing facilities, as well as smaller businesses such as gas stations and chrome plating facilities (page ES-12). The results indicate that diesel PM is the largest contributor to air toxics risk, accounting on average for about 50 percent of the total risk (Figure ES-2).

Regional

Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal and state air quality requirements, including the Transportation Conformity Rule and other applicable federal, state, and air district laws and regulations. As the federally designated Metropolitan Planning Organization (MPO) for the six-county Southern California region, SCAG is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and state air quality plans to attain the NAAQS. In addition, SCAG is a co-producer, with the SCAQMD, of the transportation strategy and transportation control measure sections of the AQMP for the Air Basin.

SCAG adopted the 2020-2045 RTP/SCS on September 23, 2020. The RTP/SCS aims to address the transportation and air quality impacts of 3.7 million additional residents, 1.6 additional households, and 1.6 million additional jobs from 2016 to 2045. The Plan calls for $639 billion in transportation investments and reducing VMT by 19 percent per capita from 2005 to 2035. The updated plan accommodates 21.3 percent growth in population from 2016 (3,933,800) to 2045 (4,771,300) and a 15.6 percent growth in jobs from 2016 (1,848,300) to 2045 (2,135,900). The regional plan projects several benefits:

- Decreasing drive-along work commutes by three percent.
- Reducing per capita VMT by five percent and vehicle hours traveled per capita by nine percent.
- Increasing transit commuting by two percent.
- Reducing travel delay per capita by 26 percent.
- Creating 264,500 new jobs annually.
- Reducing greenfield development by 29 percent by focusing on smart growth.
- Locating six more percent household growth in High Quality Transit Areas (HQTAs), which concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability.
- Locating 15 percent more jobs in HQTAs.
- Reducing $PM_{2.5}$ emissions by 4.1 percent.

- Reducing GHG emissions by 19 percent by 2035.

Local

City of Gardena

City of Gardena General Plan Environmental Justice Element

The Environmental Justice Element of the City's General Plan and sets forth the goals, objectives, and policies, which guide the City in its pursuit of the fair treatment and meaningful involvement of all peoples in pursuing the development, adoption, implementation, and enforcement of environmental laws, including air quality regulations.

The Environmental Justice Element includes Goal 1, which aims to "Reduce greenhouse gas emissions, enhance air quality, and reduce impacts associated with climate change." It includes three policies germane to controlling criteria pollutant emissions:

Policy EJ 1.2: Attract new clean industry to the City which do not emit smoke, noise, offensive odors, or harmful industrial wastes.

Policy EJ 1.4: Promote innovative development and design techniques, new material and construction methods to stimulate residential development that protects the environment.

Policy EJ 1.5: Prioritize long-term sustainability for the City of Gardena, in alignment with regional and state goals, by promoting infill development, reduced reliance on single- occupancy vehicle trips, and improved multi-modal transportation networks, with the goal of reducing air pollution and greenhouse gas emissions, thereby improving the health and quality of life for residents.

City of Gardena Climate Action Plan

In December 2017, the City adopted the Climate Action Plan (CAP) that documents the City's GHG emissions inventory and sets a 2020 GHG emission reduction target of 15 percent below 2005 levels and a 2035 target of 49 percent below 2005 levels. These goals put the City on a path toward helping California reduce is 2050 emissions by 80 percent below 1990 levels. It includes five categories of strategies and 22 goals:

1. Land Use and Transportation
    a. Accelerate the market for electric vehicles (EVs)
    b. Encourage ridesharing
    c. Encourage transit usage
    d. Adopt active transportation initiatives
    e. Parking strategies
    f. Organizational strategies
    g. Land use strategies
2. Energy Efficiency
    a. Increase energy efficiency in existing residential units
    b. Increase energy efficiency in new residential developments
    c. Increase energy efficiency in existing commercial units

    d. Increase energy efficiency in new commercial developments
    e. Increase energy efficiency through water efficiency
    f. Participate in education, outreach, and planning for energy efficiency
    g. Increase energy efficiency in municipal buildings
    h. Increase energy efficiency in City infrastructure
    i. Reduce energy consumption in the long term
3. Solid Waste
    a. Increase diversion and reduction of residential waste
    b. Increase diversion and reduction of commercial waste
    c. Reduce and divert municipal waste
4. Urban Greening
    a. Increase and maintain urban greening in the community
    b. Increase and maintain urban greening in municipal facilities
5. Energy Generation and Storage
    a. Support energy generation and storage in the community

The vast majority of these goals target the City and other public agencies, calling on them to adopt ordinances and other programs to mandate or incentivize greener technologies and practices in the community.

Existing Conditions

Pollutants and Effects

Air quality is defined by ambient air concentrations of seven specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the general public. These specific pollutants, known as "criteria air pollutants," are defined as pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include carbon monoxide (CO), ground-level ozone (O_3), nitrogen oxides (NO_X), sulfur oxides (SO_X), particulate matter ten microns or less in diameter (PM_{10}), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and lead (Pb). The following descriptions of each criteria air pollutant and their health effects are based on information provided by the SCAQMD.[5]

Carbon Monoxide (CO). CO is primarily emitted from combustion processes and motor vehicles due to incomplete combustion of fuel. Elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. It is especially dangerous for people with chronic heart disease. Inhalation of CO can cause nausea, dizziness, and headaches at moderate concentrations and can be fatal at high concentrations.

Ozone (O_3). O_3 is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X)—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. An elevated level of O_3 irritates the lungs and breathing passages, causing coughing and pain in the chest and throat, thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more

[5] South Coast Air Quality Management District, Final Program Environmental Impact Report for the 2012 AQMP, December 7, 2012.

severe in people with asthma and other respiratory ailments. Long-term exposure may lead to scarring of lung tissue and may lower lung efficiency.

Nitrogen Dioxide (NO_2). NO_2 is a byproduct of fuel combustion and major sources include power plants, large industrial facilities, and motor vehicles. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), which reacts quickly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 absorbs blue light and results in a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10}. Nitrogen oxides irritate the nose and throat, and increase one's susceptibility to respiratory infections, especially in people with asthma. The principal concern of NO_X is as a precursor to the formation of ozone.

Sulfur Dioxide (SO_2). Sulfur oxides (SO_X) are compounds of sulfur and oxygen molecules. SO_2 is the pre- dominant form found in the lower atmosphere and is a product of burning sulfur or burning materials that contain sulfur. Major sources of SO_2 include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of sulfur dioxide aggravate lung diseases, especially bronchitis. It also constricts the breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. SO_2 potentially causes wheezing, shortness of breath, and coughing. High levels of particulates appear to worsen the effect of sulfur dioxide, and long-term exposures to both pollutants leads to higher rates of respiratory illness.

Particulate Matter (PM_{10} and $PM_{2.5}$). The human body naturally prevents the entry of larger particles into the body. However, small particles, with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), and even smaller particles with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$), can enter the body and become trapped in the nose, throat, and upper respiratory tract. These small particulates can potentially aggravate existing heart and lung diseases, change the body's defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM_{10} and $PM_{2.5}$. Lung impairment can persist for two to three weeks after exposure to high levels of particulate matter. Some types of particulates can become toxic after inhalation due to the presence of certain chemicals and their reaction with internal body fluids.

Lead (Pb). Lead is emitted from industrial facilities and from the sanding or removal of old lead-based paint. Smelting or processing the metal is the primary source of lead emissions, which is primarily a regional pollutant. Lead affects the brain and other parts of the body's nervous system. Exposure to lead in very young children impairs the development of the nervous system, kidneys, and blood forming processes in the body.

State-Only Criteria Pollutants

Visibility-Reducing Particles. Deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality. Visibility reduction from air pollution is often due to the presence of sulfur and NO_X, as well as PM.

Sulfates (SO_4^{2-}). Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease.

Sulfates are particularly effective in degrading visibility, and, due to fact that they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide (H_2S). H_2S is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation. Breathing H_2S at levels above the state standard could result in exposure to a very disagreeable odor.

Vinyl Chloride. Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified as a known carcinogen by the American Conference of Governmental Industrial Hygienists and the International Agency for Research on Cancer. At room temperature, vinyl chloride is a gas with a sickly-sweet odor that is easily condensed. However, it is stored at cooler temperatures as a liquid. Due to the hazardous nature of vinyl chloride to human health, there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles. Vinyl chloride emissions are historically associated primarily with landfills.

Toxic Air Contaminants

TACs refer to a diverse group of "non-criteria" air pollutants that can affect human health but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above but because their effects tend to be local rather than regional. TACs are classified as carcinogenic and noncarcinogenic, where carcinogenic TACs can cause cancer and noncarcinogenic TAC can cause acute and chronic impacts to different target organ systems (e.g., eyes, respiratory, reproductive, developmental, nervous, and cardiovascular). CARB and OEHHA determine if a substance should be formally identified, or "listed," as a TAC in California. A complete list of these substances is maintained on CARB's website.[6]

Diesel particulate matter (DPM), which is emitted in the exhaust from diesel engines, was listed by the state as a TAC in 1998. DPM has historically been used as a surrogate measure of exposure for all diesel exhaust emissions. DPM consists of fine particles (fine particles have a diameter less than 2.5 micrometer (µm)), including a subgroup of ultrafine particles (ultrafine particles have a diameter less than 0.1 µm). Collectively, these particles have a large surface area which makes them an excellent medium for absorbing organics. The visible emissions in diesel exhaust include carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and cancer-causing substances.

Exposure to DPM may be a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. DPM levels and resultant potential health effects may be higher in close proximity to heavily traveled roadways with substantial truck traffic or near industrial facilities. According to CARB, DPM exposure may lead to the following adverse health effects: (1) aggravated asthma; (2) chronic bronchitis; (3) increased respiratory and cardiovascular

[6] California Air Resources Board, Toxic Air Contaminant Identification List, www.arb.ca.gov/toxics/id/taclist.htm, last reviewed by CARB July 18, 2011.

hospitalizations; (4) decreased lung function in children; (5) lung cancer; and (6) premature deaths for people with heart or lung disease.[7,8]

Project Site

The Project Site is located within the South Coast Air Basin (the Basin); named so because of its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys or basins below. The 6,745-square-mile Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. It is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east; and the San Diego County line to the south. Ambient pollution concentrations recorded in Los Angeles County portion of the Basin are among the highest in the four counties comprising the Basin. USEPA has classified Los Angeles County as nonattainment areas for O_3, $PM_{2.5}$, and lead. This classification denotes that the Basin does not meet the NAAQS for these pollutants. In addition, under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The air quality within the Basin is primarily influenced by a wide range of emissions sources, such as dense population centers, heavy vehicular traffic, industry, and meteorology.

Air pollutant emissions are generated in the local vicinity by stationary and area-wide sources, such as commercial activity, space and water heating, landscaping maintenance, consumer products, and mobile sources primarily consisting of automobile traffic.

Air Pollution Climatology

The topography and climate of Southern California combine to make the Basin an area of high air pollution potential. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cooler surface layer which inhibits the pollutants from dispersing upward. Light winds during the summer further limit ventilation. Additionally, abundant sunlight triggers photochemical reactions which produce O_3 and the majority of particulate matter.

Air Monitoring Data

The SCAQMD monitors air quality conditions at 38 source receptor areas (SRA) throughout the Basin. The Project Site is located in SCAQMD's Southwest Coastal LA County receptor area. Historical data from the area was used to characterize existing conditions in the vicinity of the Project area. Table 2 shows pollutant levels, State and federal standards, and the number of exceedances recorded in the area from 2019 through 2021. The one-hour State standard for O_3 was exceeded twice during this three-year period. The federal standard was exceeded once in that same period. In addition, the daily State standard for PM_{10} was exceeded twice. The daily federal standard for $PM_{2.5}$ was exceeded four times. CO and NO_2 levels did not exceed the CAAQS from 2019 to 2021 for 1-hour (and 8-hour for CO).

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[7] California Air Resources Board, Overview: Diesel Exhaust and Health, www.arb.ca.gov/research/diesel/diesel-health.htm, last reviewed by CARB April 12, 2016.

[8] California Air Resources Board, Fact Sheet: Diesel Particulate Matter Health Risk Assessment Study for the West Oakland Community: Preliminary Summary of Results, March 2008.

Table 2
Ambient Air Quality Data

Pollutants and State and Federal Standards	Maximum Concentrations and Frequencies of Exceedance Standards		
	2019	2020	2021
Ozone (O_3)			
Maximum 1-hour Concentration (ppm)	0.082	0.117	0.086
Days > 0.09 ppm (State 1-hour standard)	0	1	0
Days > 0.070 ppm (Federal 8-hour standard)	0	2	0
Carbon Monoxide (CO_2)			
Maximum 1-hour Concentration (ppm)	1.8	1.6	2.6
Days > 20 ppm (State 1-hour standard)	0	0	0
Maximum 8-hour Concentration (ppm)	1.3	1.3	1.9
Days > 9.0 ppm (State 8-hour standard)	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour Concentration (ppm)	0.0566	0.0597	0.0590
Days > 0.18 ppm (State 1-hour standard)	0	0	0
PM_{10}			
Maximum 24-hour Concentration (µg/m^3)	62	43	48
Days > 50 µg/m^3 (State 24-hour standard)	2	0	0
$PM_{2.5}$			
Maximum 24-hour Concentration (µg/m^3)	30.6	28.1	42.9
Days > 35 µg/m^3 (Federal 24-hour standard)	0	0	4
Sulfur Dioxide (SO_2)			
Maximum 24-hour Concentration (ppb)	8.2	6.0	5.9
Days > 0.04 ppm (State 24-hour standard)	0	0	0

ppm = parts by volume per million of air.
µg/m^3 = micrograms per cubic meter.
N/A = not available at this monitoring station.
Source: SCAQMD annual monitoring data at South Coastal LA County subregion (http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year) accessed July 26, 2023. Where data from this location is not available, the highest measurements from South Coastal LA County 1,2, and 4.

Existing Health Risk in the Surrounding Area

Based on the MATES-V model, the calculated cancer risk in the Project area (zip code 90248) is approximately 528 in a million.[9] The cancer risk in this area is predominately related to nearby sources of diesel particulate matter (e.g., diesel trucks and traffic on the westbound mainline of the San Diego Freeway 0,8 miles to the south, the southbound mainline of the Harbor (110) Freeway 1.1 miles to the west, and the start of the 91 freeway 0.9 miles to the west). In general, the risk at the Project Site is higher than 73 percent of the population across the South Coast Air Basin.

[9] South Coast Air Quality Management District, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-V), MATES V Interactive Carcinogenicity Map, 2021, https://experience.arcgis.com/experience/79d3b6304912414bb21ebdde80100b23/page/home/?data_id=dataSource_105-a5ba9580e3aa43508a793fac819a5a4d%3A26&views=view_39%2Cview_1, accessed July 20, 2023.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. CARB has identified the following groups who are most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The Project Site is located on the Artesia Boulevard corridor, which is populated with a mix of residential, retail, and commercial uses near the Project Site. Sensitive receptors within 0.25 miles of the Project Site include, but not limited to, the following representative sampling:

- Residences, 1580-1608 Artesia Square, as close as approximately 20 feet to the east.
- Residence, 17338 Denker Avenue, approximately 125 feet to the northeast.
- Residences, 17341 Denker Avenue, approximately 170 feet to the north
- Residences, 17700 Denker Avenue, approximately 280 feet to the south.
- Mobile Home Park, 17700 Western Avenue, approximately 300 feet to the south.

Existing Project Site Emissions

The Project Site is improved with two commercial buildings totaling approximately 39,510 square feet. Approximately 31,010 square feet is occupied by auto repair stores while the remaining 8,500 square feet are vacant. As summarized in Table 3, most existing air quality emissions are associated with the 822 daily vehicle trips traveling to and from the Project Site.[10]

Table 3
Existing Daily Operational Emissions

Emissions Source	Daily Emissions (Pounds Per Day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	1.2	<0.1	1.7	<0.1	<0.1	<0.1
Energy Sources	<0.1	0.5	0.4	<0.1	<0.1	<0.1
Mobile Sources	3.2	2.8	31.2	0.1	5.9	1.5
Regional Total	**4.5**	**3.3**	**33.3**	**0.1**	**5.9**	**1.6**

Source: DKA Planning, 2023, based on CalEEMod 2022.1.1.20 model runs, summer or winter season, whichever is higher (modeling included in Technical Appendix).

Project Impacts

Methodology

The air quality analysis conducted for the Project is consistent with the methods described in the SCAQMD CEQA Air Quality Handbook (1993 edition), as well as the updates to the CEQA Air Quality

[10] Linscott Law & Greenspan, Memorandum: TPG 1610 Artesia Project – Local Transportation Assessment; October 13, 2023.

Handbook, as provided on the SCAQMD website. The SCAQMD recommends the use of the California Emissions Estimator Model (CalEEMod, version 2022.1.1.20) as a tool for quantifying emissions of air pollutants that will be generated by constructing and operating development projects. The analyses focus on the potential change in air quality conditions due to Project implementation. Air pollutant emissions would result from both construction and operation of the Project. Specific methodologies used to evaluate these emissions are discussed below.

Construction

Sources of air pollutant emissions associated with construction activities include heavy-duty off-road diesel equipment and vehicular traffic to and from the Project construction site. Details pertaining to the construction schedule and equipment can be found in the Technical Appendix to this analysis. The CalEEMod model provides default values for daily equipment usage rates and worker trip lengths, as well as emission factors for heavy-duty equipment, passenger vehicles, and haul trucks that have been derived by the CARB. Maximum daily emissions were quantified for each construction activity based on the number of equipment and daily hours of use, in addition to vehicle trips to and from the Project Site.

The SCAQMD recommends that air pollutant emissions be assessed for both regional scale and localized impacts. The regional emissions analysis includes both on-site and off-site sources of emissions, while the localized emissions analysis focuses only on sources of emissions that would be located on the Project Site.

Localized impacts were analyzed in accordance with the SCAQMD Localized Significance Threshold (LST) methodology.[11] The localized effects from on-site portion of daily emissions were evaluated at sensitive receptor locations potentially impacted by the Project according to the SCAQMD's LST methodology, which uses on-site mass emission look-up tables and Project-specific modeling, where appropriate.[12] SCAQMD provides LSTs applicable to the following criteria pollutants: NO_X, CO, PM_{10}, and $PM_{2.5}$. SCAQMD does not provide an LST for SO_2 since land use development projects typically result in negligible construction and long-term operation emissions of this pollutant. Since VOCs are not a criteria pollutant, there is no ambient standard or SCAQMD LST for VOCs. Due to the role VOCs play in O_3 formation, it is classified as a precursor pollutant, and only a regional emissions threshold has been established.

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 are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. The mass rate look-up tables were developed for each source receptor area and can be used to determine whether or not a project may generate significant adverse localized air quality impacts. SCAQMD provides LST mass rate look-up tables for projects with active construction areas that are less than or equal to five acres. If the project exceeds the LST look-up values, then the SCAQMD recommends that project-specific air quality modeling must be performed. Please refer to Threshold (b) below, for the analysis of localized impacts from on-site construction activities. In accordance with SCAQMD guidance, maximum daily emissions of NO_X, CO, PM_{10}, and $PM_{2.5}$ from on-

[11] South Coast Air Quality Management District, Final Localized Significance Methodology, revised July 2008.

[12] South Coast Air Quality Management District, LST Methodology Appendix C-Mass Rate LST Look-Up Table, October 2009.

site sources during each construction activity were compared to LST values for a 3.5-acre site having sensitive receptors within 25 meters (82 feet).[13]

The Basin is divided into 38 SRAs, each with its own set of maximum allowable LST values for on-site emissions sources during construction and operations based on locally monitored air quality. The Project Site is located in the Southwest Coastal LA County SRA. Maximum on-site emissions resulting from construction activities were quantified and assessed against the applicable LST values.

The significance criteria and analysis methodologies in the SCAQMD's CEQA Air Quality Handbook were used in evaluating impacts in the context of the CEQA significance criteria listed below. The SCAQMD LSTs for NO_2, CO, and PM_{10} were initially published in June 2003 and revised in July 2008.[14] The LSTs for $PM_{2.5}$ were established in October 2006.[15] Updated LSTs were published on the SCAQMD website on October 21, 2009.[16] Table 4 presents the significance criteria for both construction and operational emissions.

Table 4
SCAQMD Emissions Thresholds

Criteria Pollutant	Construction Emissions		Operation Emissions	
	Regional	Localized /a/	Regional	Localized /b/
Volatile Organic Compounds (VOC)	75	--	55	--
Nitrogen Oxides (NO_X)	100	164	55	74
Carbon Monoxide (CO)	550	1,382	550	680
Sulfur Oxides (SO_X)	150	--	150	--
Respirable Particulates (PM_{10})	150	12	150	2
Fine Particulates ($PM_{2.5}$)	55	7	55	1

/a/ Localized significance thresholds assumed a 3.5-acre and 25-meter (82-foot) receptor distance in the Southwest Coastal LA County source receptor area. Pursuant to SCAQMD Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2008, applicable LST was derived from peak equipment phase (i.e., site preparation phase), which includes three rubber-tired dozers and four tractors/loaders/backhoes, equating to 3.5 acres over an eight-hour day. The LSTs for a 3.5-acre site were linearly interpolated from the SCAQMD's data for two- and five-acre sites. The SCAQMD has not developed LST values for VOC or SO_X.

/b/ Localized significance thresholds assumed a two-acre and 25-meter (82-foot) receptor distance in the Southwest Coastal LA County source receptor area. The SCAQMD has not developed LST values for VOC or SO_X.

Source: SCAQMD, South Coast AQMD Air Quality Significance Thresholds, 2019

[13] South Coast Air Quality Management District, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2008. Site preparation phase includes three rubber-tired dozers and four tractors/loaders/backhoes, which would equate to 3.5 acres over an eight-hour day. The LSTs for a 3.5-acre site were linearly interpolated from the SCAQMD's data for two- and five-acre sites.

[14] South Coast Air Quality Management District, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2008.

[15] South Coast Air Quality Management District, Final – Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, October 2006.

[16] South Coast Air Quality Management District, Final Localized Significance Threshold Methodology Appendix C – Mass Rate LST Look-Up Tables, October 21, 2009.

Operation

CalEEMod also generates estimates of daily and annual emissions of air pollutants resulting from future operation of a project. Operational emissions of air pollutants are produced by mobile sources (vehicular travel) and stationary sources (utilities demand). Utilities for the Project Site are provided by Southern California Edison (SCE) for electricity and Southern California Gas for natural gas. CalEEMod has derived default emissions factors for electricity and natural gas usage that are applied to the size and land use type of the Project in question. CalEEMod also generates estimated operational emissions associated water use, wastewater generation, and solid waste disposal.

Similar to construction, SCAQMD's CalEEMod software was used for the evaluation of Project emissions during operation. CalEEMod was used to calculate on-road fugitive dust, architectural coatings, landscape equipment, energy use, mobile source, and stationary source emissions.[17] To determine if a significant air quality impact would occur, the net increase in regional and local operational emissions generated by the Project was compared against the SCAQMD's significance thresholds.[18] Details describing the operational emissions of the Project can be found in in the Technical Appendix.

Toxic Air Contaminants (Construction and Operation)

Potential TAC impacts are evaluated by conducting a qualitative analysis consistent with the CARB Handbook followed by a more detailed analysis (i.e., dispersion modeling), as necessary. The qualitative analysis consists of reviewing the Project to identify any new or modified TAC emissions sources. If the qualitative evaluation does not rule out significant impacts from a new source, or modification of an existing TAC emissions source, a more detailed analysis is conducted.

Thresholds of Significance

State CEQA Guidelines Appendix G

Would the Project:

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 non-attainment under an applicable federal or State ambient air quality standard;*

c) *Expose sensitive receptors to substantial pollutant concentrations; or*

d) *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

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[17] Energy consumption estimates with CalEEMod 2022.1.1.20 are based on the California Energy Commission's 2020 Residential Appliance Saturation Survey (residential uses) and 2021 Commercial Forecast database, both of which reflected the 2019 Title 24 energy efficiency standards. These energy consumption estimates were adjusted to reflect the 2022 Title 24 standards that cumulatively produce a 0.49 percent reduction in electricity use and 0.45 percent reduction in natural gas use when compared to the 2019 standards.

[18] South Coast Air Quality Management District, Air Quality Significance Thresholds, revised March 2015. SCAQMD based these thresholds, in part on the federal Clean Air Act and, to enable defining "significant" for CEQA purposes, defined the setting as the South Coast Air Basin. (See SCAQMD, CEQA Air Quality Handbook, April 1993, pp. 6-1-6-2).

For this analysis the Appendix G Thresholds are relied upon, and the analysis also utilizes the following factors and SCAQMD Thresholds, as appropriate, to assist in answering the Appendix G Threshold questions.

(a) Construction

The determination of significance will be made on a case-by-case basis, considering the following criteria to evaluate construction-related air emissions:

(i) Combustion Emissions from Construction Equipment

- Type, number of pieces and usage for each type of construction equipment;
- Estimated fuel usage and type of fuel (diesel, natural gas) for each type of equipment; and
- Emission factors for each type of equipment.

(ii) Fugitive Dust—Grading, Excavation and Hauling

- Amount of soil to be disturbed on-site or moved off-site;
- Emission factors for disturbed soil;
- Duration of grading, excavation and hauling activities;
- Type and number of pieces of equipment to be used; and
- Projected haul route.

(iii) Fugitive Dust—Heavy-Duty Equipment Travel on Unpaved Road

- Length and type of road;
- Type, number of pieces, weight and usage of equipment; and
- Type of soil.

(iv) Other Mobile Source Emissions

- Number and average length of construction worker trips to Project Site, per day; and
- Duration of construction activities.

In addition, the following criteria set forth in the SCAQMD's *CEQA Air Quality Handbook* serve as quantitative air quality standards to be used to evaluate project impacts under the Appendix G Thresholds. Under these thresholds, a significant threshold would occur when:[19]

[19] South Coast Air Quality Management District, Air Quality Significance Thresholds, revised March 2015.

- Regional emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed threshold levels: (1) 100 pounds per day for NO_X; (2) 75 pounds a day for VOC; (3) 150 pounds per day for PM_{10} or SO_X; (4) 55 pounds per day for $PM_{2.5}$; and (5) 550 pounds per day for CO.

- Maximum on-site daily localized emissions exceed the LST, resulting in predicted ambient concentrations in the vicinity of the Project Site greater than the most stringent ambient air quality standards for CO (20 ppm [23,000 µg/m^3] over a 1-hour period or 9.0 ppm [10,350 µg/m^3] averaged over an 8-hour period) and NO_2 (0.18 ppm [339 µg/m^3] over a 1-hour period, 0.1 ppm [188 µg/m^3] over a three-year average of the 98th percentile of the daily maximum 1-hour average, or 0.03 ppm [57 µg/m^3] averaged over an annual period).

- Maximum on-site localized PM_{10} or $PM_{2.5}$ emissions during construction exceed the applicable LSTs, resulting in predicted ambient concentrations in the vicinity of the Project Site to exceed the incremental 24-hour threshold of 10.4 µg/m^3 or 1.0 µg/m^3 PM_{10} averaged over an annual period.

(b) Operation

The determination of significance of operational air quality impacts is based on criteria set forth in the SCAQMD's *CEQA Air Quality Handbook*.[20] As discussed above, the City uses Appendix G as the thresholds of significance for this analysis. Accordingly, the following serve as quantitative air quality standards to be used to evaluate project impacts under the Appendix G thresholds. Under these thresholds, a significant threshold would occur when:

- Operational emissions exceed 10 tons per year of volatile organic gases or any of the following SCAQMD prescribed threshold levels: (1) 55 pounds a day for VOC;[21] (2) 55 pounds per day for NO_X; (3) 550 pounds per day for CO; (4) 150 pounds per day for SO_X; (5) 150 pounds per day for PM_{10}; and (6) 55 pounds per day for $PM_{2.5}$.[22]

- Maximum on-site daily localized emissions exceed the LST, resulting in predicted ambient concentrations in the vicinity of the Project Site greater than the most stringent ambient air quality standards for CO (20 parts per million (ppm) over a 1-hour period or 9.0 ppm averaged over an 8-hour period) and NO_2 (0.18 ppm over a 1-hour period, 0.1 ppm over a 3-year average of the 98th percentile of the daily maximum 1-hour average, or 0.03 ppm averaged over an annual period).[23]

[20] South Coast Air Quality Management District, Air Quality Significance Thresholds, revised March 2015.

[21] For purposes of this analysis, emissions of VOC and reactive organic compounds (ROG) are used interchangeably since ROG represents approximately 99.9 percent of VOC emissions.

[22] South Coast Air Quality Management District, Quality Significance Thresholds, www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf, last updated March 2015.

[23] South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, revised July 2008.

- Maximum on-site localized operational PM_{10} and $PM_{2.5}$ emissions exceed the incremental 24-hour threshold of 2.5 µg/m^3 or 1.0 µg/m^3 PM_{10} averaged over an annual period.[24]

- The Project causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively; or

- The Project creates an odor nuisance pursuant to SCAQMD Rule 402.

(c) Toxic Air Contaminants

The determination of significance shall be made on a case-by-case basis, considering the following criteria to evaluate TACs:

- Would the project use, store, or process carcinogenic or non-carcinogenic toxic air contaminants which could result in airborne emissions?

In assessing impacts related to TACs in this section, the City uses Appendix G as the thresholds of significance. The criteria identified above will be used where applicable and relevant to assist in analyzing the Appendix G thresholds. In addition, the following criteria set forth in the SCAQMD's *CEQA Air Quality Handbook* serve as quantitative air quality standards to be used to evaluate project impacts under Appendix G thresholds. Under these thresholds, a significant threshold would occur when:[25]

- The Project results in the exposure of sensitive receptors to carcinogenic or toxic air contaminants that exceed the maximum incremental cancer risk of 10 in one million or an acute or chronic hazard index of 1.0.[26] For projects with a maximum incremental cancer risk between 1 in one million and 10 in one million, a project would result in a significant impact if the cancer burden exceeds 0.5 excess cancer cases.

(d) Consistency with Applicable Air Quality Plans

CEQA Guidelines Section 15125 requires an analysis of project consistency with applicable governmental plans and policies. This analysis is conducted to assess potential project impacts against Threshold (a) from the Appendix G thresholds. In accordance with the SCAQMD's *CEQA Air Quality Handbook*, the following criteria are used to evaluate a project's consistency with the AQMP:[27]

- Will the Project result in any of the following:

  – An increase in the frequency or severity of existing air quality violations;

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[24] South Coast Air Quality Management District, Final—Methodology to Calculate Particulate Matter (PM) 2.5 and $PM_{2.5}$ Significance Thresholds, October 2006.

[25] South Coast Air Quality Management District, CEQA Air Quality Handbook, April 1993, Chapter 6 (Determining the Air Quality Significance of a Project) and Chapter 10 (Assessing Toxic Air Pollutants).

[26] Hazard index is the ratio of a toxic air contaminant's concentration divided by its Reference Concentration, or safe exposure level. If the hazard index exceeds one, people are exposed to levels of TACs that may pose noncancer health risks.

[27] South Coast Air Quality Management District, CEQA Air Quality Handbook, April 1993, p. 12-3.

- Cause or contribute to new air quality violations; or
- Delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP?

- Will the Project exceed the assumptions utilized in preparing the AQMP?
  - Is the Project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based;
  - Does the Project include air quality mitigation measures; or
  - To what extent is Project development consistent with the AQMP land use policies?

The Project's impacts with respect to these criteria are discussed to assess the consistency with the SCAQMD's AQMP and SCAG regional plans and policies. In addition, the Project's consistency with the City of Gardena General Plan Environmental Justice Element is discussed.

Project Design Features

The Project would include energy-saving and sustainable design features consistent with California Code of Regulations Title 24. Design features would include energy conservation, water conservation, and pedestrian- and bicycle-friendly site design. As it relates to energy conservation, the Project would include ENERGY STAR-rated appliances and install energy-efficient HVAC systems. All glass used in the building design would have minimal reflectivity to reduce glare to surrounding neighbors. As it relates to water conservation, the Project would incorporate efficient water management and sustainable landscaping. Bicycle parking spaces would be provided on the Project Site pursuant to GMC Section 18.18A.040(I)(4) (Development Standards) requirements. In addition, at least 10 percent of the total on-site parking spaces would be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Compliance with Title 24 was reflected in the air quality emissions estimates for the Proposed Project.

Analysis of Project Impacts

a. Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. As demonstrated in the analysis of threshold (b), below, the Project's emissions would not exceed any state or federal standards. Therefore, the Project would not increase the frequency or severity of an existing violation or cause or contribute to new violations for these pollutants. As the Project would not exceed any of the state and federal standards, the Project would also not delay timely attainment of air quality standards or interim emission reductions specified in the AQMP.

With respect to the determination of consistency with AQMP growth assumptions, the projections in the AQMP for achieving air quality goals are based on assumptions in SCAG's 2020-2045 RTP/SCS regarding population, housing, and growth trends. Determining whether or not a project exceeds the assumptions reflected in the AQMP involves the evaluation of three criteria: (1) consistency with applicable population, housing, and employment growth projections; (2) project mitigation measures;

and (3) appropriate incorporation of AQMP land use planning strategies. The following discussion provides an analysis with respect to each of these three criteria.

- Is the project consistent with the population, housing, and employment growth projections upon which AQMP forecasted emission levels are based?

A project is consistent with the AQMP, in part, if it is consistent with the population, households, and employment assumptions that were used in the development of the AQMP. In the case of the 2022 AQMP, two sources of data form the basis for the projections of air pollutant emissions: the City of Gardena General Plan and SCAG's RTP.

The 2020-2045 RTP/SCS provides socioeconomic forecast projections of regional population growth. The population, households, and employment forecasts, which are adopted by SCAG's Regional Council, are based on local plans and policies applicable to the specific area (i.e., General Plan). The 2020-2045 RTP/SCS forecasts 65,700 persons, 23,700 households, and 32,100 jobs in the City of Gardena by 2045.

The Project site has a General Plan land use designation of Very High Density Residential and the Project does not propose a General Plan Amendment. However, because the City only recently (i.e., April 2023) adopted this land use designation for the Project site, the 2020-2045 RTP/SCS, General Plan, and the AQMP do not account for residential uses or associated population on the Project site. However, the Project would not substantially increase the population such that the Project would conflict with the RTP/SCS and AQMP. As concluded in Section 6.14: Population and Housing, the Project's forecast household (300 DU) and population (810 persons) growth are considered less than significant, given the population is approximately 1.2 percent of the General Plan's forecast population of 63,799 persons as buildout, and approximately 1.3 percent over the RTP/SCS forecast 2045 population of 65.700 persons. The Project would also remove approximately 73 jobs from the existing auto repair facilities. Thus, the Project's estimated employment impact would not generate job growth that would conflict with the RTP/SCS and AQMP.

- Does the project implement feasible air quality mitigation measures?

As discussed below under Thresholds (b), (c), and (d), the Project would not result in any significant air quality impacts and therefore would not require mitigation. In addition, the Project would comply with all applicable regulatory standards as required by the SCAQMD, including but not limited to, Rule 403 (Fugitive Dust), Rule 445 (Wood Burning Fireplaces), and Rule 1113 (Architectural Coatings). As such, the Project meets this AQMP consistency criterion.

- To what extent is project development consistent with the land use policies set forth in the AQMP?

With regard to land use developments such as the Project, the AQMP's air quality policies focus on the reduction of vehicle trips and vehicle miles traveled (VMT). The Project would serve to implement a number of land use policies of the City of Gardena, SCAQMD, and SCAG. The Project would be designed and constructed as a transit priority project and promote environmental sustainability. The Project represents an infill development within an existing urbanized area that would concentrate more

housing and population within a HQTA.[28] "Green" principles are incorporated throughout the Project to comply with the Green Building Code and the California Green Building Standards Code (CALGreen) through energy conservation, water conservation, and waste reduction features.

The air quality plan applicable to the Project area is the 2022 AQMP, the current management plan for progression toward compliance with State and federal clean air requirements. The Project would be required to comply with all regulatory measures set forth by the SCAQMD. Implementation of the Project would not interfere with air pollution control measures listed in the 2022 AQMP. In addition, as demonstrated in the following analyses, the Project would not result in significant emissions that would jeopardize regional or localized air quality standards. Therefore, Project impacts with respect to AQMP consistency would be less than significant.

City of Gardena Policies

The Project would offer convenient access to public transit and opportunities for walking and biking (including the provision of bicycle parking), thereby facilitating a reduction in VMT. In addition, the Project would be consistent with the existing land use pattern in the vicinity that concentrates urban density along major arterials and near transit options based on the following:

- The Project Site is within a HQTA, which reflects areas with rail transit service or bus service where lines have peak headways of less than 15 minutes.[29]

- The Project is considered a Transit Priority Project under SB 375, as it contains at least 50 percent residential uses, with a minimum net density of at least 20 dwelling units per acre, and is within 0.5 miles of a major transit stop.

- There is substantial public transit service in the area, including:

    - Torrance Transit Line 13 which provides east-west service connecting South Redondo Beach with Compton via Artesia Boulevard near the Project Site.
    - Metro Line 344 which provides north-south service connecting Harbor Gateway Transit Center with Palos Verdes via Artesia Boulevard near the Project Site.
    - GTrans Line 2 which provides north-south service connecting Gardena with Torrance via Western Avenue near the Project Site.

General Plan Environmental Justice Element

The City's General Plan Environmental Justice Element identifies three policies with specific strategies for advancing the City's clean air goals. As illustrated in Table 5, the Project is consistent with the applicable policies in the Environmental Justice Element, as the Project would implement sustainability features that would reduce vehicular trips, reduce VMT, and encourage the use of alternative modes of

[28] Southern California Association of Governments Data Portal https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_active-transportation.pdf?1606001530,

[29] Southern California Association of Governments Data Portal https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_active-transportation.pdf?1606001530,

transportation. Therefore, the Project would result in a less than significant impact related to consistency with the Environmental Justice Element.

Table 5
Project Consistency with City of Gardena General Plan Environmental Justice Element

Strategy	Project Consistency
Policy EJ 1.2. Attract new clean industry to the City which do not emit smoke, noise, offensive odors, or harmful industrial wastes.	**Consistent.** The Project is not an industrial development. Further, the Project would not require use of equipment or processes that would emit smoke, odors, or harmful industrial wastes. Construction-related particulate emissions would be regulated through best practices and/or SCAQMD rules (e.g., Rule 403, Fugitive Dust).
Policy EJ 1.4. Promote innovative development and design techniques, new material and construction methods to stimulate residential development that protects the environment.	**Consistent.** The Project would remove automotive repair uses that are near existing residential uses. In addition, the Project's residential units are designed around a central courtyard that would include outdoor recreational facilities that would be shielded from external sources of air pollution (such as traffic on Artesia Boulevard). This would help reduce inhalation of particulate matter by residents using outdoor facilities.
Policy EJ 1.5. Prioritize long-term sustainability for the City of Gardena, in alignment with regional and state goals, by promoting infill development, reduced reliance on single-occupancy vehicle trips, and improved multi-modal transportation networks, with the goal of reducing air pollution and greenhouse gas emissions, thereby improving the health and quality of life for residents.	**Consistent.** The proposed development would include infill housing along a major mixed-use corridor at a density of about 87 dwelling units per acre, which would contribute to urban densities that can reduce reliance on vehicle travel over time as more origins and destinations would be accessible by active transportation (e.g., bicycling, walking) and public transit.
Source: DKA Planning, 2023.	

Climate Action Plan

As noted earlier, the 2017 CAP includes five categories of strategies and 22 goals, as well as a number of sub-strategies that are applicable to development projects. It should be noted that most of the CAP's measures are voluntary, with financial incentives available to promote increased implementation of those measures. As shown in Table 6, the Project is generally consistent with the land use, transportation, and energy efficiency sub-strategies in the CAP that are relevant for development projects.

Table 6
Project Consistency with the Gardena CAP

Source	Sub-Strategy	Consistency
Land Use and Transportation	D2.1 Require bicycle parking through Zoning Code or other implementation documents.	**Consistent.** The Project would provide on-site bicycle parking consistent with the Zoning code.

Table 6
Project Consistency with the Gardena CAP

Source	Sub-Strategy	Consistency
	D2.2 Require new developments to provide pedestrian, bicycle, and transit amenities.	**Consistent.** The Project will provide short- and long-term bicycle parking for residents and visitors.
	D2.3 Require commercial and multi-family residential projects to provide permanent bicycle parking facilities.	**Consistent.** The Project will provide permanent short- and long-term bicycle parking for residents and visitors.
	G1.1. Encourage higher density through general plan appropriately in targeted areas.	**Consistent.** The Project takes advantage of higher density options (additional 25 percent density bonus) by providing affordable housing on-site.
	G1.2. Encourage higher density through zoning code appropriately in targeted areas.	**Consistent.** The Project is located in the Very High Density Residential zone (R-6) and is designated at Very High Density Residential in the General Plan.
	G1.3 Increase housing density near transit.	**Consistent.** The Project provides increased housing density near three local bus lines (Torrance Transit Line 13, Metro Line 344, GTrans Line 2).
	G3.1. Encourage Transit Accessibility through General Plan.	**Consistent.** The Project is located in the Very High Density Residential area of the General Plan and provides increased housing density near three local bus lines (Torrance Transit Line 13, Metro Line 344, GTrans Line 2).
	G3.1. Encourage Transit Accessibility through zoning code.	**Consistent.** The Project is located in the Very High Density Residential zone (R-6) and provides increased housing density near three local bus lines (Torrance Transit Line 13, Metro Line 344, GTrans Line 2).
	G4.1. Encourage policies that promote a mix of housing types.	**Consistent.** The Project will provide 17 affordable residences in the development that will increase the mix of housing types in the City.
Energy Efficiency	E1.2. Require low-irrigation landscaping.	**Consistent.** The Project will comply with Title 24 and CALGreen requirements for low-irrigation landscaping
	F1.1. Encourage tree planting at plan check.	**Consistent.** The Project's tree planting plan will be evaluated at the plan check phase.
Source: City of Gardena, Climate Action Plan (Final); 2017.		

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact.

Construction

A cumulatively considerable net increase would occur if a project's construction impacts substantially contribute to air quality violations when considering other projects that may undertake construction activities at the same time. Individual projects that generate emissions that do not exceed SCAQMD's significance thresholds would not contribute considerably to any potential cumulative impact. SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to assess the impacts associated with these emissions.[30]

Construction-related emissions were estimated using the SCAQMD's CalEEMod 2022.1.1.20 model and a projected construction schedule of approximately 27 months. Table 7 summarizes the estimated construction schedule that was modeled for air quality impacts.

Table 7
Construction Schedule Assumptions

Phase	Duration	Notes
Demolition	Months 1-2	Removal of approximately 1,600 tons of demolition debris in 10-cubic yard capacity trucks, hauled 40 miles to the Olinda Alpha Landfill.
Site Preparation	Month 3 (one week)	Grubbing and removal of trees, plants, landscaping, weeds.
Grading	Months 3-5	Approximately 60,000 cubic yards of soil hauled 40 miles to Olinda Alpha Landfill in 10-cubic yard capacity trucks.
Trenching	Months 6-11	Trenching for utilities, including gas, water, electricity, and telecommunications.
Building Construction	Months 6-27	Footings and Foundation work (e.g., pouring concrete pads, drilling for piers), framing, welding; installing mechanical, electrical, and plumbing. Floor assembly, cabinetry and carpentry, elevator installations, low voltage systems, trash management.
Paving	Months 26-27	Flatwork, including paving of driveways and walkways.
Architectural Coatings	Months 22-27	Application of interior and exterior coatings and sealants.
Note that construction dates are used for the modeling of air quality emissions in the CalEEMod software. If construction activities commence later than what is assumed in the environmental analysis, the actual emissions would be lower than analyzed because of the increasing penetration of newer equipment with lower certified emission levels. Source: DKA Planning, 2023.		

As discussed previously, the Project would be required to comply with the following regulations, as applicable:

[30] South Coast Air Quality Management District, 2003 White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution: "As Lead Agency, the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR…Projects that exceed the project-specific significance threshold are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are not considered to be cumulatively significant.

- SCAQMD Rule 403, would reduce the amount of particulate matter entrained in ambient air as a result of anthropogenic fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

- SCAQMD Rule 1113, which limits the VOC content of architectural coatings.

- SCAQMD Rule 402, which states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials 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.

- In accordance with Section 2485 in Title 13 of the California Code of Regulations, the idling of all diesel-fueled commercial vehicles (with gross vehicle weight over 10,000 pounds) during construction would be limited to five minutes at any location.

- In accordance with Section 93115 in Title 17 of the California Code of Regulations, operation of any stationary, diesel-fueled, compression-ignition engines would meet specific fuel and fuel additive requirements and emissions standards.

Regional Emissions

Construction activity creates air quality emissions through the use of heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the Project Site. NO_X emissions would primarily result from the use of construction equipment and truck trips.

Fugitive dust emissions would peak during grading activities, where approximately 60,000 cubic yards of soil would be exported from the Project Site to accommodate a one-level subterranean structure. All construction projects in the Basin must comply with SCAQMD Rule 403 for fugitive dust. Rule 403 control requirements include measures to prevent the generation of visible dust plumes. Measures include, but are not limited to, applying water and/or soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system or other control measures to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project Site, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce regional $PM_{2.5}$ and PM_{10} emissions associated with construction activities by approximately 61 percent.

During the building finishing phase, the application of architectural coatings (e.g., paints) would release VOCs (regulated by SCAQMD Rule 1113).

The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

As shown in Table 8, construction of the Project would produce VOC, NO_X, CO, SO_X, PM_{10} and $PM_{2.5}$ emissions that do not exceed the SCAQMD's regional thresholds. As a result, construction of the Project would not contribute substantially to an existing violation of air quality standards for regional pollutants (e.g., ozone). This impact is considered less than significant.

Localized Emissions

In addition to maximum daily regional emissions, maximum localized (on-site) emissions were quantified for each construction activity. The localized construction air quality analysis was conducted using the methodology promulgated by the SCAQMD. Look-up tables provided by the SCAQMD were used to determine localized construction emissions thresholds for the Project.[31] 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 are based on the most recent background ambient air quality monitoring data (2019-2021) for the Project area.

Table 8
Daily Construction Emissions

Construction Phase Year	Daily Emissions (Pounds Per Day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2024	3.8	39.6	35.5	0.1	10.4	5.7
2025	2.7	15.7	35.4	<0.1	5.1	1.6
2026	16.1	20.7	48.9	0.1	6.3	2.0
Maximum Regional Total	16.2	39.6	48.9	0.1	10.4	5.7
Regional Threshold	75	100	550	150	150	55
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Maximum Localized Total	14.7	18.2	18.8	<0.1	3.6	2.1
Localized Threshold	N/A	164	1,382	N/A	12	7
Exceed Threshold?	**N/A**	**No**	**No**	**N/A**	**No**	**No**

The construction dates are used for the modeling of air quality emissions in the CalEEMod software. If construction activities commence later than what is assumed in the environmental analysis, the actual emissions would be lower than analyzed because of the increasing penetration of newer equipment with lower certified emission levels. Assumes implementation of SCAQMD Rule 403 (Fugitive Dust Emissions). SCAQMD has not established LSTs for VOC or SO_x.

Source: DKA Planning, 2023 based on CalEEMod 2022.1.1.20 model runs. LST analyses based on 3.5-acre site with 25-meter distances to receptors in Southwest Coastal LA County source receptor area. Estimates reflect the peak summer or winter season, whichever is higher. Totals may not add up due to rounding. Modeling sheets included in the Technical Appendix.

Maximum on-site daily construction emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ were calculated using CalEEMod and compared to the applicable SCAQMD LSTs for the Southwest Coastal LA County SRA based on construction site acreage that is 3.5 acres in area, reflecting the potential maximum area of soil disturbance in a day from construction equipment. Potential impacts were evaluated at the closest off-site sensitive receptor, which are the residences approximately 20 feet to the east of the Project Site on Artesia Boulevard. The closest receptor distance on the SCAQMD mass rate LST look-up tables is 25 meters.

[31] South Coast Air Quality Management District, LST Methodology Appendix C-Mass Rate LST Look-up Table, revised October 2009.

As shown in Table 8, above, the Project would produce emissions that do not exceed the SCAQMD's recommended localized standards of significance for NO_2 and CO during the construction phase. Similarly, construction activities would not produce PM_{10} and $PM_{2.5}$ emissions that exceed localized thresholds recommended by the SCAQMD. These estimates assume the use of Best Available Control Measures (BACMs) that address fugitive dust emissions of PM_{10} and $PM_{2.5}$ through SCAQMD Rule 403. This would include watering portions of the site that are disturbed during grading activities and minimizing tracking of dirt onto local streets. Therefore, construction impacts on localized air quality are considered less than significant.

Operation

Operational emissions of criteria pollutants would come from area, energy, and mobile sources. Area sources include consumer products such as household cleaners, architectural coatings for routine maintenance, and landscaping equipment. Energy sources include electricity and natural gas use for space cooling and heating, pool pumps, and water heating.[32] The CalEEMod program generates estimates of emissions from energy use based on the land use type and size. The Project would also produce long-term air quality impacts to the region primarily from motor vehicles that access the Project Site. The Project could add up to 545 net vehicle trips to the local roadway network on a weekday at the start of operations in 2026.[33]

As shown in Table 9, the Project's emissions would not exceed the SCAQMD's regional or localized significance thresholds. Localized operational emissions include area and energy source emissions. Therefore, the operational impacts of the Project on regional and localized air quality are considered less than significant.

Table 9
Daily Operational Emissions

Emissions Source	Daily Emissions (Pounds Per Day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Sources	9.1	0.2	26.2	<0.1	<0.1	<0.1
Energy Sources	0.1	1.3	0.7	<0.1	0.1	0.1
Mobile Sources	4.5	3.6	38.0	0.1	8.3	2.2
Regional Total	13.6	5.1	64.8	0.1	8.4	2.3
Existing Total	-4.5	-3.3	-33.3	-0.1	-5.9	-1.6
Net Regional Total	9.1	1.8	31.5	<0.1	2.5	0.7
Regional Significance Threshold	55	55	550	150	150	55
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Net Localized Total	7.9	1.1	24.7	<0.1	0.1	0.2
Localized Significance Threshold	N/A	74	680	N/A	2	1
Exceed Threshold?	**N/A**	**No**	**No**	**N/A**	**No**	**No**

[32] When electricity is used in buildings or local developments, electricity generation typically takes place offsite at power plants.

[33] Linscott Law & Greenspan, Memorandum: TPG 1610 Artesia Project – Local Transportation Assessment; October 13, 2023.

Table 9
Daily Operational Emissions

LST analyses based on two-acre site with 25-meter distances to receptors in Southwest Coastal LA County SRA
Source: DKA Planning, 2023 based on CalEEMod 2022.1.1.20 model runs (included in the Technical Appendix). Totals reflect the summer or winter season maximum (whichever is higher) and may not add up due to rounding.

c. Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. There are several sensitive receptors within 0.25 miles of the Project Site that could be exposed to air pollution from construction and operation of the Project, including, but not limited to, the following representative sampling:

- Residences, 1580-1608 Artesia Square, as close as approximately 20 feet to the east.
- Residences, 17341 Denker Avenue, approximately 170 feet to the north.
- Residence, 17338 Denker Avenue, approximately 125 feet to the northeast.
- Residences, 17700 Denker Avenue, approximately 280 feet to the south.

Construction

Construction of the Project could expose sensitive receptors to substantial pollutant concentrations if maximum daily emissions of regulated pollutants generated by sources located on and/or near the Project Site exceeded the applicable LST values presented in Table 4, or if construction activities generate significant emissions of TACs that could result in carcinogenic risks or non-carcinogenic hazards exceeding the SCAQMD Air Quality Significance Thresholds of 10 excess cancers per million or non-carcinogenic Hazard Index greater than 1.0, respectively. As discussed above, the LST values were derived by the SCAQMD for the criteria pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$ to prevent the occurrence of concentrations exceeding the air quality standards at sensitive receptor locations based on proximity and construction site size.

As shown in Table 8, during construction of the Project, maximum daily localized unmitigated emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ from sources on the Project Site would remain below each of the respective LST values. Unmitigated maximum daily localized emissions would not exceed any of the localized standards for receptors that are within 25 meters of the Project's construction activities. Therefore, based on SCAQMD guidance, localized emissions of criteria pollutants would not have the potential to expose sensitive receptors to substantial concentrations that would present a public health concern.

The primary TAC that would be generated by construction activities is diesel PM, which would be released from the exhaust stacks of construction equipment. The construction emissions modeling conservatively assumed that all equipment present on the Project Site would be operating simultaneously throughout most of the day, while in all likelihood this would rarely be the case. Average daily emissions of diesel PM would be less than one pound per day throughout the course of Project construction. Therefore, the magnitude of daily diesel PM emissions, would not be sufficient to result in substantial pollutant concentrations at off-site locations nearby.

Furthermore, according to SCAQMD methodology, health risks from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 30-year period will contract cancer based on the use of standard risk-assessment methodology. The entire duration of construction activities associated with implementation of

the Project is anticipated to be approximately 27 months, and the magnitude of daily diesel PM emissions will vary over this time period. No residual emissions and corresponding individual cancer risk are anticipated after construction. Because there is such a short-term exposure period, construction TAC emissions would result in a less than significant impact. Therefore, construction of the Project would not expose sensitive receptors to substantial diesel PM concentrations, and this impact would be less than significant.

Operation

The Project Site would be redeveloped with multi-family residences, a land use that is not typically associated with TAC emissions. Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes (e.g., chrome plating, electrical manufacturing, petroleum refinery). The Project would not include these types of potential industrial manufacturing process sources. It is expected that quantities of hazardous TACs generated on-site (e.g., cleaning solvents, paints, landscape pesticides) for the types of proposed land uses would be below thresholds warranting further study under California Accidental Release Program.

The primary sources of potential air toxics associated with Project operations include DPM from delivery trucks (e.g., truck traffic on local streets and idling on adjacent streets) and to a lesser extent, facility operations (e.g., natural gas fired boilers). However, these activities, and the land uses associated with the Project, are not considered land uses that generate substantial TAC emissions. It should be noted that the SCAQMD recommends that health risk assessments (HRAs) be conducted for substantial individual sources of DPM (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units) and has provided guidance for analyzing mobile source diesel emissions.[34] Based on this guidance, the Project would not include these types of land uses and is not considered to be a substantial source of DPM warranting a refined HRA since daily truck trips to the Project Site would not exceed 100 trucks per day or more than 40 trucks with operating transport refrigeration units. In addition, the CARB-mandated ATCMs limit diesel-fueled commercial vehicles (delivery trucks) to idle for no more than five minutes at any given time, which would further limit diesel particulate emissions.

As the Project would not contain substantial TAC sources and is consistent with the CARB and SCAQMD guidelines, the Project would not result in the exposure of off-site sensitive receptors to carcinogenic or toxic air contaminants that exceed the maximum incremental cancer risk of 10 in one million or an acute or chronic hazard index of 1.0, and potential TAC impacts would be less than significant.

The Project would generate long-term emissions on-site from area and energy sources that would generate negligible pollutant concentrations of CO, NO_2, $PM_{2.5}$, or PM_{10} at nearby sensitive receptors. While long-term operations of the Project would add traffic to local roads that produces off-site emissions, these would not result in exceedances of CO air quality standards at roadways in the area due to three key factors. First, CO hotspots are extremely rare and only occur in the presence of unusual atmospheric conditions and extremely cold conditions, neither of which applies to this Project area. Second, auto-related emissions of CO continue to decline because of advances in fuel combustion technology in the vehicle fleet. Finally, the Project would not contribute to the levels of congestion that would be needed to produce emissions concentrations needed to trigger a CO hotspot, as it would add 545 vehicle trips to the local roadway network on weekdays when the development could be leased and

[34] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, 2002.

operational in 2026.[35] This additional traffic would be well below the traffic volumes that would be needed to generate CO exceedances of the ambient air quality standard.[36]

Finally, the Project would not result in any substantial emissions of TACs during the construction or operation phases. During the construction phase, the primary air quality impacts would be associated with the combustion of diesel fuels, which produce exhaust-related particulate matter that is considered a toxic air contaminant by CARB based on chronic exposure to these emissions.[37] However, construction activities would not produce chronic, long-term exposure to diesel particulate matter. During long-term project operations, the Project does not include typical sources of acutely and chronically hazardous TACs such as industrial manufacturing processes and automotive repair facilities. As a result, the Project would not create substantial concentrations of TACs.

In addition, the SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulate emissions (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions.[38] The Project would not generate a substantial number of truck trips. Based on the limited activity of TAC sources, the Project would not warrant the need for a health risk assessment associated with on-site activities. Therefore, the Project's operational impacts on local sensitive receptors would be less than significant.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The Project would not result in activities that create objectionable odors. The Project is a housing development that would not include any activities typically associated with unpleasant odors and local nuisances (e.g., rendering facilities, dry cleaners). SCAQMD regulations that govern nuisances (i.e., Rule 402, Nuisances) would regulate any occasional odors associated with residences. As a result, any odor impacts from the Project would be considered less than significant.

Cumulative Impacts

While the Project would not generate short- and long-term emissions during the construction and operation phases, respectively, that would exceed the applicable thresholds of significance, the presence of any other development projects could produce cumulative impacts. There were 22 potential related projects identified by the City of Gardena near the Project Site (Table 10), illustrated in Figure 1. However, only two of these (Projects 11, 14) are within 1,000 feet of the Project Site. Beyond 1,000 feet

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[35] Linscott Law & Greenspan, Memorandum: TPG 1610 Artesia Project – Local Transportation Assessment; October 13, 2023.

[36] South Coast Air Quality Management District; 2003 AQMP. As discussed in the 2003 AQMP, the 1992 CO Plan included a CO hotspot analysis at four intersections in the peak A.M. and P.M. time periods, including Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection was Wilshire and Veteran, used by 100,000 vehicles per day. The 2003 AQMP estimated a 4.6 ppm one-hour concentration at this intersection, which meant that an exceedance (20 ppm) would not occur until daily traffic exceeded more than 400,000 vehicles per day.

[37] California Office of Environmental Health Hazard Assessment. Health Effects of Diesel Exhaust. www. http://oehha.ca.gov/public_info/facts/dieselfacts.html

[38] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions, December 2002.

of the Project Site, any sensitive receptors between the Project Site and any related project would be negligibly impacted, as localized pollutants substantially disperse as a function of distance, meteorology, and terrain. The USEPA finds that in the context of roadway pollutants, "…concentrations generally decrease to background levels within 500-600 feet."[39] CARB also finds that air pollution levels can be significantly higher within 500 feet of freeways or other major sources.[40]

Table 10
Related Projects Within City of Gardena

#	Address	Distance from Project Site	Use	Size	Status
1	15106 S Western Ave	Over 1,000 ft.	Commercial	3,720 sf	Awaiting construction
2	1333 West 168th St.	Over 1,000 ft.	Residences	3	Awaiting construction
3	1348 West 168th St.	Over 1,000 ft.	Residences	9	Awaiting construction
4	13919 Normandie Ave.	Over 1,000 ft.	Residences	20	Under construction
5	12850 Crenshaw Bl.	Over 1,000 ft.	Residences	265	Under construction
6	1938 West 146th St.	Over 1,000 ft.	Residences	6	Awaiting construction
7	13126 S Western Ave.	Over 1,000 ft.	Residences	128	Awaiting construction
8	2545 Marine Ave.	Over 1,000 ft.	Residences	22	Under construction
9	2800 Rosecrans Ave.	Over 1,000 ft.	Residences	24	Pending entitlements
10	1600 W 135th St.	Over 1,000 ft.	Warehouse	190,860	Awaiting construction
11	1450 W Artesia Bl.	970 feet east	Warehouse	268,000 sf	Pending entitlements
12	14206 Van Ness Ave.	Over 1,000 ft.	Self-Storage Medical Offices	177,573 sf 8,000 sf	Pending entitlements
13	14600 Western Ave.	Over 1,000 ft.	Residences Commercial	196 3,000 sf	Pending entitlements
14	1515 West 178th St.	140 feet south	Townhomes	114	Construction completed in early 2023
15	1341 West Gardena Bl.	Over 1,000 ft.	Residences Retail/Office	14 3,385	Under construction
16	1621 West 147th St.	Over 1,000 ft.	Residences	6	Under construction
17	1335 West 141st St.	Over 1,000 ft.	Residences	50	Under construction
18	2129 West Rosecrans Ave.	Over 1,000 ft.	Residences	113	Under construction
19	13615 South Vermont Ave.	Over 1,000 ft.	Residences	84	Under construction
20	2500-2508 Rosecrans Ave.	Over 1,000 ft.	Residences	53	Under construction
21	15717 & 15725 Normandie Ave.	Over 1,000 ft.	Residences	30	Under construction
22	16911 S. Normandie Ave.	Over 1,000 ft.	Apartments Townhomes	328 75	Pending entitlements

Source: City of Gardena.

[39] U.S. EPA. Near Roadway Air Pollution and Health: Frequently Asked Questions. August 2014.

[40] South Coast Air Quality Management District. Guidance Document: Air Quality Issues Regarding Land Use.

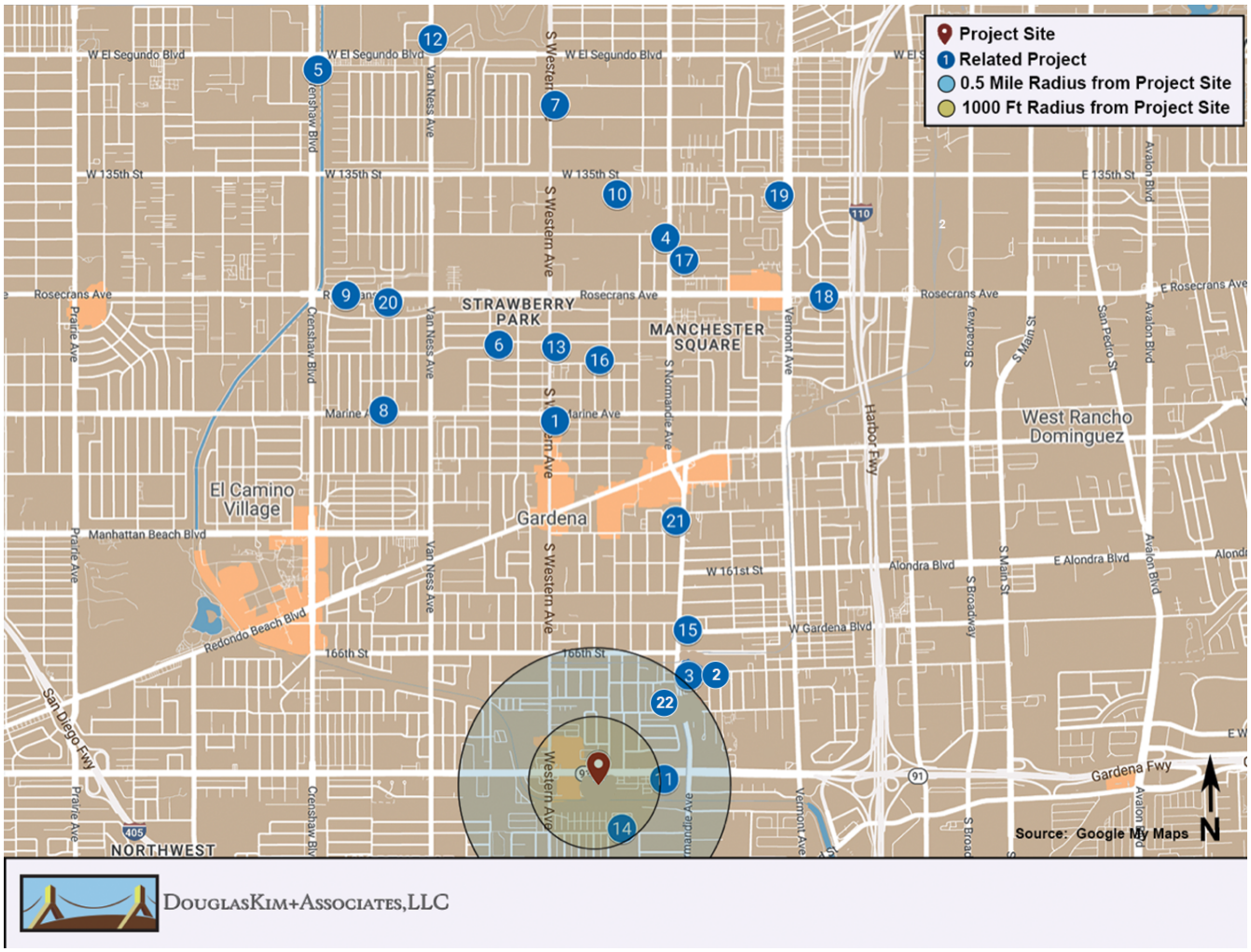

Figure 1
Related Projects in City of Gardena

In addition, there were two related projects identified in the City of Torrance (Table 11) that are pending entitlements and are near the Project Site. However, both locations are more than 1,000 feet away from the Project Site and would not contribute to cumulative air quality impacts at sensitive receptors near the Project Site.

Table 11
Related Projects Within City of Torrance

#	Address	Distance from Project Site	Use	Size	Status
1	18045 Western Ave.	2,000 feet south	Residences Retail	32 6,000 sf	Pending entitlements
2	18419 Western Ave.	3,000 feet south	Residences	15	Pending entitlements
Source: City of Torrance.					

As noted in Table 11, one of the two related projects within 1,000 feet of the Project Site has completed construction (Project 14 at 1515 West 178th Street). As a result, one project is assumed to potentially undergo concurrent construction with the Project (Project 11 in the City of Gardena). The impact of

cumulative development on short-term construction and long-term operational air quality is discussed below.

AQMP Consistency

Cumulative development is not expected to result in a significant impact in terms of conflicting with, or obstructing implementation of the 2022 AQMP. As discussed previously, growth considered to be consistent with the AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified in the 2022 RTP/SCS, implementation of the AQMP will not be obstructed by such growth. In addition, as discussed previously, the population growth resulting from the Project would be consistent with the growth projections of the AQMP. Any related project would implement feasible air quality mitigation measures to reduce the criteria air pollutants, if required due to any significant emissions impacts. In addition, each related project would be evaluated for its consistency with the land use policies set forth in the AQMP. Therefore, the Project's contribution to the cumulative impact would not be cumulatively considerable and, therefore, would be less than significant.

Construction

SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific mass daily emissions thresholds identified above also be considered cumulatively considerable.[41] Individual projects that generate emissions not in excess of SCAQMD's significance thresholds would not contribute considerably to any potential cumulative impact. SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.[42]

As summarized in Table 8, the Project would not exceed the SCAQMD's mass emissions thresholds and would not contribute to any potential cumulative impact. If any related project was projected to exceed LST thresholds (after mitigation), it could perform dispersion modeling to confirm whether health-based air quality standards would be violated. The SCAQMD's LST thresholds recognize the influence of a receptor's proximity, setting mass emissions thresholds for PM_{10} and $PM_{2.5}$ that generally double with every doubling of distance.

The Project would comply with applicable regulations, including the SCAQMD Rule 403 requirements listed above. Based on SCAQMD guidance, individual construction projects that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would cause a cumulatively considerable increase in emissions for those pollutants for which the Air Basin is in non-attainment. As shown above,

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[41] White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions, SCAQMD Board Meeting, September 5, 2003, Agenda No. 29, Appendix D, p. D-3.

[42] SCAQMD Proposed Amended Rule 1420.1; "The thresholds for cumulative impacts are the same as project-specific thresholds. Based on the foregoing analysis, criteria pollutant project-specific air quality impacts from implementing PAR 1420.1 would not exceed air quality significance thresholds and cumulative impacts are not expected to be significant for air quality. Potential adverse impacts from implementing PAR 1420.1 would not be "cumulative considerable" as defined by CEQA Guidelines Section 16054(h)(1) for air quality impacts. Per CEQA Guidelines Section 16054(h)(4), the mere existing of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative (sic) considerable."

construction-related daily emissions at the Project Site would not exceed any of the SCAQMD's regional or localized significance thresholds. Therefore, the Project's contribution to cumulative air quality impacts would not be cumulatively considerable and, therefore, would be less than significant.

Similar to the Project, the greatest potential for TAC emissions at the related project would generally involve diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 30-year period will contract cancer, based on the use of standard risk-assessment methodology. Construction activities are temporary and short-term events, thus construction activities at each related project would not result in a long-term substantial source of TAC emissions. Additionally, the SCAQMD CEQA guidance does not require a health risk assessment for short-term construction emissions. It is therefore not meaningful to evaluate long-term cancer impacts from construction activities, which occur over relatively short durations. As such, given the short-term nature of these activities, cumulative toxic emission impacts during construction would be less than significant.

Operation

As discussed above, the Project's operational air quality impacts would be less than significant. According to the SCAQMD, if an individual project results in air emissions of criteria pollutants that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then the project would also result in a cumulatively considerable net increase of these criteria pollutants. As operational emissions would not exceed any of the SCAQMD's regional or localized significance thresholds, the emissions of non-attainment pollutants and precursors generated by Project operations would not be cumulatively considerable.

With respect to TAC emissions, neither the Project nor the related project would represent a substantial source of TAC emissions, which are typically associated with large-scale industrial, manufacturing, and transportation hub facilities. The Project and related project would be consistent with the recommended screening level siting distances for TAC sources, as set forth in CARB's Land Use Guidelines, and the Project and related project would not result in a cumulative impact requiring further evaluation. However, the related project could generate minimal TAC emissions related to the use of consumer products and landscape maintenance activities, among other things. Pursuant to AB 1807, which directs the CARB to identify substances as TACs and adopt airborne toxic control measures to control such substances, the SCAQMD has adopted numerous rules (primarily in Regulation XIV) that specifically address TAC emissions. These SCAQMD rules have resulted in and will continue to result in substantial Basin-wide TAC emissions reductions. As such, cumulative TAC emissions during long-term operations would be less than significant. Therefore, the Project would not result in any substantial sources of TACs that have been identified by the CARB's Land Use Guidelines, and thus, would not contribute to a cumulative impact.

Odors

As discussed above, there are only two related projects within 1,000 feet of the Project Site, one of which has already been constructed. Therefore, Related Project 11 is the only related project that could potentially combine with the Project to result in cumulative impacts with respect to odors. Due to distance and environmental factors (e.g., meteorology), any odors from the remaining related projects would not

contribute to cumulative odor impacts near the Project Site. Neither the Project (residential use) nor Related Project 11 (warehouse use) would include any activities typically associated with unpleasant odors and local nuisances (e.g., rendering facilities, dry cleaners). Therefore, cumulative impacts with respect to odors would be less than significant.

TECHNICAL APPENDIX

DouglasKim+Associates,LLC

EXISTING EMISSIONS

1610 Artesia Boulevard (Existing) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	1610 Artesia Boulevard (Existing)
Operational Year	2023
Lead Agency	City of Gardena
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	17.4
Location	1610 W Artesia Square, Gardena, CA 90248, USA
County	Los Angeles-South Coast
City	Gardena
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4626
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.14

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
Automobile Care Center	31.5	1000sqft	3.43	39,510	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	4.49	3.27	33.3	0.07	0.08	5.83	5.91	0.08	1.48	1.56
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	4.15	3.54	28.8	0.07	0.08	5.83	5.91	0.08	1.48	1.56
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	4.33	3.58	30.8	0.07	0.08	5.83	5.91	0.08	1.48	1.56
Annual (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	0.79	0.65	5.62	0.01	0.02	1.06	1.08	0.01	0.27	0.28

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Mobile	3.23	2.80	31.2	0.07	0.05	5.83	5.87	0.04	1.48	1.52
Area	1.23	0.01	1.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Energy	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03
Water	—	—	—	—	—	—	—	—	—	—

Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	4.49	3.27	33.3	0.07	0.08	5.83	5.91	0.08	1.48	1.56
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Mobile	3.18	3.08	28.4	0.06	0.05	5.83	5.87	0.04	1.48	1.52
Area	0.95	—	—	—	—	—	—	—	—	—
Energy	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	4.15	3.54	28.8	0.07	0.08	5.83	5.91	0.08	1.48	1.56
Average Daily	—	—	—	—	—	—	—	—	—	—
Mobile	3.16	3.12	29.2	0.07	0.05	5.83	5.87	0.04	1.48	1.52
Area	1.14	0.01	1.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Energy	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	4.33	3.58	30.8	0.07	0.08	5.83	5.91	0.08	1.48	1.56
Annual	—	—	—	—	—	—	—	—	—	—
Mobile	0.58	0.57	5.34	0.01	0.01	1.06	1.07	0.01	0.27	0.28
Area	0.21	< 0.005	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Energy	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	0.79	0.65	5.62	0.01	0.02	1.06	1.08	0.01	0.27	0.28

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03
Total	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03
Total	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03
Annual	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01
Total	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.85	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.28	0.01	1.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Total	1.23	0.01	1.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.85	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	—	—	—	—	—	—	—	—	—
Total	0.95	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.15	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.04	< 0.005	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Total	0.21	< 0.005	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—

Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	822	822	822	300,030	8,220	8,220	8,220	3,000,300

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	59,265	19,755	—

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)
Automobile Care Center	379,009	349	0.0330	0.0040	1,691,105

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Automobile Care Center	2,964,496	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Automobile Care Center	120	—

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
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

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	5.08	annual days of extreme heat
Extreme Precipitation	4.20	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	0	0	0	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	0	0	0	N/A
Wildfire	0	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	24.9
AQ-PM	81.4
AQ-DPM	78.2
Drinking Water	69.1
Lead Risk Housing	45.4
Pesticides	38.0
Toxic Releases	99.2
Traffic	68.5
Effect Indicators	—
CleanUp Sites	89.0
Groundwater	87.3
Haz Waste Facilities/Generators	67.0
Impaired Water Bodies	96.3
Solid Waste	91.0
Sensitive Population	—
Asthma	67.8
Cardio-vascular	66.2
Low Birth Weights	77.0
Socioeconomic Factor Indicators	—
Education	31.4
Housing	16.3

Linguistic	76.6
Poverty	33.2
Unemployment	2.73

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	74.48992686
Employed	96.16322341
Median HI	44.11651482
Education	—
Bachelor's or higher	57.65430515
High school enrollment	100
Preschool enrollment	51.48209932
Transportation	—
Auto Access	65.16104196
Active commuting	20.26177339
Social	—
2-parent households	79.14795329
Voting	26.57513153
Neighborhood	—
Alcohol availability	33.14513025
Park access	45.65635827
Retail density	75.59348133
Supermarket access	71.26908764
Tree canopy	22.73835493

Housing	—
Homeownership	72.97574747
Housing habitability	93.10920056
Low-inc homeowner severe housing cost burden	82.1891441
Low-inc renter severe housing cost burden	91.4282048
Uncrowded housing	62.10701912
Health Outcomes	—
Insured adults	45.18157321
Arthritis	0.0
Asthma ER Admissions	22.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	84.1
Cognitively Disabled	95.5
Physically Disabled	41.1
Heart Attack ER Admissions	23.3
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	67.2
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—

Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	62.5
Elderly	6.3
English Speaking	13.2
Foreign-born	90.3
Outdoor Workers	64.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	9.7
Traffic Density	57.1
Traffic Access	56.5
Other Indices	—
Hardship	41.8
Other Decision Support	—
2016 Voting	15.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	83.0
Healthy Places Index Score for Project Location (b)	67.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Developer information

DouglasKim+Associates,LLC

FUTURE EMISSIONS

1610 Artesia Boulevard (Future) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	1610 Artesia Boulevard (Future)
Construction Start Date	1/2/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	17.4
Location	1610 Artesia Blvd, Gardena, CA 90248, USA
County	Los Angeles-South Coast
City	Gardena
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4626
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.20

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	300	Dwelling Unit	3.43	263,300	2,000	—	875	—
Enclosed Parking with Elevator	528	Space	0.00	208,100	0.00	—	—	—
Recreational Swimming Pool	4.03	1000sqft	0.00	4,032	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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	16.1	39.6	49.0	0.14	1.64	8.72	10.4	1.51	4.22	5.73
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	15.6	39.0	37.0	0.14	1.06	7.53	8.59	0.99	2.63	3.62
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	5.55	12.2	23.8	0.03	0.39	3.23	3.56	0.36	0.77	1.07
Annual (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	1.01	2.23	4.35	0.01	0.07	0.59	0.65	0.07	0.14	0.20

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—
2024	3.78	39.6	35.5	0.14	1.64	8.72	10.4	1.51	4.22	5.73
2025	2.50	14.2	35.4	0.04	0.46	4.56	5.02	0.41	1.09	1.51
2026	16.1	20.7	49.0	0.05	0.69	5.62	6.31	0.62	1.34	1.97
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—
2024	2.62	39.0	33.8	0.14	1.06	7.53	8.59	0.99	2.63	3.62
2025	2.68	15.7	33.8	0.04	0.52	4.59	5.11	0.47	1.10	1.57
2026	15.6	16.0	37.0	0.04	0.48	5.39	5.87	0.43	1.29	1.72
Average Daily	—	—	—	—	—	—	—	—	—	—
2024	1.06	12.2	11.9	0.03	0.39	2.06	2.45	0.36	0.66	1.02
2025	1.79	10.6	23.8	0.03	0.34	3.23	3.56	0.30	0.77	1.07
2026	5.55	6.23	14.3	0.02	0.19	1.91	2.10	0.17	0.46	0.63
Annual	—	—	—	—	—	—	—	—	—	—
2024	0.19	2.23	2.17	0.01	0.07	0.38	0.45	0.07	0.12	0.19
2025	0.33	1.93	4.35	0.01	0.06	0.59	0.65	0.05	0.14	0.20
2026	1.01	1.14	2.61	< 0.005	0.04	0.35	0.38	0.03	0.08	0.11

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	13.6	4.84	64.8	0.10	0.18	8.25	8.44	0.17	2.10	2.27
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	10.6	4.91	35.8	0.09	0.16	8.25	8.41	0.16	2.10	2.25

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	12.5	5.02	53.7	0.09	0.18	7.96	8.13	0.17	2.02	2.19
Annual (Max)	—	—	—	—	—	—	—	—	—	—
Unmit.	2.28	0.92	9.79	0.02	0.03	1.45	1.48	0.03	0.37	0.40

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Mobile	4.46	3.30	38.0	0.09	0.06	8.25	8.31	0.05	2.10	2.15
Area	9.08	0.24	26.1	< 0.005	0.02	—	0.02	0.02	—	0.02
Energy	0.07	1.30	0.74	0.01	0.10	—	0.10	0.10	—	0.10
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	13.6	4.84	64.8	0.10	0.18	8.25	8.44	0.17	2.10	2.27
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Mobile	4.40	3.61	35.0	0.09	0.06	8.25	8.31	0.05	2.10	2.15
Area	6.09	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Energy	0.07	1.30	0.74	0.01	0.10	—	0.10	0.10	—	0.10
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	10.6	4.91	35.8	0.09	0.16	8.25	8.41	0.16	2.10	2.25
Average Daily	—	—	—	—	—	—	—	—	—	—

Mobile	4.26	3.56	35.1	0.08	0.06	7.96	8.01	0.05	2.02	2.07
Area	8.14	0.16	17.8	< 0.005	0.02	—	0.02	0.01	—	0.01
Energy	0.07	1.30	0.74	0.01	0.10	—	0.10	0.10	—	0.10
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	12.5	5.02	53.7	0.09	0.18	7.96	8.13	0.17	2.02	2.19
Annual	—	—	—	—	—	—	—	—	—	—
Mobile	0.78	0.65	6.40	0.02	0.01	1.45	1.46	0.01	0.37	0.38
Area	1.49	0.03	3.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Energy	0.01	0.24	0.14	< 0.005	0.02	—	0.02	0.02	—	0.02
Water	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—
Total	2.28	0.92	9.79	0.02	0.03	1.45	1.48	0.03	0.37	0.40

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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98
Demolition	—	—	—	—	—	0.51	0.51	—	0.08	0.08
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	2.93	2.56	< 0.005	0.12	—	0.12	0.11	—	0.11
Demolition	—	—	—	—	—	0.06	0.06	—	0.01	0.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.54	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02
Demolition	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	1.13	0.00	0.00	0.20	0.20	0.00	0.05	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	2.40	0.85	0.01	0.03	0.55	0.57	0.03	0.15	0.18
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	0.01	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.30	0.10	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005

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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.49	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02
Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.05	0.05
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	0.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.08	1.32	0.00	0.00	0.23	0.23	0.00	0.05	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	3.60	1.27	0.02	0.04	0.82	0.86	0.04	0.23	0.26
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77
Dust From Material Movement	—	—	—	—	—	2.78	2.78	—	1.34	1.34
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77

Dust From Material Movement	—	—	—	—	—	2.78	2.78	—	1.34	1.34
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	3.05	3.15	< 0.005	0.14	—	0.14	0.13	—	0.13
Dust From Material Movement	—	—	—	—	—	0.46	0.46	—	0.22	0.22
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.56	0.57	< 0.005	0.03	—	0.03	0.02	—	0.02
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	1.13	0.00	0.00	0.20	0.20	0.00	0.05	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.30	20.0	7.05	0.11	0.22	4.56	4.78	0.22	1.25	1.47
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.96	0.00	0.00	0.20	0.20	0.00	0.05	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.29	20.7	6.98	0.11	0.22	4.56	4.78	0.22	1.25	1.47
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	3.52	1.16	0.02	0.04	0.76	0.79	0.04	0.21	0.24
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.64	0.21	< 0.005	0.01	0.14	0.14	0.01	0.04	0.04

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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.34	1.57	< 0.005	0.06	—	0.06	0.05	—	0.05
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.24	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Worker	1.35	1.73	19.5	0.00	0.00	3.99	3.99	0.00	0.93	0.93
Vendor	0.06	2.64	1.27	0.02	0.03	0.57	0.60	0.03	0.16	0.19
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.21	2.44	0.00	0.00	0.47	0.47	0.00	0.11	0.11
Vendor	0.01	0.32	0.15	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.80	7.46	9.31	0.02	0.31	—	0.31	0.28	—	0.28
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.36	1.70	< 0.005	0.06	—	0.06	0.05	—	0.05
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	1.31	1.32	21.2	0.00	0.00	3.99	3.99	0.00	0.93	0.93
Vendor	0.06	2.41	1.18	0.02	0.03	0.57	0.60	0.02	0.16	0.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Worker	1.29	1.47	18.0	0.00	0.00	3.99	3.99	0.00	0.93	0.93
Vendor	0.06	2.51	1.19	0.02	0.03	0.57	0.60	0.02	0.16	0.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.92	1.13	13.5	0.00	0.00	2.82	2.82	0.00	0.66	0.66
Vendor	0.04	1.81	0.84	0.01	0.02	0.40	0.43	0.01	0.11	0.12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.21	2.46	0.00	0.00	0.51	0.51	0.00	0.12	0.12
Vendor	0.01	0.33	0.15	< 0.005	< 0.005	0.07	0.08	< 0.005	0.02	0.02
Hauling	0.00	0.00	0.00	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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	3.49	4.59	0.01	0.13	—	0.13	0.12	—	0.12
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.64	0.84	< 0.005	0.02	—	0.02	0.02	—	0.02
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	1.12	1.18	19.7	0.00	0.00	3.99	3.99	0.00	0.93	0.93
Vendor	0.06	2.30	1.11	0.02	0.03	0.57	0.60	0.02	0.16	0.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Worker	1.12	1.33	16.8	0.00	0.00	3.99	3.99	0.00	0.93	0.93
Vendor	0.06	2.40	1.14	0.02	0.03	0.57	0.60	0.02	0.16	0.17

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.51	6.23	0.00	0.00	1.40	1.40	0.00	0.33	0.33
Vendor	0.02	0.86	0.40	0.01	0.01	0.20	0.21	0.01	0.06	0.06
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	1.14	0.00	0.00	0.25	0.25	0.00	0.06	0.06
Vendor	< 0.005	0.16	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01
Hauling	0.00	0.00	0.00	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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24
Paving	0.00	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.73	1.04	< 0.005	0.03	—	0.03	0.03	—	0.03
Paving	0.00	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.13	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01
Paving	0.00	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	1.29	0.00	0.00	0.26	0.26	0.00	0.06	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02

Architectural Coatings	12.8	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02
Architectural Coatings	12.8	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.30	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01
Architectural Coatings	4.52	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Architectural Coatings	0.82	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.24	3.94	0.00	0.00	0.80	0.80	0.00	0.19	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.27	3.36	0.00	0.00	0.80	0.80	0.00	0.19	0.19

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	1.24	0.00	0.00	0.28	0.28	0.00	0.07	0.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Trenching (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.29	1.45	< 0.005	0.06	—	0.06	0.05	—	0.05
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.19. Trenching (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	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	1.25	1.43	< 0.005	0.05	—	0.05	0.05	—	0.05
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.22	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.05	0.84	0.36	0.01	0.07	—	0.07	0.07	—	0.07
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Recreational Swimming Pool	0.03	0.46	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03
Total	0.07	1.30	0.74	0.01	0.10	—	0.10	0.10	—	0.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.05	0.84	0.36	0.01	0.07	—	0.07	0.07	—	0.07
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Recreational Swimming Pool	0.03	0.46	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03
Total	0.07	1.30	0.74	0.01	0.10	—	0.10	0.10	—	0.10
Annual	—	—	—	—	—	—	—	—	—	—

Apartments Mid Rise	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Recreational Swimming Pool	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01
Total	0.01	0.24	0.14	< 0.005	0.02	—	0.02	0.02	—	0.02

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Consumer Products	5.63	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.45	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.99	0.24	26.1	< 0.005	0.02	—	0.02	0.02	—	0.02
Total	9.08	0.24	26.1	< 0.005	0.02	—	0.02	0.02	—	0.02
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Consumer Products	5.63	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.45	—	—	—	—	—	—	—	—	—
Total	6.09	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00

Annual	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Consumer Products	1.03	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.08	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.37	0.03	3.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Total	1.49	0.03	3.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—

Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—

Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T

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

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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
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	6/1/2024	7/31/2024	5.00	43.0	—

Site Preparation	Site Preparation	8/1/2024	8/7/2024	5.00	5.00	—
Grading	Grading	8/8/2024	10/31/2024	5.00	61.0	—
Building Construction	Building Construction	11/1/2024	6/30/2026	5.00	433	—
Paving	Paving	5/1/2026	6/30/2026	5.00	43.0	—
Architectural Coating	Architectural Coating	1/1/2026	6/30/2026	5.00	129	—
Trenching	Trenching	11/1/2025	3/31/2026	5.00	107	—

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	2.00	8.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	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
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
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	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	Tractors/Loaders/Backh	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Trenching	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	14.8	40.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	22.2	40.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	123	40.0	HHDT
Grading	Onsite truck	—	—	HHDT

Building Construction	—	—	—	—
Building Construction	Worker	305	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	66.8	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	61.0	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	2.50	18.5	LDA,LDT1,LDT2
Trenching	Vendor	—	10.2	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	533,183	177,728	0.00	0.00	—

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	1,600	—
Site Preparation	—	556	7.50	0.00	—
Grading	—	60,000	61.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

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%
Enclosed Parking with Elevator	0.00	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
Total all Land Uses	1,367	1,367	1,131	486,649	11,636	11,636	9,627	4,142,385

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	300
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)
533182.5	177,728	0.00	0.00	—

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	1,099,750	346	0.0330	0.0040	3,332,053
Enclosed Parking with Elevator	768,187	346	0.0330	0.0040	0.00
Recreational Swimming Pool	3,286	346	0.0330	0.0040	1,695,202

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	11,182,140	34,282
Enclosed Parking with Elevator	0.00	0.00
Recreational Swimming Pool	238,465	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	219	—
Enclosed Parking with Elevator	0.00	—
Recreational Swimming Pool	23.0	—

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
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	5.08	annual days of extreme heat
Extreme Precipitation	4.20	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	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	0	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	0	0	0	N/A
Wildfire	0	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—

AQ-Ozone	24.9
AQ-PM	81.4
AQ-DPM	78.2
Drinking Water	69.1
Lead Risk Housing	45.4
Pesticides	38.0
Toxic Releases	99.2
Traffic	68.5
Effect Indicators	—
CleanUp Sites	89.0
Groundwater	87.3
Haz Waste Facilities/Generators	67.0
Impaired Water Bodies	96.3
Solid Waste	91.0
Sensitive Population	—
Asthma	67.8
Cardio-vascular	66.2
Low Birth Weights	77.0
Socioeconomic Factor Indicators	—
Education	31.4
Housing	16.3
Linguistic	76.6
Poverty	33.2
Unemployment	2.73

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	74.48992686
Employed	96.16322341
Median HI	44.11651482
Education	—
Bachelor's or higher	57.65430515
High school enrollment	100
Preschool enrollment	51.48209932
Transportation	—
Auto Access	65.16104196
Active commuting	20.26177339
Social	—
2-parent households	79.14795329
Voting	26.57513153
Neighborhood	—
Alcohol availability	33.14513025
Park access	45.65635827
Retail density	75.59348133
Supermarket access	71.26908764
Tree canopy	22.73835493
Housing	—
Homeownership	72.97574747
Housing habitability	93.10920056
Low-inc homeowner severe housing cost burden	82.1891441
Low-inc renter severe housing cost burden	91.4282048
Uncrowded housing	62.10701912

Health Outcomes	—
Insured adults	45.18157321
Arthritis	0.0
Asthma ER Admissions	22.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	84.1
Cognitively Disabled	95.5
Physically Disabled	41.1
Heart Attack ER Admissions	23.3
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	67.2
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	62.5
Elderly	6.3
English Speaking	13.2
Foreign-born	90.3
Outdoor Workers	64.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	9.7
Traffic Density	57.1
Traffic Access	56.5
Other Indices	—
Hardship	41.8
Other Decision Support	—
2016 Voting	15.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	83.0
Healthy Places Index Score for Project Location (b)	67.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on SCAG's average 2016 persons-per-household rate for the City of 2.91 persons per household, the Project would add a net residential population of approximately 875 people to the Project Site based on the 300 dwelling units proposed. Pool area based on 1,200 sf and 1,920 sf pool vaults on Level 1 and 912 sf pool RR on Level 2.
Construction: Construction Phases	Developer information
Construction: Off-Road Equipment	—
Construction: Trips and VMT	10 CY capacity haul truck; 40 miles to Brea landfill
Operations: Hearths	Project plans
Operations: Energy Use	Assumes 2 pools at 847,601kBTu/year each per EnergyStar Portfolio Manager Technical Reference; Swimming Pools and the ENERGY STAR Score in the United States and Canada; Figure 3; https://www.energystar.gov/sites/default/files/tools/Swimming_Pool_August_2018_508.pdf. Assumes "All Other Property Types" with Recreational size.

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MATES V TOXIC EMISSIONS OVERVIEW

About Air Toxics Cancer Risk

Information about community profile statistics
Information about emission sources
Download PDF

Residential Air Toxics Cancer Risk at MATES Monitoring Sites

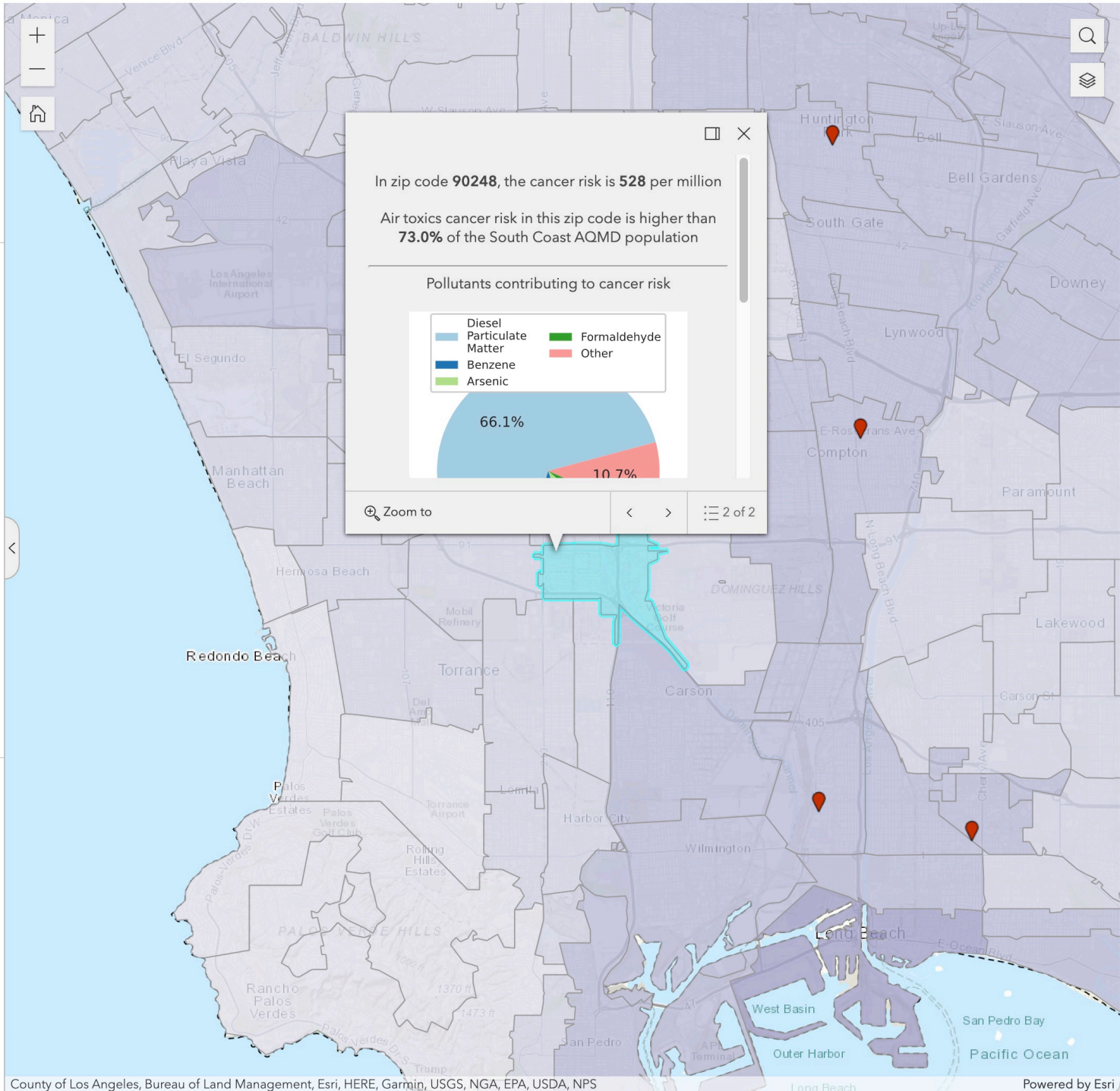
Residential Air Toxics Cancer Risk Calculated from Model Data

Cancer Risk [per million]

- 1601 - 4800
- 1451 - 1600
- 1301 - 1450
- 1151 - 1300
- 1001 - 1150
- 851 - 1000
- 701 - 850
- 551 - 700
- 401 - 550
- 251 - 400
- 101 - 250
- 0 - 100

South Coast AQMD Boundary

The air toxics cancer risk data presented in the MATES Data Visualization is calculated using a population-weighted average.



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CALENVIROSCREEN 4.0 OUTPUT

CalEnviroScreen 4.0

from OEHHA

SB 535 Disadvantaged Communities Map | CalEnviroScreen Website | Indicator Maps | About

The CalEnviroScreen 4.0 tool shows cumulative impacts in California communities by census tract.

How to use this map

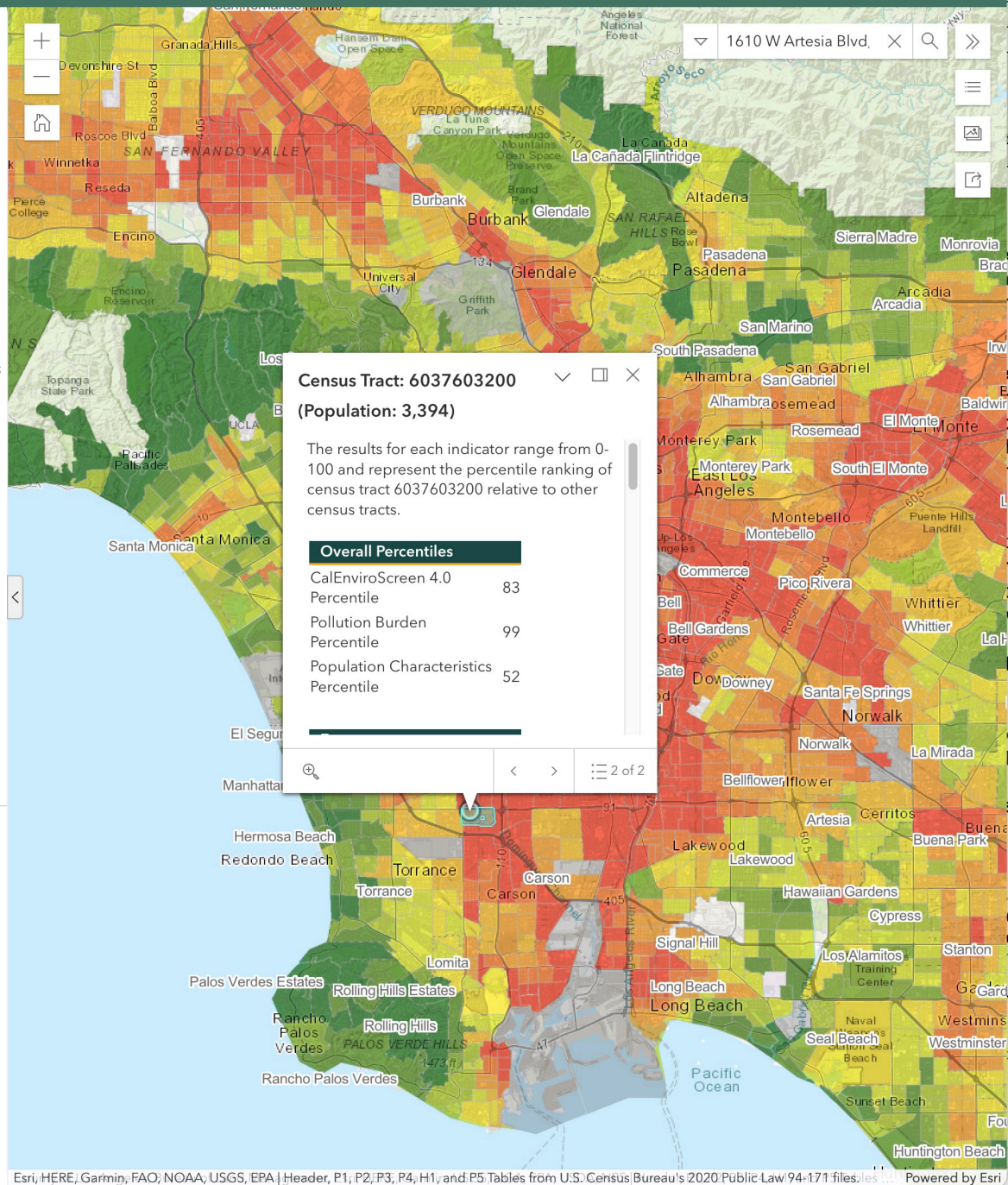
- Use your mouse or touchpad to pan around.
- Zoom in/out with a mouse wheel or the +/- icons.
- Search by location or census tract number with the **search icon**.
- Click on a census tract to view additional information in the pop-up window.
- Dock the pop-up window to the side of the screen by clicking the **dock** icon.
- Export a map view that includes the legend and popup using the **screenshot** widget.
- Learn more about CalEnviroScreen 4.0 and how this map was created **here**

Overall Percentile

CalEnviroScreen 4.0 Results

- >90 - 100 (Highest Scores)
- >80 - 90
- >70 - 80
- >60 - 70
- >50 - 60
- >40 - 50
- >30 - 40
- >20 - 30
- >10 - 20
- 0 - 10 (Lowest Scores)

CalEnviroScreen 4.0 High Pollution, Low Population



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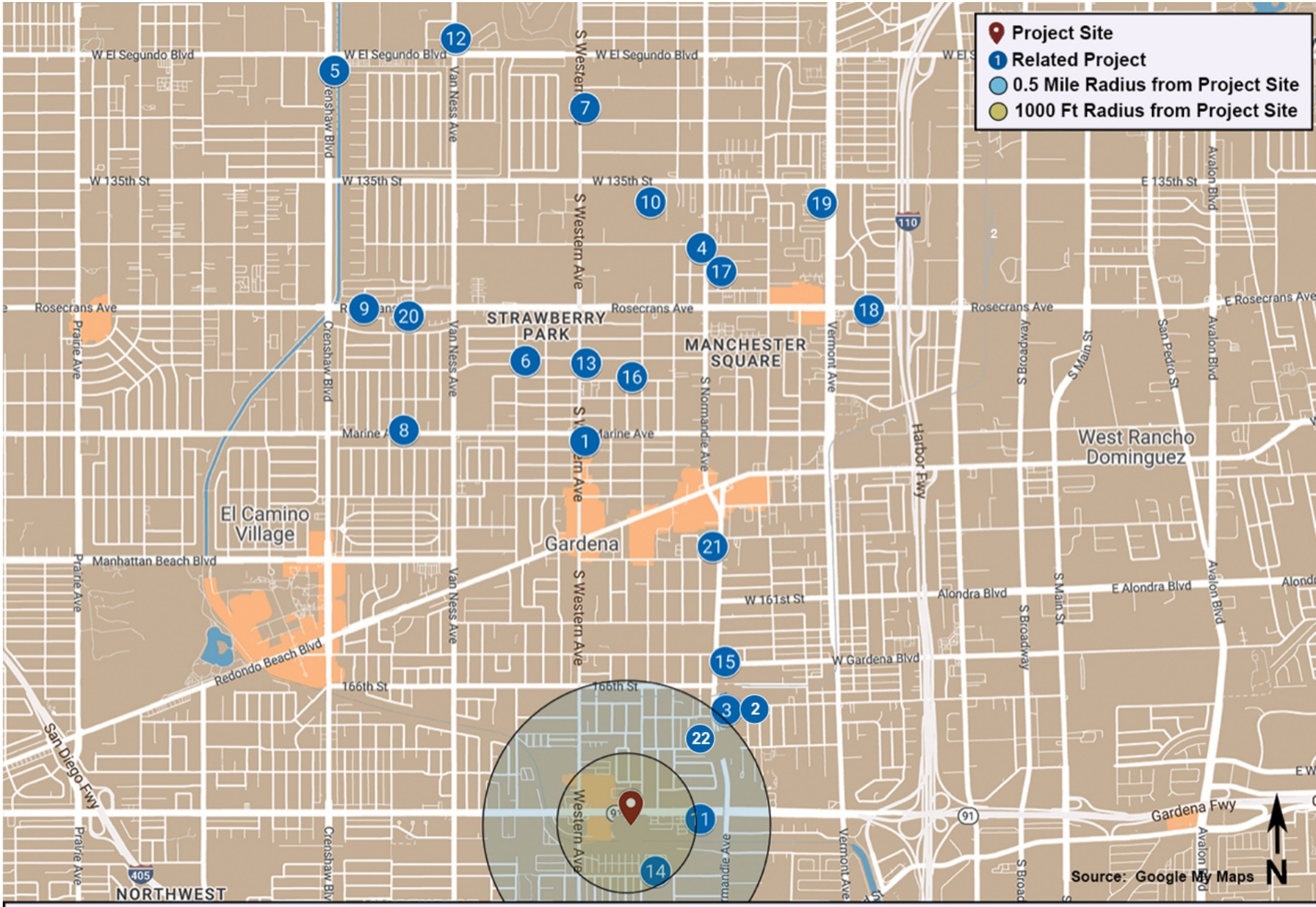
CUMULATIVE PROJECTS

	CITY OF GARDENA CUMULATIVE PROJECTS LIST					
	Type	**Location (Project Name)**	**Project Description**	**Status**	**Non-Residential (SF)**	**Residential (DU)**
1	Commercial	15106 S Western Ave	3,720-sf commercial building with drive-thru	Approved but not yet Constructed	3,720	
2	Residential	1333 West 168th Street	3 DU, Condominiums	Approved but not yet Constructed		3
3	Residential	1348 West 168th Street (Normandie Courtyard Project)	9 DU, Small Lot Subdivision, 3-story	Approved but not yet Constructed		9
4	Residential	13919 Normandie Avenue	20 DU, Single-Room Occupancy	Under Construction		20
5	Residential	12850 Crenshaw Boulevard (Transit-Oriented Develop. SP Project)	265 DU, Apartments Bldg.	Under Construction		265
6	Residential	1938 West 146th Street	6 DU, Townhomes	Approved but not yet Constructed		6
7	Residential	13126 S Western Ave	121 DU, Single-Room Occupancy, 7 veery low income units	Approved but not yet Constructed		121
8	Residential	2545 Marine Ave	22 DU, Townhomes, including 2 affordable units	Under Construction		22
9	Live-work	2800 Rosecrans Ave	20 DU, Townhomes, 4 Live-work Units	PENDING (Application Received)		20
10	Industrial	1600 W 135th St	190,860 SQ Warehouse Bldg.	Approved but not yet Constructed	190,860	
11	Industrial	1450 W Artesia Blvd	New 268,000 SF Self-Storage/Warehouse Bldg.	PENDING (Application Received)	268,000	
12	Industrial	14206 Van Ness Ave	Redevelopment of Self storage Facility, to develop a new 177,573 SF Bldg. and 8,000 SF office Bldg.	PENDING (Application Received)	185,573	
13	Mixed-Use	14600 Western Ave	196 DU, Apartment Bldg. with 3,000 sf commercial space	PENDING (Application Received)	3,000	196
14	Residential	1515 West 178th Street (Melia 178th Street Project)	114 DU Townhomes	Construction Completed in 2023		114
15	Mixed-Use	1341 West Gardena Boulevard	14 DU, Apartment Bldg. & 3,385 SF Retail/Office	Under Construction	3,385	14
16	Residential	1621 West 147th Street	6 DU, Townhome, Three-story	Under Construction		6
17	Residential	1335 West 141st Street	50 DU, Townhomes, Three-story	Under Construction		50
18	Mixed-Use	2129 West Rosecrans Avenue	113 DU, Townhomes, 3-Story, including 15 Live/Work	Under Construction		113
19	Residential	13615 South Vermont Avenue	84 DU, Townhomes, 82 market rate units (2 DU affordable)	Under Construction		84
20	Residential	2500-2508 Rosecrans Ave	53 DU, Townhomes, Including 3 Live/Work	Under Construction		53
21	Residential	15717 & 15725 Normandie Ave	30 residential townhomes, three for low-income households	Under Construction		30
22	*Residential*	*1610 W Artesia Blvd*	*300 residential apartment bldg*	*Pre Application Received*		*300*
	23	***Total***			***654,538***	***1,426***
	CITY OF TORRANCE CUMULATIVE PROJECTS LIST					
	Type	**Location (Project Name)**	**Project Description**	**Status**	**Non-Residential (SF)**	**Residential (DU)**
23	Residential	18045 Western Avenue	32 apartments; 6,000 sf. Retail	Pending entitlements	6,000	32
24	Residential	18419 Western Avenue	15 apartments	Pending entitlements		15
	2	***Total***			***6,000***	***15***



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