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MEMORANDUM

DATE: April 3, 2025

TO: Priit Kaskla, Associate Planner, City of Garden Grove

FROM: Ron Brugger, Senior Air Quality Specialist

SUBJECT: Air Quality and Greenhouse Gas Technical Memorandum for the 12821 Knott Street Project in Garden Grove, California

INTRODUCTION

LSA has prepared this Air Quality and Greenhouse Gas Technical Memorandum to evaluate the potential impacts associated with construction and operation of the proposed mezzanine addition to the existing Harbinger Motors, Inc. facility at 12821 Knott Street (project) in Garden Grove, California. This analysis was prepared using methods and assumptions recommended in the air quality impact assessment guidelines of the South Coast Air Quality Management District (SCAQMD) in its *CEQA Air Quality Handbook* (1993)[1] and associated updates. This analysis includes an assessment of criteria pollutant emissions, an assessment of carbon monoxide (CO) hot-spot impacts, and an assessment of the project's potential greenhouse gas (GHG) emissions.

PROJECT LOCATION

Harbinger Motors, Inc. (herein referred to as the "Applicant") currently occupies a 7.97-acre property at 12821 Knott Street (Assessor's Parcel Number [APN] 215-014-01) in Garden Grove, California. Regional access to the project site is provided by State Route 22 (SR-22), located immediately south of the project site, and Knott Street, immediately east of the project site. Figure 1 (all figures are provided in Attachment B) shows the project location.

PROJECT DESCRIPTION

The proposed project would add 10,338 sf of mezzanine (office) space to the existing 173,080-square-foot (sf) warehouse building. The existing warehouse building has 27,909 sf of office space split between the first and second floors. The proposed project would increase office space on the second floor, bringing the second-floor office space total to 28,247 sf, for a total of 38,247 sf of office space at project completion. No additional office space square footage is planned on the first floor nor is any alteration of the building shell planned. At project completion, the project site would have 183,418 total sf and would exceed the maximum floor-area ratio (FAR) of 0.50 allowed under its General Plan Land Use Designation, requiring a General Plan Amendment to allow an FAR of 0.53.

[1] South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993) (accessed January 2025).

No exterior construction is proposed as part of the project. Based on the proposed project trip generation analysis[2], the proposed project (10,338 sf of office use) is expected to generate 112 daily trips, including 16 trips (14 inbound and 2 outbound) during the a.m. peak hour and 14 trips (2 inbound and 12 outbound) during the p.m. peak hour.

No exterior construction is proposed as part of the project. Construction of the proposed project would only include internal building construction and architectural coating activities, material delivery handling, and worker commutes. Construction of the proposed project is anticipated to begin in 2025 and last for approximately 7 months. This study is based on this anticipated construction schedule.

SENSITIVE RECEPTORS IN THE PROJECT AREA

For this analysis, sensitive receptors are those that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include residences, schools, daycare centers, hospitals, parks, and similar uses that are sensitive to air quality. Impacts on sensitive receptors are of particular concern because those receptors are the population most vulnerable to the effects of air pollution. The project site is within a highly urbanized area of Garden Grove. Surrounding uses include The Garden Room Banquet Facility and Wedding Chapel to the north, office and industrial uses and the Calvary Chapel Westgrove across Knott Street to the east, the Garden Grove Freeway (SR-22) and the city of Westminster to the south, and a residential community to the west. Surrounding General Plan land designations include Industrial/Commercial Mixed Use (IC) to the north and east, across Knott Street, Industrial (I) to the northeast across Knott Street, the Garden Grove Freeway (SR-22) and Westminster to the south, and low-density residential (LDR) uses to the west, across Brady Way. A summary of the analysis distances relative to the sensitive receptors for air quality is provided in Table A.

Table A: Summary of Analysis Distances by Impact Category

Activity	Nearest Sensitive Receptor	Points of Analysis	Distance (feet)
Construction[1]	Single-family homes on Dumont Street	Perimeter of construction activities (the edge of the existing building as construction would all be inside) to building edge of the nearest sensitive receptor	160
Operations	Single-family homes on Dumont Street	Emissions sources on-site generalized at the centroid of the project site to edge of nearest sensitive receptor	355

Source: Google Maps view of project area.
Note: Distance for construction air quality impact potential includes the assumption that heavy construction equipment would operate adjacent to the proposed project boundary, which is 30 feet from the nearest off-site structures where a person would live.

[2] LSA Associates, Inc. 2025. *Transportation Memorandum for the 12821 Knott Street Project*, January.

ENVIRONMENTAL SETTING

Air Quality Background

Air quality is primarily a function of local climate, local sources of air pollution, and regional pollution transport. The amount of a given pollutant in the atmosphere is determined by the amount of the pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain and, for photochemical pollutants, sunshine.

A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins. The project site is in Garden Grove in Orange County and is within the jurisdiction of SCAQMD, which regulates air quality in the South Coast Air Basin (Basin).

The Basin comprises approximately 10,000 square miles and covers all of Orange County and the urban parts of Los Angeles, Riverside, and San Bernardino counties. The Basin is on a coastal plain with connecting broad valleys and low hills to the east. Regionally, the Basin is bounded by the Pacific Ocean to the southwest and high mountains to the east, forming the inland perimeter.

Both State and federal governments have established health-based ambient air quality standards for six criteria air pollutants: CO, ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and Pb are considered local pollutants that tend to accumulate in the air locally.

Air quality monitoring stations are located throughout the nation and are maintained by the local air districts and state air quality regulating agencies. Data collected at permanent monitoring stations are used by the United States Environmental Protection Agency (EPA) to identify regions as "attainment" or "nonattainment" depending on whether the regions meet the requirements stated in the applicable National Ambient Air Quality Standards (NAAQS). Nonattainment areas are imposed with additional restrictions as required by the EPA. In addition, different classifications of attainment (e.g., marginal, moderate, serious, severe, and extreme) are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and to comply with the NAAQS. As shown in Table B, the Basin is designated as nonattainment by the federal standards for O_3 and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) and nonattainment by the State standards for O_3, particulate matter less than 10 microns in diameter (PM_{10}), and $PM_{2.5}$.

Table B: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Unclassified/Attainment (1-hour) Attainment/Maintenance (Annual)
SO_2	Attainment	Unclassified/Attainment
Lead	Attainment[1]	Unclassified/Attainment[1]
All Others	Attainment/Unclassified	Attainment/Unclassified

Source 1: NAAQS and CAAQS Attainment Status for South Coast Air Basin (SCAQMD 2016).
Source 2: Nonattainment Areas for Criteria Pollutants (Green Book) (EPA 2019).
[1] Only the Los Angeles County portion of the South Coast Air Basin is in nonattainment for lead.
CAAQS = California Ambient Air Quality Standards
CO = carbon monoxide
EPA = United States Environmental Protection Agency
N/A = not applicable
NAAQS = National Ambient Air Quality Standards
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SCAQMD = South Coast Air Quality Management District
SO_2 = sulfur dioxide

O_3 levels, as measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by SCAQMD and other regional, State, and federal agencies. The reduction of peak concentrations represents progress in improving public health; however, the Basin still exceeds the State standard for 1-hour and 8-hour O_3 levels. The EPA lowered the 1997 0.80 part per million (ppm) federal 8-hour O_3 standard to 0.75 ppm in 2008 and then to 0.70 ppm on October 1, 2015. The Basin is classified as nonattainment for the 1-hour and 8-hour O_3 standards at the State level and as extreme nonattainment for the 8-hour O_3 standard at the federal level.

From 2021 to 2023, the Anaheim, Pampas Lane monitoring station at 1630 West Pampas Lane, Anaheim, California (the closest station to the project site) recorded the following exceedances of O_3 standards[3]:

- The federal and State 8-hour O_3 standards had no exceedances in 2021, 1 in 2022, and 2 in 2023.
- The State 1-hour O_3 standard had no exceedances in 2021, 1 in 2022, and 0 in 2023.

Federal and State standards have also been established for $PM_{2.5}$ over 24-hour and yearly averaging periods. $PM_{2.5}$, because of the small size of individual particles, can be especially harmful to human health. $PM_{2.5}$ is emitted by common combustion sources such as cars, trucks, buses, and power plants, in addition to ground-disturbing activities. On February 7, 2024, the USEPA strengthened the NAAQS for $PM_{2.5}$ by revising the primary (health-based) annual standard from 12.0 micrograms per cubic meter ($\mu g/m^3$) to 9.0 $\mu g/m^3$; however, a new attainment designation has not been issued. The Basin is

[3] California Air Resources Board (CARB). 2023. *iADAM: Air Quality Data Statistics.* Website: www.arb.ca.gov/adam/index.html (accessed January 2025).

also considered a nonattainment area for the $PM_{2.5}$ standard at the State level. From 2021 to 2023, the Anaheim Pampas Lane station recorded the following exceedances of $PM_{2.5}$ standards:

- The federal 24-hour $PM_{2.5}$ standard had 10 exceedances in 2021, 0 in 2022, and 1 in 2023.
- The 2012 federal Annual $PM_{2.5}$ standard was not exceeded in 2021, 2022, or 2023 (the 2024 federal Annual $PM_{2.5}$ standard was exceeded in all three years).
- The State Annual $PM_{2.5}$ standard was not exceeded in 2021, 2022, or 2023.

The Basin is classified as a PM_{10} nonattainment area at the State level and was redesignated from serious nonattainment to attainment of the federal PM_{10} standard on July 26, 2013. Because the Basin was redesignated from nonattainment to attainment, a PM_{10} maintenance plan was adopted in 2013 and is required to be updated every 10 years. The Anaheim Pampas Lane station recorded the following exceedances of the PM_{10} standards:

- The State 24-hour PM_{10} standard had 1 exceedance in each of 2021, 2022, and 2023.
- The federal 24-hour PM_{10} standard had 0 exceedances in each of 2021, 2022, and 2023.
- The federal Annual PM_{10} standard was not exceeded in 2021, 2022, or 2023.
- The State Annual PM_{10} standard was exceeded in each of 2021, 2022, and 2023.

All areas of the Basin have continued to remain below the federal CO standards (35 ppm 1-hour and 9 ppm 8-hour) since 2003. The EPA redesignated the Basin to attainment of the federal CO standards effective June 11, 2017. The Basin is also well below the State CO standards (20 ppm 1-hour CO and 9 ppm 8-hour CO). Similarly, ambient levels of nitrogen oxides (NO_X) and sulfur oxides (SO_X) continue to remain below their respective federal and State standards.

Greenhouse Gas Background

GHGs are present in the atmosphere naturally, are released by natural sources, or form from secondary reactions taking place in the atmosphere. Although man-made GHGs include naturally occurring GHGs such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), some gases like hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF_3), and sulfur hexafluoride (SF_6) are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of

heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalents (CO_2e).

REGULATORY SETTING

This section provides regulatory background information for air quality and GHGs.

Air Quality

Applicable federal, State, regional, and local air quality regulations are discussed below.

Federal Regulations

The 1970 federal Clean Air Act (CAA) authorized the establishment of national health-based air quality standards and set deadlines for their attainment. The CAA Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required for areas of the nation that exceed the standards. Under the CAA, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans to demonstrate how they will achieve the national standards by specified dates.

State Regulations

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for CO, O_3, SO_2, and NO_2 by the earliest practical date. The CCAA provides districts with the authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and areawide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in districtwide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

The California Air Resources Board (CARB) is the State's "clean air agency". CARB's goals are to attain and maintain healthy air quality, protect the public from exposure to toxic air contaminants, and oversee compliance with air pollution rules and regulations.

Regional Regulations

The proposed project would be required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. SCAQMD Rule 1113 limits the volatile organic compound (VOC) content of architectural coatings. Applicable dust suppression techniques from SCAQMD Rule 403 and low VOC content in paints under SCAQMD Rule 1113 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors.

- **South Coast Air Quality Management District Rule 403 Measures:**
    - All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
    - Traffic speeds on all unpaved roads shall be reduced to 15 miles per hour (mph) or less.
- **South Coast Air Quality Management District Rule 1113 Measures:** SCAQMD Rule 1113 governs the sale, use, and manufacture of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction and operation of the proposed project. Therefore, all paints and solvents used during construction and operation of the proposed project must comply with SCAQMD Rule 1113.

Local Regulations

City of Garden Grove General Plan. The City of Garden Grove addresses air quality in the Air Quality Element of its Policy Plan.[4] The Air Quality Element includes goals and policies that work to improve and maintain air quality for the benefit of the health and vitality of the residents and the local economy. The following policies from the Air Quality Element are applicable to the proposed project:

- **Goal AQ-1:** Air quality that meets the standards set by the State and Federal governments
    - Policies AQ-1.1 & 1.2
    - Implementation Programs AQ-IMP-1A, AQ-IMP-1B, & AQ-IMP-1C
- **Goal AQ-2:** Increased awareness and participation throughout the community in efforts to reduce air pollution and enhance air quality.
    - Policies AQ-2.1 through AQ-2.5
    - Implementation Programs AQ-IMP-2A through AQ-IMP-2E
- **Goal AQ-3**: A diverse and energy efficient transportation system incorporating all feasible modes of transportation for the reduction of pollutants.
    - Policies AQ-3.1 & AQ-3.2
    - Implementation Programs AQ-IMP-3A through AQ-IMP-3F

[4] City of Garden Grove. 2008. *2021 General Plan, Air Quality Element*. May. Website: ggcity.org/planning/general-plan (accessed January 2025).

- **Goal AQ-4:** Efficient development that promotes alternative modes of transportation, while ensuring that economic development goals are not sacrificed.
    - Policies AQ-4.1 through AQ-4.3
    - Implementation Programs AQ-IMP-4A through AQ-IMP-4C
- **Goal AQ-5:** An improved balance of residential, commercial, industrial, recreational, and institutional uses to satisfy the needs of the social and economic segments of the population. Work towards clean air while still permitting reasonable planned growth.
    - Policies AQ-5.1 through AQ-5.7
    - Implementation Program AQ-IMP-5A
- **Goal AQ-6:** Increased energy efficiency and conservation.
    - Policies AQ-6.1 through AQ-6.2
    - Implementation Programs AQ-IMP-6A through AQ-IMP-6H
- **Goal AQ-7:** Reduced particulate emissions from paved and unpaved roads, parking lots, and building construction
    - Policies AQ-7.1 through AQ-7.5
    - Implementation Programs AQ-IMP-7A & AQ-IMP-7B

Greenhouse Gas Emissions

This section describes regulations related to GHG emissions at the federal, State, and local levels.

Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the CAA.

Although there currently are no adopted federal regulations for the control or reduction of GHG emissions, the EPA commenced several actions in 2009 to implement a regulatory approach to global climate change, including the 2009 EPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the EPA Administrator signed an endangerment finding action in 2009 under the CAA, finding that seven GHGs (CO_2, CH_4, N_2O, HFCs, NF_3, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

State Regulations

CARB is the lead agency for implementing GHG regulations in the State. Since its formation, CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is Assembly Bill (AB) 32, passed by the State Legislature on August 31, 2006. This effort set a target to reduce GHG emissions to 1990 levels by 2020. CARB has established the level of GHG emissions in 1990 at 427 million metric tons (MMT) of CO_2e. The emission target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. CARB approved the Scoping Plan on December 11, 2008, which contains the main strategies California will implement to achieve the reduction goals and includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory.

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020 and sets the groundwork to reach long-term goals set forth in Executive Orders (EO) S-3-05 and B-16-2012. The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[5] to reflect the 2030 target that was set by EO B-30-15 and codified by Senate Bill (SB) 32.

The 2022 Scoping Plan[6] was approved in December 2022 and assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

The 2022 Scoping Plan focuses on building clean energy production and distribution infrastructure for a carbon-neutral future, including transitioning existing energy production and transmission infrastructure to produce zero-carbon electricity and hydrogen and utilizing biogas resulting from wildfire management or landfill and dairy operations, among other substitutes. The 2022 Scoping Plan states that in almost all sectors, electrification will play an important role. The 2022 Scoping

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5 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed January 2025).

6 CARB. 2022. *California's 2022 Scoping Plan for Achieving Carbon Neutrality*. December. arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents (accessed January 2025).

Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the amount of current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California be zero-emission by 2035 and that all other fleets transition to zero-emission as fully as possible by 2045, which will reduce the percentage of fossil fuel combustion vehicles.

Senate Bill 375 (2008). Signed into law on October 1, 2008, SB 375 supplements GHG reductions from new vehicle technology and fuel standards with reductions from more efficient land use patterns and improved transportation. Under the law, CARB approved GHG reduction targets in February 2011 for California's 18 federally designated regional planning bodies, known as Metropolitan Planning Organizations (MPOs). CARB may update the targets every 4 years and must update them every 8 years. MPOs, in turn, must demonstrate how their plans, policies, and transportation investments meet the targets set by CARB through Sustainable Community Strategies (SCSs). The SCSs are included with the Regional Transportation Plan (RTP), a report required by State law. However, if an MPO finds that its SCS will not meet the GHG reduction targets, it may prepare an Alternative Planning Strategy. The Alternative Planning Strategy identifies the impediments to achieving the targets.

Executive Order B-30-15 (2015). Governor Jerry Brown signed EO B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target and, therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act. SB 350, signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent
- Increase energy efficiency in buildings by 50 percent by the year 2030

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for private utilities and by the California Energy Commission for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other nonrenewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to State energy agencies under existing law. The addition made by this legislation requires State energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016, the Legislature passed, and the Governor signed, SB 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emission reduction target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an Intergovernmental Panel on Climate Change analysis of the emission trajectory that would stabilize atmospheric GHG concentrations at 450 ppm CO_2e and reduce the likelihood of catastrophic impacts from climate change.

AB 197, the companion bill to SB 32, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emission data that are collected by CARB was posted in December 2016.

Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100, which raises California's renewable portfolio standard requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18.EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant State agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning that, not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions should be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Assembly Bill 1279. AB 1279 was signed in September 2022 and codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter. This bill also requires California to reduce statewide GHG emissions by 85 percent compared to 1990 levels by 2045 and directs CARB to work with relevant State agencies to achieve these goals.

Title 24, Building Efficiencies Standards, and the California Green Building Standards Code. In November 2008, the California Building Standards Commission established the California Green Building Standards Code (CALGreen) (California Code of Regulations Title 24, Part 11), which sets performance standards for residential and nonresidential development to reduce environmental impacts and to encourage sustainable construction practices. CALGreen addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. CALGreen is updated every 3 years and was most recently updated in 2022 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2023.

Regional Regulations

Southern California Association of Governments. The Southern California Association of Governments (SCAG) is a regional council consisting of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. In total, the SCAG region encompasses 191 cities and more than 38,000 square miles within Southern California. SCAG is the MPO serving the region under federal law and serves as the Joint Powers Authority, the Regional Transportation Planning Agency, and the Council of Governments under State law. As the Regional Transportation Planning Agency, SCAG prepares long-range transportation plans for the Southern California region, including the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2008 Regional Comprehensive Plan.

On April 4, 2024, SCAG adopted *Connect SoCal 2024 (Regional Transportation Plan/Sustainable Communities Strategy*).[7] In general, the Sustainable Communities Strategy (SCS) outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources. For the SCAG region, CARB has set GHG reduction targets at 8 percent below 2005 per-capita emission levels by 2020 and 19 percent below 2005 per capita emission levels by 2035. The Connect SoCal 2024 lays out a strategy for the region to meet these targets. Overall, the SCS is meant to provide growth strategies that will achieve the regional GHG emission reduction targets. Land use strategies to achieve the region's targets include planning for new growth around high-quality transit areas and livable corridors and creating neighborhood mobility areas to integrate land use and transportation and to plan for more active lifestyles.[8] However, the SCS does not require that local General Plans, Specific Plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.

South Coast Air Quality Management District. In 2008, the SCAQMD formed a Working Group to identify GHG emission thresholds for land use projects that could be used by local lead agencies in the SCAQMD.[9] The Working Group developed several different options that are contained in the SCAQMD 2008 draft guidance document titled *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* (2008) that could be applied by lead agencies. On September 28, 2010, SCAQMD Working Group Meeting No. 15 provided further guidance, including a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency. SCAQMD has not presented a finalized version of these thresholds to the governing board.

SCAQMD identifies the emission level for which a project would not be expected to substantially conflict with any State legislation adopted to reduce statewide GHG emissions. As such, the use of a service population represents the rates of emissions needed to achieve a fair share of the State's

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7 Southern California Association of Governments (SCAG). 2024. *Connect SoCal 2024*. Website: scag.ca.gov/sites/main/files/file-attachments/23-2987-connect-socal-2024-final-complete-040424.pdf (accessed January 2025).

8 *Ibid*.

9 SCAQMD. 2024. Greenhouse Gases (GHG) CEQA Significance Thresholds. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds (accessed January 2025).

mandated emission reductions. Overall, SCAQMD identifies a GHG efficiency level that, when applied statewide or to a defined geographic area, would meet the 2020 and post-2020 emission targets required by AB 32 and SB 32. If projects are able to achieve targeted rates of emissions per the service population, the State would be able to accommodate expected population growth and achieve economic development objectives while also abiding by AB 32's emission target and future post-2020 targets. The SCAQMD has established a flowchart for evaluating GHG significance and indicates that when a project is exempt from California Environmental Quality Act (CEQA), no further analysis is required. SCAQMD's GHG approach has been upheld in court. (Upland Community First v. City of Upland (2004) 105 Cal. App 5th 1, 22.)

METHODOLOGY

Construction Emissions

Construction activities can generate a substantial amount of air pollution. Construction activities are considered temporary; however, short-term impacts can contribute to exceedances of air quality standards. Construction activities include general construction operations inside the existing building. The emissions generated from these construction activities include fuel combustion from mobile heavy-duty, diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips.

LSA used the California Emissions Estimator Model version 2022.1 (CalEEMod) computer program to calculate emissions from on-site construction equipment and emissions from construction worker and vehicle trips to the site using the land use type of General Office Building. As mentioned in the Project Location and Description section, construction of the proposed project would include building construction and architectural coating activities confined entirely to the interior of the existing building, which would begin in 2025 and last for approximately 7 months. No exterior construction is proposed as part of the project. This analysis assumes the CalEEMod default average tier level for certified diesel engines for all construction equipment. This analysis also assumes that the proposed project would comply with applicable SCAQMD Rule 403 measures for all activities that would take place outside, such as construction material deliveries. All other construction details are not yet known; therefore, default assumptions (e.g., construction equipment, construction worker and truck trips, and fleet activities) from CalEEMod were used.

Operational Emissions

This air quality analysis includes estimating emissions associated with long-term operation of the project. Indirect emissions of criteria pollutants with regional impacts would be emitted by project-generated vehicle trips. In addition, localized air quality impacts (i.e., higher CO concentrations or "hot-spots") near intersections or roadway segments in the project vicinity could also potentially occur due to project-generated vehicle trips.

Consistent with SCAQMD guidance for estimating emissions associated with land use development projects, the CalEEMod computer program was used to calculate the long-term operational emissions associated with the project. As previously discussed in the Project Location and Description section, the proposed project would construct a 10,338 sf mezzanine for additional office space. As mentioned above, the proposed project analysis was conducted using the land use

type of *General Office Building.* Trip generation rates used in CalEEMod for the project were based on the project's trip generation analysis, which identifies that the project would generate approximately 112 net new average daily trips.[10] When project-specific data were not available, default assumptions from CalEEMod were used to estimate project emissions.

Greenhouse Gas Emissions

GHG emissions associated with the project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term GHG emissions associated with project-related vehicular trips. To determine the project's potential contribution to GHG emissions, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, construction activities, and other significant sources of emissions within the project area were calculated. The CalEEMod results were used to quantify GHG emissions potentially generated by the project.

THRESHOLDS OF SIGNIFICANCE

The *State CEQA Guidelines* indicate that a project would have a significant adverse air quality impact if project-generated pollutant emissions would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is in nonattainment under applicable NAAQS or CAAQS;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) affecting a substantial number of people.

Certain air districts (e.g., SCAQMD) have created guidelines and requirements to conduct air quality analysis. The SCAQMD's current guidelines, the *CEQA Air Quality Handbook*[11] with associated updates, were followed in this assessment of air quality impacts for the proposed project.

Regional Emissions Thresholds

SCAQMD has established daily emission thresholds for construction and operation of proposed projects. The emission thresholds were established based on the attainment status of the South Coast Air Basin ("Basin") with regard to air quality standards for specific criteria pollutants. Table C lists the CEQA significance thresholds for construction and operational emissions established for the SCAQMD.

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10 LSA Associates, Inc. 2025. *Transportation Memorandum for the 12821 Knott Street Project.* January 17.

11 SCAQMD. 1993. *CEQA Air Quality Handbook.* Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993) (accessed January 2025).

Table C: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Threshold (lbs/day)					
	VOCs	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_X
Construction	75	100	550	150	55	150
Operations	55	55	550	150	55	150

Source: South Coast Air Quality Management District (SCAQMD). 2019. Air Quality Significance Thresholds. Website: www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf (accessed January 2025).

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_X = sulfur oxides
VOCs = volatile organic compound

Projects in the SCAQMD with construction- or operations-related emissions that exceed any of their respective emission thresholds would be considered significant under SCAQMD guidelines. These thresholds, which the SCAQMD developed, and which apply throughout the Basin, apply as both project and cumulative thresholds. If a project exceeds these standards, it is considered to have a project-specific and cumulative impact.

CO Standards

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the project vicinity are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the SCAQMD, a project would be considered to have a significant CO impact if project emissions would result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm
- California State 8-hour CO standard of 9 ppm

Localized Impact Analysis

The SCAQMD published its *Final Localized Significance Threshold Methodology* in July 2008, recommending that all air quality analyses include an assessment of air quality impacts to nearby sensitive receptors.[12] This guidance was used to analyze potential localized air quality impacts associated with construction of the proposed project. Localized significance thresholds (LSTs) are developed based on the size or total area of the emission source, the ambient air quality in the Source Receptor Area (SRA), and the distance to the project. Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. The nearest sensitive receptors include residences west of the project site approximately 160 feet from the existing building, within 80 feet of the project boundaries.

[12] SCAQMD. 2008. *Final Localized Significance Threshold Methodology.* July. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds (accessed January 2025).

LSTs are based on the ambient concentrations of that pollutant within the project's SRA and the distance to the nearest sensitive receptor. For the proposed project, the appropriate SRA for the LST is the North Coastal Orange County area (SRA 18). The SCAQMD provides LST screening tables for 25-, 50-, 100-, 200-, and 500-meter source-receptor distances. In cases where receptors may be closer than 82 feet (25 meters), any distances within the 82-foot buffer zone can be used. As such, to provide a conservative assessment, the minimum distance of 25 meters was used for purposes of the LST assessment. The project site is 0.35 acre; therefore, it is assumed that the maximum daily disturbed acreage would be 0.35 acre for construction and operation of the proposed project.[13] Table D lists the emission thresholds that apply during project construction and operation.

Table D: SCAQMD Localized Significance Thresholds

Emissions Source	Pollutant Emissions Threshold (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction (0.35 acre 25-meter distance)	67	442	2.1	1.7
Operations (0.35 acre, 25-meter distance)	67	442	0.35	0.35

Source: *Final Localized Significance Threshold Methodology* (SCAQMD, July 2008).

CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District

Greenhouse Gas Thresholds

Appendix G of the *State CEQA Guidelines* includes significance thresholds for GHG emissions. A project would normally have a significant effect on the environment if it would do either of the following:

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

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

[13] SCAQMD. n.d. Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf (accessed January 2025).

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group).[14] Based on the last Working Group meeting held in September 2010 (Meeting No. 15), SCAQMD proposed to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency:

- **Tier 1—Exemptions:** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2—Consistency with a Locally Adopted GHG Reduction Plan:** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

- **Tier 3—Numerical Screening Threshold:** If GHG emissions are less than the numerical screening-level threshold, project-level and cumulative GHG emissions are less than significant.

  For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD, under Option 1, is proposing a "bright-line" screening-level threshold of 3,000 metric tons (MT) of CO_2e (or MT CO_2e) per year (or MT CO_2e/year) for all land use types or, under Option 2, the following land use-specific thresholds: 1,400 MT CO_2e for commercial projects, 3,500 MT CO_2e for residential projects, or 3,000 MT CO_2e for mixed-use projects. This bright-line threshold is based on a review of the Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal and therefore less than cumulatively considerable impact on GHG emissions.

- **Tier 4—Performance Standards:** If emissions exceed the numerical screening threshold, a more detailed review of the project's GHG emissions is warranted. The SCAQMD has proposed an efficiency target for projects that exceed the bright-line threshold. The current recommended approach is per-capita efficiency targets. The SCAQMD is not recommending use of a percentage emissions reduction target. Instead, the SCAQMD proposes proposed a 2020 efficiency target of 4.8 MT CO_2e/year per service population for project-level analyses and 6.6 MT CO_2e/year per service population for plan-level projects (e.g., program-level projects such as General Plans).

For the purpose of this analysis, the proposed project will be compared to the Tier 3 threshold of 3,000 MT CO_2e/year for all land use types. The project is also evaluated for compliance with the 2022 Scoping Plan and SCAG's RTP/SCS.

[14] SCAQMD. 2024. Greenhouse Gases (GHG) CEQA Significance Thresholds. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds (accessed January 2025).

IMPACT ANALYSIS

This section identifies potential air quality and GHG impacts associated with implementation of the proposed project.

Air Quality Impacts

Potential air pollutant emissions associated with the project would occur over the short term from construction activities and over the long term from project-related vehicular trips and energy consumption.

Consistency with Applicable Air Quality Plans

A consistency determination plays an essential role in local agency project review by linking local planning and unique, individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The proposed project would include a modification to an existing building to add 10,338 sf mezzanine for additional office space. The proposed project is not considered a project of statewide, regional, or area-wide significance (e.g., large-scale projects such as airports, electrical generating facilities, petroleum and gas refineries, residential development of more than 500 dwelling units, or shopping centers or business establishments employing more than 1,000 persons or encompassing more than 500,000 sf of floor space) as defined in the California Code of Regulations (Title 14, Division 6, Chapter 3, Article 13, §15206(b)). Because the proposed project would not be defined as a regionally significant project under CEQA, it does not meet the SCAG Intergovernmental Review criteria.

The maximum allowed FAR under the General Plan Land Use Designation IC is 0.50. The additional mezzanine office space would increase the FAR to 0.53. For the project site to remain in compliance with the General Plan Land Use designation and associated maximum FAR, an amendment to the General Plan is proposed to establish two subareas within the existing IC land use designation. Under the proposed amendment, five parcels (APNs 215-014-01, 215-014-02, 215-012-07, 215-012-08, and 215-013-01) would be included within the new Subarea B, which would allow a maximum industrial FAR of 0.55, and a maximum commercial FAR of 0.5. The project site is at APN 215-014-01; therefore, the proposed General Plan amendment would increase the allowable industrial FAR on the project site from 0.5 to 0.55.

The City's General Plan is consistent with the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD Air Quality Management Plan (AQMP). Pursuant to the methodology provided in the SCAQMD *CEQA Air Quality Handbook*, consistency with the Basin's 2022 AQMP is affirmed when a project (1) would not increase the frequency or severity of an air quality standard violation or cause a new violation, and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented as follows:

1. The project would result in short-term construction and long-term operational pollutant emissions that are all less than the CEQA significance emissions thresholds established by SCAQMD, as demonstrated below; therefore, the project would not result in an increase in the frequency or severity of an air quality standards violation or cause a new air quality standards violation.

2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities; therefore, the proposed project is not defined as significant.

   The proposed project is an industrial/commercial mixed-use development consisting of the construction of 10,338 sf of mezzanine office space within the existing 173,080 sf building. Since the project is not proposing residential uses, there would be no new generation of residents in Garden Grove. The proposed project may generate an additional 10 to 15 employees, which could potentially be filled by existing residents of the City, thereby resulting in a negligible increase to the total population of Garden Grove. This potential employment growth is well within the projected employee growth for the City of 4,300 employees by 2035. In addition, the number of employees is limited by the capacity of parking lot spaces, which would not change under the proposed project. As such, implementation of the proposed project is consistent with planned growth within Garden Grove, and the proposed project would not directly or indirectly induce growth in Garden Grove. Thus, the proposed project would be consistent with the City's General Plan and Zoning Ordinance.

Based on the consistency analysis presented above, the proposed project would be consistent with the regional AQMP.

Criteria Pollutant Analysis. The Basin is currently designated nonattainment for the federal and State standards for 8-hour O_3 and PM_{10}. The Basin is also nonattainment for the State standard for 1-hour O_3. The Basin's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of an ambient air quality standard. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, SCAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is not necessary. The following analysis assesses the potential project-level air quality impacts associated with construction and operation of the proposed project.

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by building construction, paving, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_X, VOCs, directly emitted $PM_{2.5}$ or PM_{10}, and toxic air contaminants such as diesel exhaust particulate matter.

Project construction activities would include building construction and architectural coating.

SCAQMD has established Rule 403: Fugitive Dust, which would require the applicant to implement measures that would reduce the amount of particulate matter generated during the construction period. Rule 403 measures that were incorporated in this analysis include:

- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.

- Reduce traffic speeds on all unpaved roads to 15 mph or less.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_X, NO_X, VOCs, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod and are summarized in Table E (CalEEMod output sheets are provided in Attachment C).

The results shown in Table E indicate the proposed project would not exceed the significance criteria for daily VOCs, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. Therefore, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under applicable NAAQS or CAAQS.

Table E: Short-Term Regional Construction Emissions

Construction Phase	Maximum Daily Regional Pollutant Emissions (lbs/day)					
	VOCs	NO_X	CO	SO_X	Total PM_{10}	Total $PM_{2.5}$
Building Construction	0.9	8.6	12.0	<0.1	0.5	0.4
Architectural Coating	1.9	0.9	1.2	<0.1	<0.1	<0.1
Peak Daily Emissions	**2.8**	**9.5**	**13.2**	**<0.1**	**0.6**	**0.5**
SCAQMD Threshold	**75**	**100**	**550**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (January 2025).
Note: Some values may not appear to add correctly due to rounding.

Table E: Short-Term Regional Construction Emissions

Construction Phase	Maximum Daily Regional Pollutant Emissions (lbs/day)					
	VOCs	NO_X	CO	SO_X	Total PM_{10}	Total $PM_{2.5}$

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Operational Air Quality Impacts. Long-term air pollutant emissions associated with operation of the proposed project include emissions from area, energy, and mobile sources.

Mobile-source emissions are from vehicle trips associated with operation of the project. Mobile source emissions include VOC and NO_X emissions that contribute to the formation of O_3. Additionally, PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways.

Energy-source emissions generally result from activities in buildings that use natural gas. The quantity of emissions is the product of usage intensity (i.e., the amount of natural gas) and the emission factor of the fuel source. However, the proposed project would not use natural gas. Therefore, energy-source emissions would be minimal.

Area-source emissions consist of direct sources of air emissions at the project site, generally including architectural coatings, consumer products, and use of landscape maintenance equipment.

Long-term operational emissions associated with the proposed project were calculated using CalEEMod. Table F provides the estimated existing emission estimates and the proposed project's estimated operational emissions.

The results shown in Table F indicate the proposed project would not exceed the significance criteria for daily VOC, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. Therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under applicable NAAQS or CAAQS.

Table F: Project Operational Emissions

Emission Type	Pollutant Emissions (lbs/day)					
	VOCs	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Mobile Sources	0.4	0.3	3.3	<0.1	0.8	0.2
Area Sources	0.3	<0.1	0.5	<0.1	<0.1	<0.1
Energy Sources	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Project Emissions	**0.7**	**0.4**	**3.8**	<0.1	**0.8**	**0.2**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (January 2025).
Note: Some values may not appear to add correctly due to rounding.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Long-Term Microscale CO Hot-Spot Analysis. Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the vicinity of the proposed project site. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited. Under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, thereby affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients).

Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the 1630 West Pampas Lane station in Anaheim (the closest station to the project site) showed a highest recorded 1-hour concentration of 2.5 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 1.6 ppm (the State standard is 9 ppm) from 2021 to 2023. The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Reduced speeds and vehicular congestion at intersections result in increased CO emissions.

The proposed project is expected to generate 112 new average daily weekday trips, with 16 net new trips occurring in the a.m. peak hour and 14 net new trips occurring in the p.m. peak hour.[15] This level of traffic increase would not result in any traffic impacts or substantially alter the existing

[15] LSA Associates, Inc. 2025. *Transportation Memorandum for the 12821 Knott Street Project.* January 17.

traffic flows and their associated CO concentrations. Therefore, given the extremely low level of CO concentrations in the project area and the lack of traffic impacts at any intersections, project-related vehicles are not expected to result in CO concentrations exceeding the State or federal CO standards. No CO hot-spots would occur, and the project would not result in any project-related impacts on CO concentrations.

Health Risk on Nearby Sensitive Receptors

Sensitive receptors are defined as people who have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential dwelling units. The nearest sensitive receptors include residences west of the project site approximately 175 feet from the project site boundaries. An LST analysis was completed to show the construction and operational impacts at 53 meters (175 feet) to the nearest sensitive receptors to the project site in SRA 17, based on a 1-acre daily disturbance area for construction and project site for operation. Table G shows the results of the LST analysis during project construction and operation.

Table G: Project Localized Construction and Operational Emissions

Source	Pollutant Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction Emissions				
On-Site Emissions	8.6	11.8	0.5	0.4
Localized Significance Threshold	**84**	**776**	**13**	**4**
Significant?	**No**	**No**	**No**	**No**
Operational Emissions				
On-Site Emissions	0.1	0.7	<0.1	<0.1
Localized Significance Threshold	**84**	**776**	**3**	**1**
Significant?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (January 2025).
Note: Source Receptor Area 17, based on a 1 -acre construction disturbance daily area and project site for operation, at a distance of 53 meters (175 feet) from the project boundary.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

By design, the localized impact analysis only includes on-site sources; however, the CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions detailed in Table G assume all area- and energy-source emissions would occur on site, and 5 percent of the project-related new mobile sources (which is an estimate of the amount of project-related on-site vehicle and truck travel) would occur on site. Considering the total trip length included in CalEEMod (from 6 to 16 miles), and that the distance traveled on site would be a few hundred feet, the 5 percent assumption is conservative. Table G indicates the localized operational emissions would not exceed the LSTs at nearby residences. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

As detailed in Table G, the emission levels indicate that the project would not exceed SCAQMD LSTs during project construction or operation. The project's peak operational on-site NO_X emissions would be less than 1 pound per day. Due to the small size of the proposed project in relation to the overall Basin, the level of emissions is not sufficiently high enough to use a regional modeling

program to correlate health effects on a Basin-wide level. On a regional scale, the quantity of emissions from the project is incrementally minor. Because the SCAQMD has not identified any other methods to quantify health impacts from small projects, and due to the size of the project, it is speculative to assign any specific health effects to small project-related emissions. However, based on this localized analysis, the proposed project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, the project would not expose sensitive receptors to substantial levels of pollutant concentrations.

Odors

Heavy-duty equipment on the project site during construction would emit odors, primarily from equipment exhaust. However, the construction activity would cease after construction is completed. No other sources of objectionable odors have been identified for the proposed project.

SCAQMD Rule 402 regarding nuisances states, "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." The proposed office? uses are not anticipated to emit any objectionable odors. Therefore, the proposed project would not result in other emissions (e.g., those leading to odors) adversely affecting a substantial number of people.

Greenhouse Gas Emission Impacts

The following sections describe the proposed project's construction- and operation-related GHG impacts and consistency with applicable GHG reduction plans.

Generation of Greenhouse Gas Emissions

This section describes the proposed project's construction- and operation-related GHG emissions.

Construction Greenhouse Gas Emissions. Construction activities associated with the proposed project would produce combustion emissions from various sources. Construction would emit GHGs through the operation of construction equipment and from worker and builder supply vendor vehicles for the duration of the approximately 7-month construction period. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, the fueling of heavy equipment emits CH_4. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

As indicated above, SCAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are required to quantify and disclose GHG emissions that would occur during construction. The SCAQMD then recommends the construction GHG emissions to be amortized over the life of the project (with 30 years assumed to be representative), added to the operational emissions, and compared to the applicable interim GHG significance threshold tier. Based on the CalEEMod analysis, it is estimated that the project would generate 142 MT CO_2e during construction of the project. When amortized over the 30-year life of the project, annual emissions would be 4.7 MT CO_2e.

Operational Greenhouse Gas Emissions. Long-term operation of the proposed project would generate GHG emissions from area, mobile, waste, and water sources, as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions would include project-generated vehicle trips associated with the proposed project. Area-source emissions would be associated with activities such as maintenance on the project site and other sources. Waste-source emissions generated by the proposed project include energy generated by landfilling and other methods of disposal related to transporting and managing project-generated waste. Water-source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment. In addition, refrigerant emissions result from equipment leaks related to air conditioning and refrigeration.

GHG emissions were estimated using CalEEMod. Table H shows the estimated operational GHG emissions for the proposed project. Motor vehicle emissions are the largest source of GHG emissions for the project, at approximately 61 percent of the project total. Energy sources are the next largest category, at approximately 34 percent. Waste sources are about 2 percent, water sources are about 3 percent, area and refrigerant make up less than 1 percent of the total emissions combined.

Table H: Greenhouse Gas Emissions

Emission Type	Operational Emissions (MT/yr)					
	CO_2	CH_4	N_2O	Refrigerant	CO_2e	Percentage of Total
Mobile Source	102.1	<0.1	<0.1	0.2	103.7	60.6
Area Source	0.2	<0.1	<0.1	<0.1	0.2	0.1
Energy Source	58.4	<0.1	<0.1	<0.1	58.6	34.3
Water Source	3.6	<0.1	<0.1	<0.1	5.5	3.2
Waste Source	0.9	<0.1	<0.1	<0.1	3.0	1.8
Refrigerant Source				<0.1	<0.1	<0.1
Total Operational Emissions					**171.0**	
Amortized Construction Emissions					4.7	—
Total Annual Emissions					**175.7**	**—**
SCAQMD Threshold					**3,000**	
Exceedance?					**No**	

Source: Compiled by LSA (July 2024).
Figures may not appear to add correctly due to rounding.
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide
SCAQMD = South Coast Air Quality Management District

As discussed above, a project would have less than significant GHG emissions if it would result in operational GHG emissions of less than the SCAQMD threshold of 3,000 MT CO_2e/year. Based on the analysis results, the proposed project would generate 176 MT CO_2e/year, which is well below the SCAQMD's 3,000 MT CO_2e/year threshold. Therefore, operation of the proposed project would not generate significant GHG emissions that would have a significant effect on the environment.

Consistency with Greenhouse Gas Reduction Plans

The following discussion evaluates the proposed project according to the goals of the 2022 Scoping Plan and SCAG's 2024–2050 RTP/SCS.

2022 Scoping Plan. EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reduction target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. CARB released the 2017 Scoping Plan to reflect the 2030 target set by EO B-30-15 and codified by SB 32.[16] SB 32 builds on AB 32 and keeps California on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. AB 197, the companion bill to SB 32, provides additional direction to CARB that is related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 that is intended to provide easier public access to air emission data collected by CARB was posted in December 2016. AB 1279 codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter.

In addition, the 2022 Scoping Plan[17] assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

- **Energy-efficient measures** are intended to maximize energy-efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. The proposed project would comply with the latest Title 24 standards regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

- **Water conservation and efficiency measures** are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would be required to comply with the latest Title 24 standards, which include a variety of different measures, including reduction of wastewater and water use. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

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16 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed January 2025).

17 CARB. 2022. *California's 2022 Scoping Plan for Achieving Carbon Neutrality*. December. arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents (accessed January 2025)

- **Transportation and motor vehicle measures** are intended to develop regional GHG emission reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. However, vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

The proposed project would comply with existing State regulations adopted to achieve the overall GHG emission reduction goals identified in the 2022 Scoping Plan, EO B-30-15, SB 32, AB 197, and AB 1279.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy. SCAG's Connect SoCal 2024[18] (RTP/SCS) identifies land use strategies that focus on new housing and job growth in areas served by high-quality transit and other opportunity areas that would be consistent with a land use development pattern that supports and complements the proposed transportation network. The core vision in the Connect SoCal 2024 is to better manage the existing transportation system through design management strategies, integrate land use decisions and technological advancements, create complete streets that are safe for all roadway users, preserve the transportation system, and expand transit and foster development in transit-oriented communities. The Connect SoCal 2024 contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as providing a forecast development pattern that is generally consistent with regional-level General Plan data. The forecast development pattern, when integrated with the financially constrained transportation investments identified in Connect SoCal 2024, would reach the regional target of reducing GHG emissions from automobiles and light-duty trucks by 8 percent by 2020 and 19 percent by 2035 (compared to 2005 per capita emission levels). Connect SoCal 2024 does not require that local General Plans, Specific Plans, or zoning be consistent with Connect SoCal 2024, but it provides incentives for consistency for governments and developers.

Implementing SCAG's Connect SoCal 2024 would greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emissions reduction targets. As demonstrated in the Consistency with Applicable Air Quality Plans section, above, the proposed project does not meet the criteria identified in *State CEQA Guidelines* Section 15205.b.2 (Projects of Statewide, Regional, or Areawide Significance) for projects of statewide, regional, or area-wide significance. In addition, the proposed project would not require a change to the General Plan land use designation or the current zoning, and would be consistent with the City's General Plan and Zoning Ordinance. As such, the proposed project would not interfere with SCAG's ability to achieve the region's GHG reduction target of 19 percent below 2005 per capita emissions levels by 2035. Furthermore, the proposed project is not regionally significant per *State CEQA Guidelines* Section 15206 and, as such, it would not conflict with the SCAG Connect SoCal 2024 targets, since those targets are applicable on a regional level.

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[18] Southern California Association of Governments (SCAG). 2024. Connect SoCal 2024. April. Website: scag.ca.gov/connect-socal (accessed January 2025).

The proposed project would include a General Plan Amendment to allow a maximum industrial FAR of 0.55, and a maximum commercial FAR of 0.5 to allow for the planned construction of a 10,338 sf mezzanine for additional office space. As the changes to the operations would be minimal, the project would remain consistent with existing local and regional planning assumptions for the project site. Furthermore, as discussed above, the potential growth associated with the increase in employees at the proposed project site would be within the growth projections included in Connect SoCal 2024. Therefore, it is anticipated that implementation of the proposed project would not interfere with SCAG's ability to implement the regional strategies outlined in the Connect SoCal 2024.

CONCLUSION

Based on the analysis presented above, construction and operation of the proposed project would not result in the generation of criteria air pollutants that would exceed SCAQMD thresholds of significance. Compliance with SCAQMD Rule 403: Fugitive Dust would further reduce construction dust impacts. The proposed project is not expected to produce significant emissions that would affect nearby sensitive receptors. The project would also be consistent with the 2022 AQMP. The project would not result in objectionable odors affecting a substantial number of people. GHG emissions released during construction and operation of the project are estimated to be minimal and would not be cumulatively considerable. The proposed project would generally be consistent with both the 2022 Scoping Plan and SCAG Connect SoCal 2024.

Attachments: A: References
B: Figure 1: Project Location
Figure 2: Site Plan
C: CalEEMod Output Files

ATTACHMENT A

REFERENCES

California Air Resources Board (CARB). 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed January 2025).

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_____. 2008. *Final Localized Significance Threshold Methodology.* July. Website: www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds (accessed January 2025).

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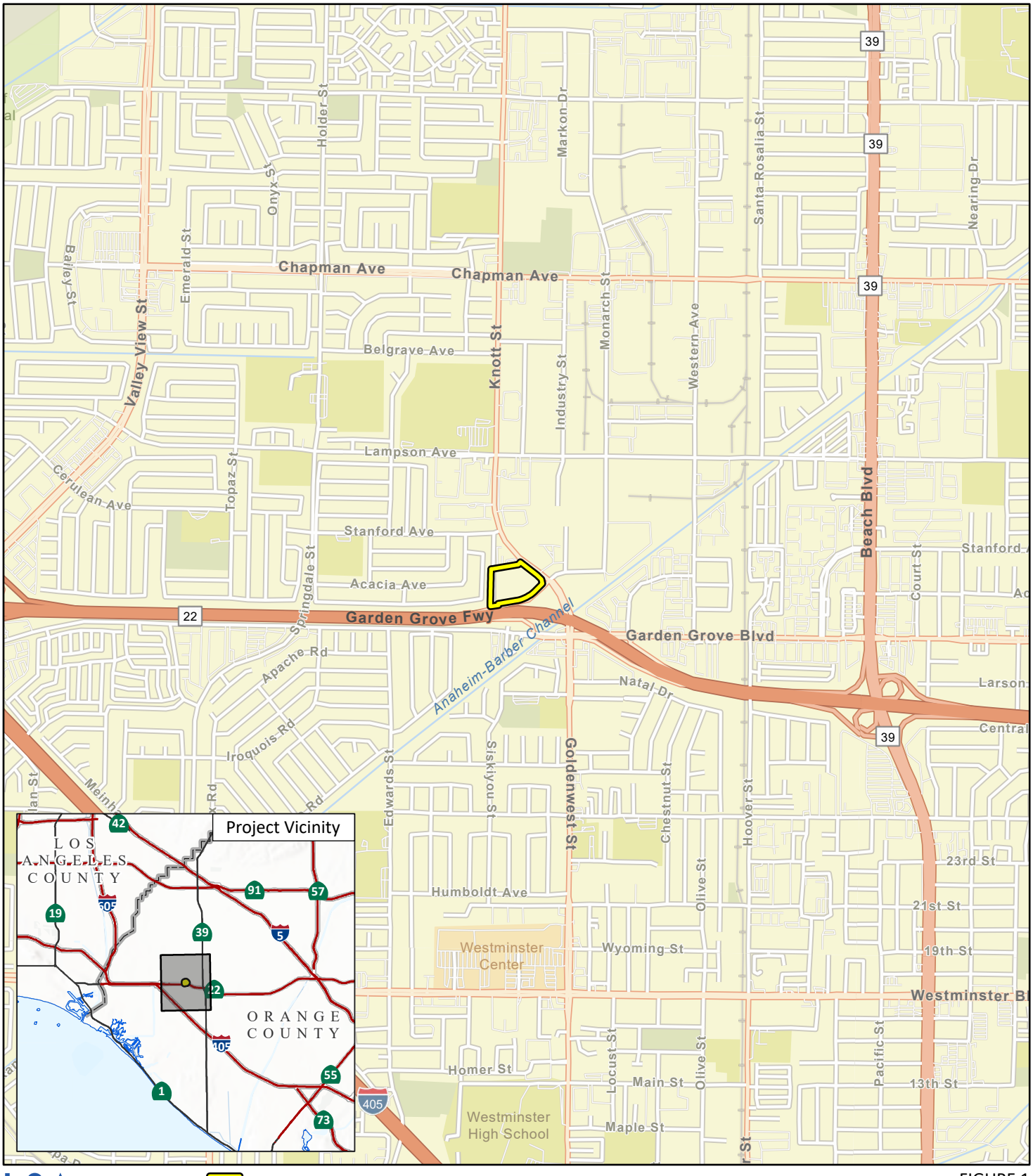
Southern California Association of Governments (SCAG). 2024. *Connect SoCal 2024*. Website: scag.ca.gov/sites/main/files/file-attachments/23-2987-connect-socal-2024-final-complete-040424.pdf (accessed January 2025).

ATTACHMENT B

FIGURES



LSA

FIGURE 1

0 1000 2000
FEET

12821 Knott Street Project
Project Location

SOURCE: Esri Street Map 2024

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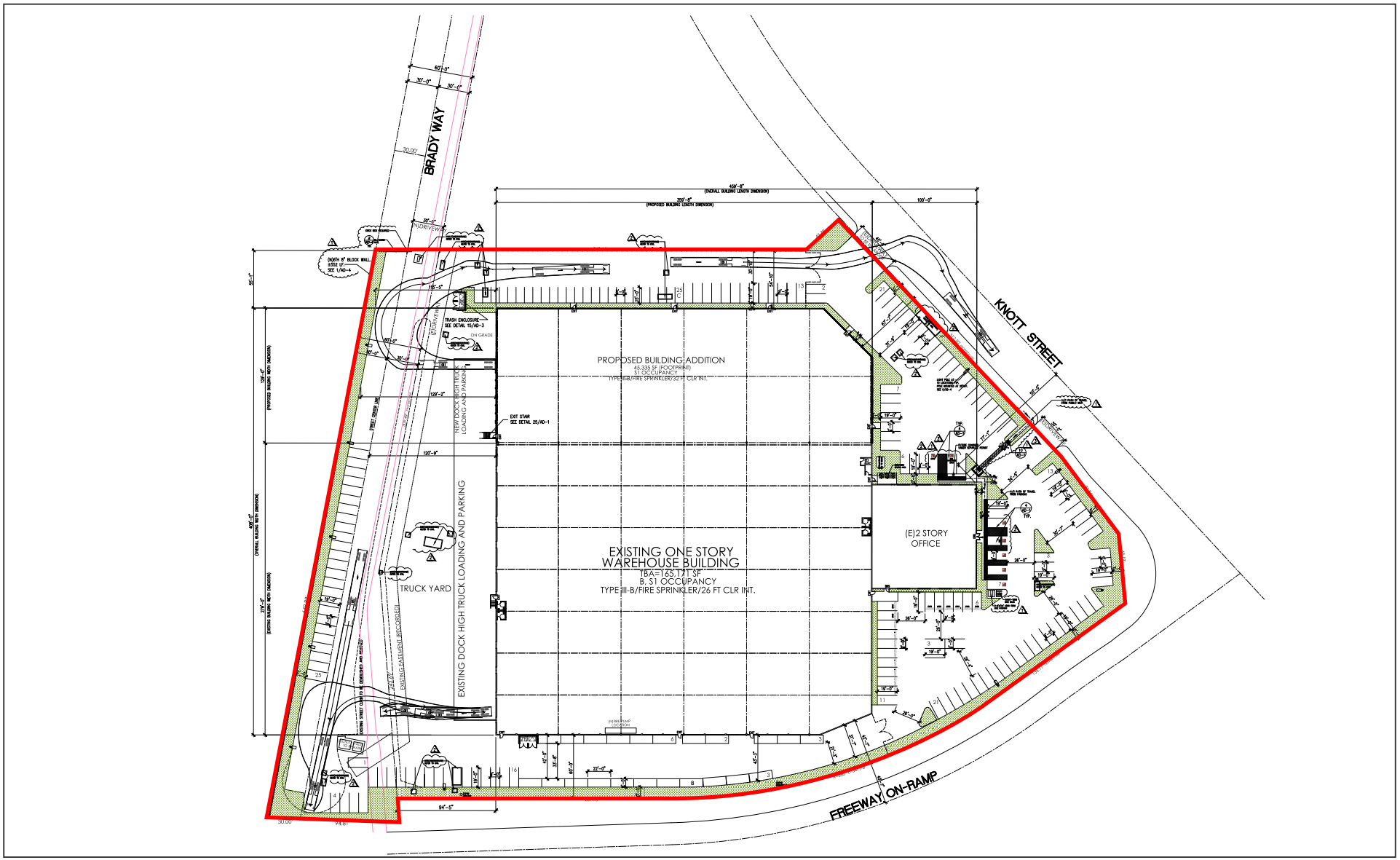

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LEGEND

Project Site

FIGURE 2

0 60 120

FEET

SOURCE: JGC Architecture

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12821 Knott Street Project

Site Plan

ATTACHMENT C

CALEEMOD OUTPUT FILES

12821 Knott St (20241951) Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	12821 Knott St (20241951)
Construction Start Date	3/3/2025
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80
Precipitation (days)	6.20
Location	33.775745710026854, -118.00955269191351
County	Orange
City	Garden Grove
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5870
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

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
General Office Building	10.3	1000sqft	0.24	10,338	0.00	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	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.83	9.53	13.2	0.02	0.49	0.07	0.55	0.45	0.02	0.46	—	2,012	2,012	0.08	0.02	0.35	2,021
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.83	9.53	13.1	0.02	0.49	0.07	0.55	0.45	0.02	0.46	—	2,009	2,009	0.08	0.02	0.01	2,018
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.68	3.99	5.52	0.01	0.21	0.03	0.24	0.19	0.01	0.20	—	855	855	0.03	0.01	0.06	859
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.12	0.73	1.01	< 0.005	0.04	< 0.005	0.04	0.03	< 0.005	0.04	—	142	142	0.01	< 0.005	0.01	142
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.83	9.53	13.2	0.02	0.49	0.07	0.55	0.45	0.02	0.46	—	2,012	2,012	0.08	0.02	0.35	2,021
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.83	9.53	13.1	0.02	0.49	0.07	0.55	0.45	0.02	0.46	—	2,009	2,009	0.08	0.02	0.01	2,018
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.68	3.99	5.52	0.01	0.21	0.03	0.24	0.19	0.01	0.20	—	855	855	0.03	0.01	0.06	859
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.12	0.73	1.01	< 0.005	0.04	< 0.005	0.04	0.03	< 0.005	0.04	—	142	142	0.01	< 0.005	0.01	142

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.70	0.36	3.76	0.01	0.01	0.77	0.78	0.01	0.20	0.21	8.70	1,216	1,225	0.94	0.04	3.25	1,264
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.62	0.38	3.08	0.01	0.01	0.77	0.78	0.01	0.20	0.21	8.70	1,181	1,190	0.94	0.04	0.11	1,227
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.58	0.31	2.69	0.01	0.01	0.58	0.59	0.01	0.15	0.16	8.70	989	998	0.93	0.04	1.07	1,033
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.11	0.06	0.49	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	1.44	164	165	0.15	0.01	0.18	171
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,000
Unmit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.37	0.29	3.25	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	843	843	0.04	0.03	3.22	857

Area	0.32	< 0.005	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.85	1.85	< 0.005	< 0.005	—	1.86
Energy	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.02	< 0.005	—	354
Water	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Waste	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.70	0.36	3.76	0.01	0.01	0.77	0.78	0.01	0.20	0.21	8.70	1,216	1,225	0.94	0.04	3.25	1,264
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.37	0.31	3.02	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	811	811	0.04	0.03	0.08	822
Area	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.02	< 0.005	—	354
Water	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Waste	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.62	0.38	3.08	0.01	0.01	0.77	0.78	0.01	0.20	0.21	8.70	1,181	1,190	0.94	0.04	0.11	1,227
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.27	0.24	2.33	0.01	< 0.005	0.58	0.58	< 0.005	0.15	0.15	—	617	617	0.03	0.03	1.05	626
Area	0.30	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.27
Energy	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	352	352	0.02	< 0.005	—	354
Water	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Waste	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.58	0.31	2.69	0.01	0.01	0.58	0.59	0.01	0.15	0.16	8.70	989	998	0.93	0.04	1.07	1,033
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	0.04	0.42	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	102	102	< 0.005	< 0.005	0.17	104
Area	0.05	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.21	0.21	< 0.005	< 0.005	—	0.21
Energy	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	58.4	58.4	< 0.005	< 0.005	—	58.6

Water	—	—	—	—	—	—	—	—	—	—	0.58	3.02	3.60	0.06	< 0.005	—	5.53
Waste	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.11	0.06	0.49	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	1.44	164	165	0.15	0.01	0.18	171

3. Construction Emissions Details

3.1. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	8.58	11.8	0.02	0.46	—	0.46	0.42	—	0.42	—	1,771	1,771	0.07	0.01	—	1,777
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	8.58	11.8	0.02	0.46	—	0.46	0.42	—	0.42	—	1,771	1,771	0.07	0.01	—	1,777
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	3.83	5.26	0.01	0.20	—	0.20	0.19	—	0.19	—	791	791	0.03	0.01	—	794
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	0.70	0.96	< 0.005	0.04	—	0.04	0.03	—	0.03	—	131	131	0.01	< 0.005	—	131
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	43.9	43.9	< 0.005	< 0.005	0.17	44.6
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	54.0	54.0	< 0.005	0.01	0.15	56.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.8	41.8	< 0.005	< 0.005	< 0.005	42.3
Vendor	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	54.0	54.0	< 0.005	0.01	< 0.005	56.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.9	18.9	< 0.005	< 0.005	0.03	19.2
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.1	24.1	< 0.005	< 0.005	0.03	25.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.13	3.13	< 0.005	< 0.005	0.01	3.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.99	3.99	< 0.005	< 0.005	< 0.005	4.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Architectural Coating (2025) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.13	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Architectural Coatings	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.21	3.21	< 0.005	< 0.005	—	3.22
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.78	8.78	< 0.005	< 0.005	0.03	8.91
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.36	8.36	< 0.005	< 0.005	< 0.005	8.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.37	0.29	3.25	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	843	843	0.04	0.03	3.22	857
Total	0.37	0.29	3.25	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	843	843	0.04	0.03	3.22	857
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.37	0.31	3.02	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	811	811	0.04	0.03	0.08	822
Total	0.37	0.31	3.02	0.01	0.01	0.77	0.77	< 0.005	0.20	0.20	—	811	811	0.04	0.03	0.08	822
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.05	0.04	0.42	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	102	102	< 0.005	< 0.005	0.17	104
Total	0.05	0.04	0.42	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	102	102	< 0.005	< 0.005	0.17	104

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270

Total	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270
Total	—	—	—	—	—	—	—	—	—	—	—	269	269	0.02	< 0.005	—	270
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	44.5	44.5	< 0.005	< 0.005	—	44.6
Total	—	—	—	—	—	—	—	—	—	—	—	44.5	44.5	< 0.005	< 0.005	—	44.6

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	84.0	84.0	0.01	< 0.005	—	84.2
Total	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	84.0	84.0	0.01	< 0.005	—	84.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	84.0	84.0	0.01	< 0.005	—	84.2
Total	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	84.0	84.0	0.01	< 0.005	—	84.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.9	13.9	< 0.005	< 0.005	—	13.9
Total	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.9	13.9	< 0.005	< 0.005	—	13.9

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	< 0.005	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.85	1.85	< 0.005	< 0.005	—	1.86
Total	0.32	< 0.005	0.45	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.85	1.85	< 0.005	< 0.005	—	1.86
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.21	0.21	< 0.005	< 0.005	—	0.21
Total	0.05	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.21	0.21	< 0.005	< 0.005	—	0.21

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Total	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Total	—	—	—	—	—	—	—	—	—	—	3.52	18.2	21.8	0.36	0.01	—	33.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.58	3.02	3.60	0.06	< 0.005	—	5.53

Total	—	—	—	—	—	—	—	—	—	—	0.58	3.02	3.60	0.06	< 0.005	—	5.53

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Total	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Total	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.00
Total	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	3/3/2025	10/15/2025	5.00	163	—
Architectural Coating	Architectural Coating	8/4/2025	10/15/2025	5.00	53.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Other Construction Equipment	Diesel	Average	3.00	8.00	82.0	0.42
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	3.31	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	1.69	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.66	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	15,507	5,169	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

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

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	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
2025	0.00	532	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
General Office Building	112	22.8	7.24	30,769	1,087	222	70.2	298,505

5.10. Operational Area Sources

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	15,507	5,169	—

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)
General Office Building	184,226	532	0.0330	0.0040	262,032

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	1,837,411	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	9.61	—

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
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition planned, only internal renovations. Assume architectural coatings applied during the building construction phase.
Construction: Off-Road Equipment	Adjusted equipment for internal renovation work only.
Operations: Vehicle Data	Set weekday trip rate to match the project's traffic study of 112 trips per day. Left the weekend trip rates at CalEEMod defaults.