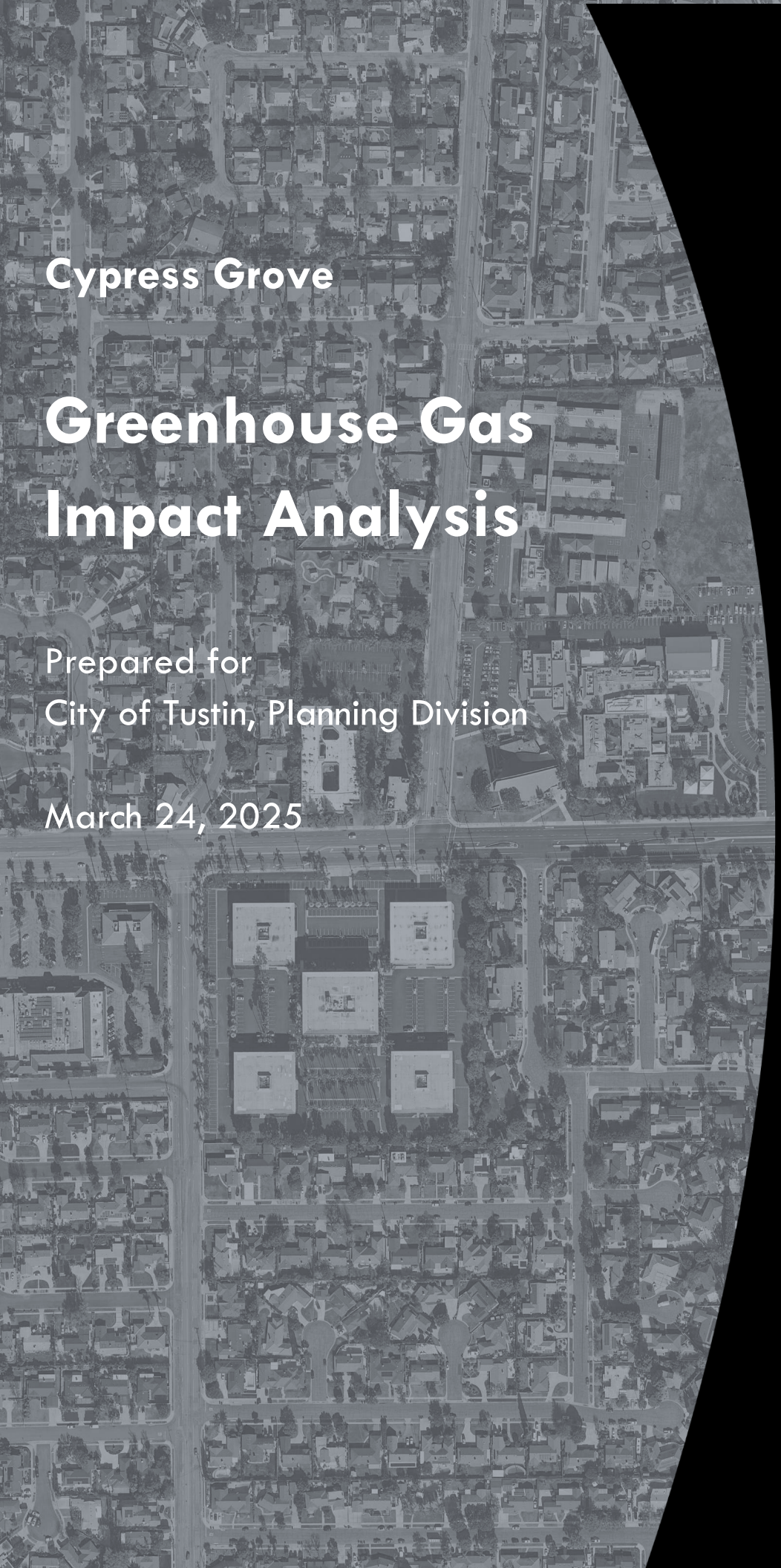

Cypress Grove

Greenhouse Gas Impact Analysis

Prepared for
City of Tustin, Planning Division

March 24, 2025

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1 INTRODUCTION

This Greenhouse Gas Impact Analysis evaluates the potential impacts of the proposed Cypress Grove Project (proposed Project). The Project is located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Project site is located in the northeastern portion of the City of Tustin (City), bordered to the west by Prospect Avenue, to the south by 17th Street, to the east by Howland Way, and to the north by Arbolada Way. The Project site, located at 17852 17th Street in Tustin, spans 8.54 acres and consists of five parcels (APNs 401-401-12 through -17) with multiple addresses: 17772, 17862, 17822, 17782, and 17852 17th Street. Regional access to the site is available via State Route 55 (SR 55), approximately 0.5 miles west of the site. Local access to the site is provided via Prospect Avenue and 17th Street. The regional location of the Project site and aerial image are provided in Figure 1 and Figure 2, respectively.

The Project site is developed with five office buildings totaling 193,000 square feet (SF). The four outer buildings are two stories in height, and the central building is four stories. Due to the age of the buildings, these buildings were inspected for and found to have asbestos containing material (AEI Consultants, 2024).

The Project proposes to demolish the existing site for the development of 145 for-sale residential units, consisting of 62 single-family cluster units and 83 townhome-style residential condominium units which would result in an average net density of 17.06 dwelling units per acre (du/ac) across the Project site. The Project would also include construction of one driveway entrance from Prospect Avenue, an internal access drive, one recreational common space area for resident use, and additional stormwater and utility improvements to accommodate proposed residences. A Class I bike lane would also be implemented (off-street) on the existing landscaped right of way, adjacent to the existing sidewalks along 17th Street. The conceptual site plan is provided in Figure 3.

The Project site has a General Plan land use designation of Planned Community Commercial/Business (PCCB) and a zoning designation of Planned Community Commercial (PC COM). The PCCB land use designation provides opportunities for a variety of miscellaneous retail, professional office, and service-oriented business activities. The PC COM zoning classification is intended to allow diversification of the relationships of various buildings, structures and open spaces in planned building groups while ensuring substantial compliance with the district regulations and other provisions of the Planned Community District zone.

1.1 Purpose of the Report

To support the CEQA document for the proposed Project, this report analyzes the proposed Project's greenhouse gas (GHG) emissions using the California Emissions Estimator Model (CalEEMod) Version 2022.1 land use emission model. The purpose of this model is to calculate construction-source and operational-source GHG emissions from direct and indirect sources, and to quantify applicable GHG reductions achieved from mitigation. The thresholds of significance used are the adopted thresholds by the SCAQMD.

1.2 Conclusions

The Project is consistent with the actions and measures of the California Air Resources Board's (CARB) 2022 Scoping Plan and would not interfere with the policies and goals set within those plans. The proposed Project's construction and operational GHG emissions would total 1,579 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year. Factoring the emissions resulting from the existing buildings, the net new emissions generated by the proposed Project would result in a decrease of 1,486 $MTCO_2e$ per year. The Project's net and gross GHG emissions are both below the SCAQMD significance threshold of 3,000 $MTCO_2e$ per year. Therefore, the Project would result in a less-than-significant impact related to GHG emissions, with no mitigation required.

Figure 1: Project Location

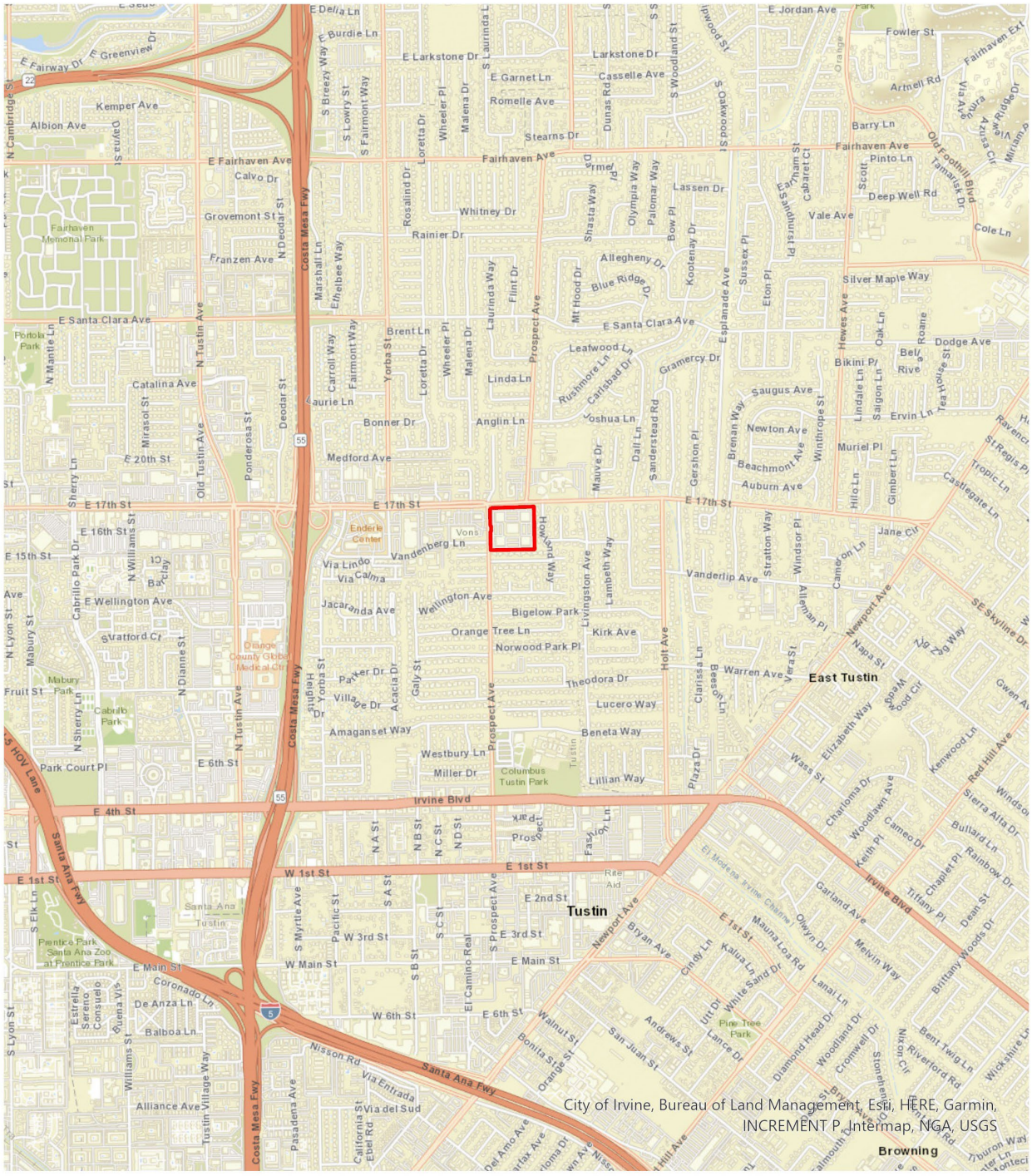

Figure 2: Project Aerial

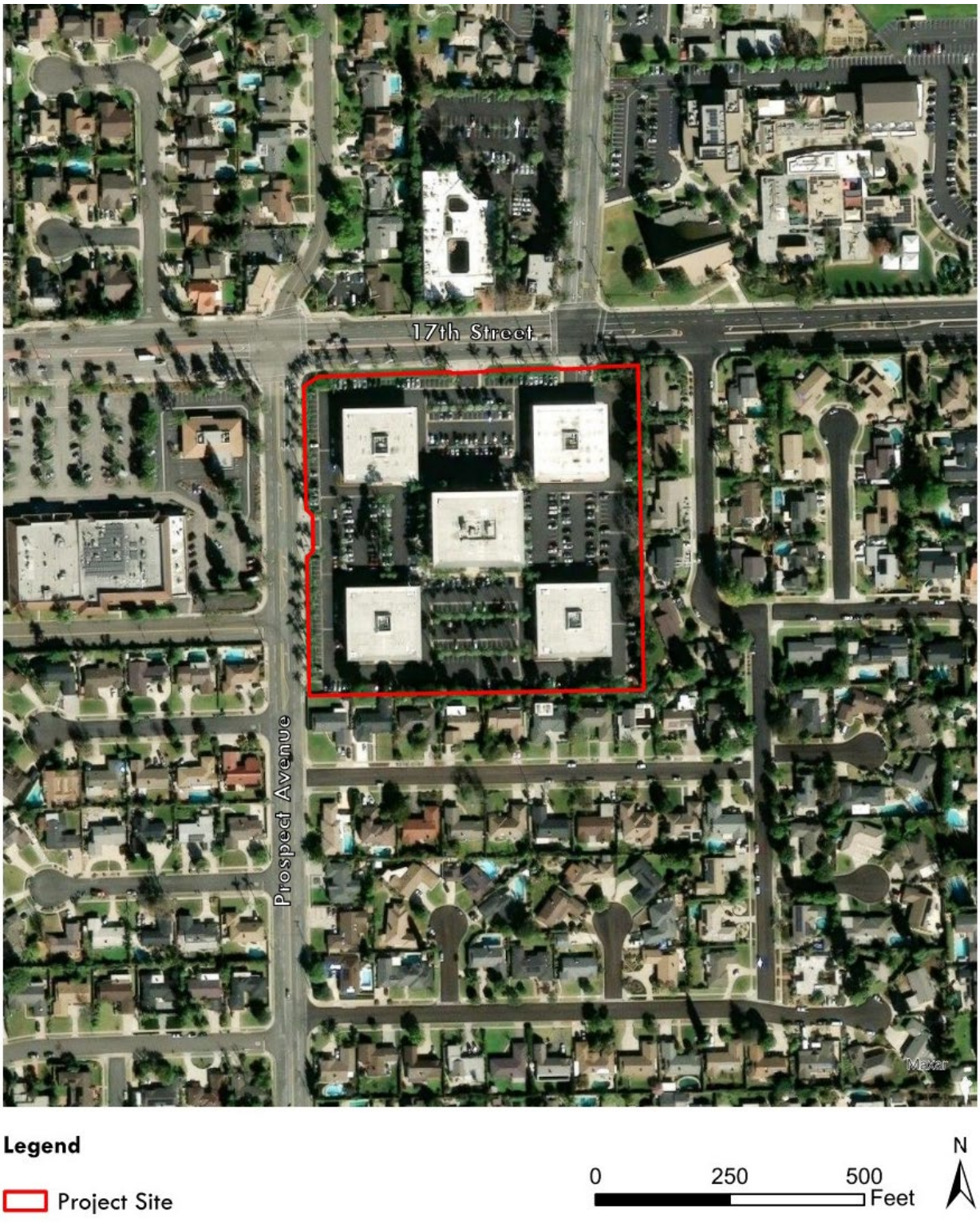

Figure 3: Conceptual Site Plan

Source: (Kevin L. Crook Architect Inc, 2025)

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2 GREENHOUSE GAS EMISSIONS

2.1 Environmental Setting

Gases that trap heat in the atmosphere are often referred to as greenhouse gases (GHGs). GHGs are released into the atmosphere by both natural and anthropogenic activity. The primary GHGs from development projects are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O):

- CO_2 is an odorless and colorless GHG that is emitted from natural and manmade sources. Natural sources include the decomposition of dead organic matter, respiration of bacteria, plants, animals and fungus, evaporation from oceans, and volcanic outgassing. Anthropogenic sources include burning of coal, oil, natural gas, and wood.
- CH_4 is reactive with oxidizers, halogens, and other halogen-containing compounds and is released as part of biological processes from growing rice and raising cattle, as well as from fossil-fuel combustion and biomass burning.
- N_2O is produced from microbial processes in soil and water, fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions. It is used as an aerosol spray propellant in whipped cream cans, used in potato chip bags to keep chips fresh, and used in rocket engines and race cars.

The CARB compiles GHG inventories for the State of California. Based upon the 2024 GHG inventory data for the 2000-2022 GHG emissions period, California emitted an average 371.1 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) – which is CO_2 and other GHG emissions converted into CO_2 based on impact on global warming – per year (CARB, 2024). This accounts for 6.76% of the total United States net emissions (5,489 $MMTCO_2e$) (USEPA, 2024b).

SCAG prepared a report to analyze GHG emissions up to 2035 (SCAG, 2012). The last year of historical emissions data available was 2008, where California emissions were 480.9 $MMTCO_2e$ and SCAG GHG emissions were 230.2 $MMTCO_2e$, which equates to 48% of California's GHG emissions. The report projected that by 2020, SCAG would emit 215.8 $MMTCO_2e$, a reduction of 6.26%, and using the CARB 2020 GHG inventory data, would comprise of 58.5% of California's GHG emissions.

The cumulative effects of GHGs is global climate change that has the potential to cause adverse effects to human health. Increases in the Earth's ambient temperatures are anticipated to result in shifts in weather patterns such as more intense heat waves, greater droughts and wildfires in areas, and flooding in others. Higher ambient temperatures can cause more heat-related deaths, increase disease survival rates, and result in food shortages from agricultural losses.

2.2 Regulatory Setting

State

California Assembly Bill 1493 – Pavley

The California Legislature adopted AB 1493 requiring the adoption of regulations to reduce GHG emissions in the transportation sector. CARB, EPA, and the US Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) have coordinated efforts to develop fuel economy and GHG standards for model 2017-2025 vehicles. The GHG standards are incorporated into the "Low Emission Vehicle" (LEV) Regulations. The regulation reduces GHG emissions from new cars by 34% from 2016 levels by 2025. The regulation improves emissions and fuel economy of gasoline and diesel-powered cars, and provides for zero-emission technologies, such as full battery electric cars, plug-in hybrid electric vehicles (EV), and hydrogen fuel cell cars.

California Executive Order S-3-05 – Statewide Emission Reduction Targets

Executive Order S-3-05 was signed by Governor Arnold Schwarzenegger in June 2005. It established the following statewide emission reduction targets through the year 2050:

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

California Assembly Bill 32 (AB 32), Global Warming Solutions Act of 2006 (Chapter 488, Statutes of 2006)

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to reduce GHGs. The 2017 Scoping Plan identifies how the State will reach the 2030 climate target to reduce GHG emissions by 40% from 1990 levels, and substantially advance toward the 2050 climate goal to reduce GHG emissions by 80% below 1990 levels.

The AB 32 Scoping Plan also anticipates that local government actions will result in reduced GHG emissions because local governments have the primary authority to plan, zone, approve, and permit development to accommodate population growth and the changing needs of their jurisdictions. The Scoping Plan also relies on the requirements of Senate Bill 375 (discussed below) to align local land use and transportation planning for achieving GHG reductions.

The Scoping Plan must be updated every five years to evaluate AB 32 policies and ensure that California is on track to achieve the current GHG reduction goal. In 2017, CARB released the proposed Second Update to the Scoping Plan, which identifies the State's post-2020 reduction strategy. The Second Update reflected the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32.

On December 15, 2022, CARB adopted the 2022 Scoping Plan. The 2022 Scoping Plan builds on the 2017 Scoping Plan as well as the requirements set forth by AB 1279, which directs the State to become carbon neutral no later than 2045. To achieve this statutory objective, the 2022 Scoping Plan lays out how California can reduce GHG emissions by 85% below 1990 levels and achieve carbon neutrality by 2045. The Scoping Plan scenario to do this is to "deploy a broad portfolio of existing and emerging fossil fuel alternatives and clean technologies, and align with statutes, Executive Orders, Board direction, and direction from the governor." The 2022 Scoping Plan sets one of the most aggressive approaches to reach carbon neutrality in the world. Unlike the 2017 Scoping Plan, CARB advocates for compliance with a local GHG reduction strategy consistent with CEQA Guidelines section 15183.5.

Appendix D, *Local Actions*, of the 2022 Scoping Plan includes "recommendations intended to build momentum for local actions that align with the State's climate strategies, with a focus on climate action planning and approval of new land use development projects, including through environmental review under the California Environmental Quality Act." To assist local jurisdictions, Appendix D of the 2022 Scoping Plan presents a non-exhaustive list of impactful GHG reduction strategies that can be implemented by local governments within three priority areas: transportation electrification, VMT reduction, and building decarbonization.

Aligning local jurisdiction action with State-level priorities to tackle climate change and the outcomes called for in the 2022 Scoping Plan is critical to achieving the statutory targets for 2030 and 2045. The 2022 Scoping Plan discusses the role of local governments in meeting the State's GHG reductions goals. Local governments have the primary authority to plan, zone, approve, and permit how and where land is developed to accommodate population growth, economic growth, and the changing needs of their jurisdictions. They also make critical decisions on how and when to deploy transportation infrastructure, and can choose to support transit, walking, bicycling, and neighborhoods that do not force people into cars. Local governments also have the option to adopt building ordinances that exceed statewide building code requirements and play a critical role in facilitating the rollout of zero emission vehicle (ZEV) infrastructure. As a result, local government decisions play a critical role in supporting State-level measures to contain the growth of GHG emissions associated with the transportation system and the built environment—the two largest GHG emissions sectors over which local governments have authority.

SB 375 – Sustainable Communities and Climate Protection Act of 2008

According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions; (2) aligns planning for transportation and housing; and (3) creates specified incentives for the implementation of the strategies.

Executive Order B-30-15 – 2030 Statewide Emission Reduction Target

Executive Order B-30-15 established an interim statewide GHG reduction target of 40% below 1990 levels by 2030. Under this Executive Order, all State agencies with jurisdiction over sources of GHG emissions are required to continue to develop and implement emissions reduction programs to reach the State's 2050 target. According to the Governor's Office, this Executive Order is in line with the scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius – the warming threshold

at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels.

Senate Bill 32 (Chapter 249, Statutes of 2016)

SB 32 requires the State to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. A related bill that was also approved in 2016, AB 197 (Chapter 250, Statutes of 2016) creates a legislative committee to oversee regulators to ensure that CARB is not only responsive to the Governor, but also the Legislature.

Executive Order B-55-18 and SB 100.

SB 100 raises California's Renewable Portfolio Standards requirement to 50% renewable resources by December 31, 2026, and to achieve 60% by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total amount sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. Executive Order B-55-18 establishes a carbon neutrality goal for the State of California by 2045; and sets a goal to maintain net negative emissions thereafter.

Title 24, Part 6, California Energy Code

Title 24 Part 6, the California Energy Code, was adopted to reduce California's energy consumption. Measures that the California Energy Code requires residential development projects to include, but are not limited to, the following:

- **Short-term bicycle parking**. Provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.
- **Long-term bicycle parking**. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.
- **Designated parking for clean air vehicles**. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Title 24 Part 6 Table 5.106.5.2.
- **Electric vehicle charging stations**. Facilitate the future installation of electric vehicle supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. Additionally, instillation of raceway conduit and panel pawer requirements for medium- and heavy-duty electric vehicle supply equipment would be required for warehouses, grocery stores, and retail stores.
- **Outdoor light pollution reduction**. Outdoor lighting systems shall be designed to meet the backlight, uplight, and glare ratings per Title 24 Part 6 Table 5.106.8.
- **Construction waste management**. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste.

- **Excavated soil and land clearing debris**. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.
- **Recycling by occupants**. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals.
- **Water conserving plumbing fixtures and fittings**. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
- **Water closets**. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush.
- **Urinals**. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.
- **Showerheads**. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi. When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi.
- **Faucets and fountains**. Non-residential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi. Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute. Metering faucets shall not deliver more than 0.20 gallons per cycle. Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle.
- **Outdoor potable water use in landscaped areas**. Non-residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.
- **Water meters**. Separate submeters or metering devices shall be installed for new buildings or where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day.
- **Outdoor water use in rehabilitated landscape projects equal to or greater than 2,500 SF**. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 SF requiring a building or landscape permit.
- **Commissioning**. For new buildings 10,000 SF and over, building commissioning shall be included in the design and construction processes of the building Project to verify that the building systems and components meet the owner's or owner representative's Project requirements.
- **Solar photovoltaic (PV) system**. All newly constructed single-family residential buildings shall install a PV system. The annual electrical output of the PV system shall be no less than the smaller of a PV system size, or the maximum PV system size that can be installed on the building's Solar Access Roof Area.

Title 24, Part 11, California Green Building Standards Code (CALGreen)

Title 24, Part 11 (CALGreen) focuses on promoting sustainable building practices in California. It outlines mandatory measures for energy efficiency, water conservation, material conservation, and indoor environmental quality in both residential and non-residential construction projects. CALGreen aims to reduce the environmental impact of buildings, enhance occupant health and comfort, and encourage resource efficiency throughout the state's building industry. CALGreen was developed in response to continued efforts

to reduce GHG emissions associated with energy consumption. The current version of CALGreen is the 2022 California Green Building Standards Code, effective January 1, 2023. The 2022 CALGreen Building Standards Code has been adopted by the City of Tustin by reference in Municipal Code Section 8100.

Local

City of Tustin General Plan

The following General Plan policies are directly related to the proposed Project regarding GHG emissions:

Goal 1: Reduce air pollution through proper land use, transportation and energy use planning.

Policy 1.1: Cooperate with the South Coast Air Quality Management District and the Southern California Association of Governments in their effort to implement provisions of the region's Air Quality Management Plan, as amended.

Policy 1.2: Design safe and efficient vehicular access to commercial land uses from arterial streets to insure efficient vehicular ingress and egress.

Policy 1.3: Locate multiple family developments close to commercial areas to encourage pedestrian rather than vehicular travel.

Policy 1.7: Create the maximum possible opportunities for bicycles as an alternative transportation mode and recreational use.

Goal 2: Improve air quality by influencing transportation choices of mode, time of day, or whether to travel and to establish a jobs/housing balance.

Policy 2.1: Reduce vehicle trips through incentives, regulations and/or Transportation Demand Management (TDM) programs.

Policy 2.2: Reduce total vehicle miles traveled (VMT) through incentives, regulations and/or Transportation Demand Management.

Policy 2.6: Encourage non-motorized transportation through the provision of bicycle and pedestrian pathways.

Policy 2.7: Encourage employer rideshare and transit incentives programs by local businesses.

Policy 2.8: Manage non-residential parking supply to discourage auto use, while ensuring that economic development goals will not be sacrificed.

2.3 Thresholds of Significance

The SCAQMD Greenhouse Gas Emissions CEQA Significance Threshold Working Group has identified GHG emissions thresholds for land use projects in the SCAQMD *Draft Guidance Document – Interim CEQA GHG Significance Threshold* that could be used by lead agencies (SCAQMD, 2008b). The Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. This includes a tiered approach to evaluate potential GHG impacts from various uses.

The SCAQMD's draft threshold uses the Executive Order S-3-05 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO2 concentrations at 450 ppm, thus stabilizing global climate. Tier 3 utilizes the Numerical Screening Thresholds approach. Tier 3 consists of screening values. Pursuant to SCAQMD methodology, project construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below the applicable screening threshold, then the project GHG impact would be less than significant.

- Option 1 (all land use types): 3,000 $MTCO_2e$ per year.
- Option 2 (based on land use type):
    - Residential: 3,500 $MTCO_2e$ per year.
    - Commercial: 1,400 $MTCO_2e$ per year.
    - Mixed use: 3,000 $MTCO_2e$ per year.

Executive Order S-3-05's year 2050 goal is the basis of the SCAQMD's draft Tier 3 screening level thresholds. The objective of the Executive Order is to contribute to capping worldwide CO_2 concentrations at 450 ppm, stabilizing global climate change. The City utilizes Option 1, and therefore the threshold for all development projects is 3,000 $MTCO_2e$ per year.

The City understands that the 3,000 $MTCO_2e$ per year threshold for residential/commercial uses was proposed by SCAQMD a decade ago and was adopted as an interim policy; however, no permanent, superseding policy or threshold has since been adopted. The 3,000 $MTCO_2e$ per year threshold was developed and recommended by the SCAQMD, an expert agency, based on substantial evidence as provided in the *Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold* document and subsequent Working Group meetings (SCAQMD, 2008). The SCAQMD has not withdrawn its support of the interim threshold and all documentation supporting the interim threshold remains on the SCAQMD website on a page that provides guidance to CEQA practitioners for air quality analysis (and where all SCAQMD significance thresholds for regional and local criteria pollutants and toxic air contaminants also are listed). Further, as stated by the SCAQMD, this threshold "uses the Executive Order S-3-05 goal [80% below 1990 levels by 2050] as the basis for deriving the screening level" and, thus, remains valid for use in 2024 and for purposes of this report. Lastly, this threshold has been used for hundreds, if not thousands, of GHG analyses performed for projects located within the SCAQMD jurisdiction.

2.4 Methodology

California Emissions Estimator Model

CalEEMod (Version 2022.1) was used to calculate emissions that would be generated by the proposed Project. The purpose of this model is to calculate construction-source and operational-source GHG emissions from direct and indirect sources and quantify applicable GHG reductions achieved from mitigation. The model runs for both construction and operational activity are attached as Appendix A. In addition, the existing site conditions were modeled to obtain net operational GHG emissions. The construction schedule analyzed is shown below in Table 1.

Table 1: Construction Schedule

Activity	Start Date	End Date	Total Working Days
Demolition	6/1/2026	7/10/2026	75
Site Preparation	7/11/2026	7/24/2026	10
Grading	7/25/2026	8/21/2026	20
Building Construction	8/22/2026	7/9/2027	230
Paving	7/10/2027	8/6/2027	20
Architectural Coating	8/7/2027	9/10/2027	25

Source: CalEEMod Output Sheets (Appendix A)

The following non-default model assumptions were incorporated into the analysis for the proposed Project:

- Construction Land Use: The lot acreage and building area was adjusted to fit the conceptual site plans provided for the proposed Project. Landscaping for the entire site was accounted for within the Singe Family Housing land use lot acreage.
- Construction Phases: The demolition phase was extended from 20 days to 75 days due to the extent of demolition needed for the existing multi-story office buildings. In addition, the architectural phase was extended from 20 days to 25 days due to the proposed number of buildings.
- Construction Offroad Equipment: All construction equipment was conservatively assumed to operate for 8 hours a day. Tractors/loaders/backhoes were replaced with crawler tractors to accurately assess site disturbance during the site preparation and grading phases. Diesel-powered crushing equipment was added to the demolition phase to account for onsite crushing. Diesel-powered "Other construction equipment" was also added to the site preparation phase to account for wood chipping onsite due to tree removal.
- Construction Offroad Equipment Emission Factors: Emissions factors for diesel crushing equipment were input using EMFAC OFFROAD2021 values for the Orange County subarea, 2026. However, due to a bug in CalEEMod, emissions resulting from the crushing equipment were hand calculated (included as Appendix B) and added to the total demolition phase emissions.
- Construction Demolition: Demolition waste tonnage was estimated based on the dimensions of all existing hardscape and building material. In addition, this report conservatively assumes all waste would be and hauled off-site.
- Vehicle trip rates were updated to reflect the Institute of Transportation Engineers (ITE) *Trip Generation Handbook 11th Edition* rates (land use codes 210 and 220).
- Gas and propane fireplaces and woodstoves were removed as the proposed Project does not include these.

The following non-default model assumptions were incorporated into the analysis for the existing use:

- Land Use: The lot acreage and building area was adjusted to fit the site characteristics described in the environmental site assessments for the Project site (AEI Consultants, 2024a; AEI Consultants, 2024b). Landscaping for the entire site was accounted for within the General Office Building land use lot acreage.
- Vehicle trip rates were updated to reflect the Institute of Transportation Engineers (ITE) *Trip Generation Handbook 11th Edition* rates (land use code 710).

- Gas and propane fireplaces and woodstoves were removed as the existing site does not include these.

Emission Factors Model

In January 2021, the 2021 version of the EMissions FACtor model (EMFAC) web database for use in SIP and transportation conformity analyses was released. EMFAC2021 is a mathematical model that was developed to calculate emission rates, fuel consumption, vehicle miles traveled (VMT) from motor vehicles that operate on highways, freeways, and local roads in California and is used by the CARB. EMFAC2021 is incorporated into CalEEMod 2022.1, and thus, included in the modeling that is provided in Appendix A.

2.5 Project Impacts

Project Emissions

To analyze the GHG impacts of the proposed Project, CalEEMod Version 2022.1 was used. The Project's construction GHG emissions are shown in Table 2, *Project Construction GHG Emissions*, and the overall construction and net operational emissions are shown in Table 2, *Project GHG Emissions*. The CalEEMod outputs are attached in Appendix A. The construction emissions are amortized over 30 years pursuant to SCAQMD methodology.

Table 2 shows that the Project would emit a total of 1,120 $MTCO_2e$ over the duration of construction, with 2026 having the highest emission level (759 $MTCO_2e$). Amortized over 30 years, the Project's construction emissions would be 37 $MTCO_2e$ per year.

As shown in Table 3, the amortized construction emissions added to the operational emissions (mobile, area, energy, water, waste, and refrigeration) would add up to a total of 1,579 $MTCO_2e$. The major source of emissions generated by the proposed Project are mobile emissions, at 1,128 $MTCO_2e$. Accounting for the existing operations, the net operational emissions would result in an annual decrease of 1,486 $MTCO_2e$. Project-generated GHG emissions would not exceed the 3,000 $MTCO_2e$ screening threshold.

Table 2: Project Construction GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
2026	759
2027	361
Total Emissions	**1,120**
Total Emissions Amortized Over 30 Years	**37**

Source: CalEEMod Output Sheets (Appendix A)

Table 3: Project GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
Mobile	1,128
Area	3
Energy	362
Water	14
Waste	34
Refrigeration	0.3
Stationary	0.5
Total Project Gross Operational Emissions	**1,542**
Project Construction Emissions	**37**
Total Project Emissions	**1,579**
Existing Emissions	3,065
Net New Emissions	**-1,486**
Significance Threshold	3,000
Threshold Exceeded?	**No**

Source: CalEEMod Output Sheets (Appendix A)

Project Consistency With GHG Emission Reduction Plans

The 2022 Scoping Plan sets the GHG emission reduction target for 2045 at 85% below 1990 levels, which was codified by SB 32. Table 4 shows consistency with statewide plans to reduce GHG emissions. As seen in Table 4, the Project would be consistent with the actions and goals of the 2022 CARB Scoping Plan.

Table 4: 2022 Scoping Plan Consistency Summary

Action	Consistency
GHG Emissions Reductions Relative to the SB 32 Target	
40% Below 1990 levels by 2030.	**Consistent.** The Project would comply with the 2022 Title 24, Part 6 building energy requirements along with other local and State initiatives that aim to achieve the 40% below 1990 levels by 2030 goal.
Smart Growth/Vehicle Miles Traveled VMT	
VMT per capita reduced 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045.	**Consistent.** The proposed Project is consistent with the growth and land use assumptions in the 2020 Connect SoCal (SCAG, 2020), so the Project would not interfere with the analysis completed for the Connect SoCal report outlining VMT reduction targets and measures. In addition, as shown in Table 16, the proposed Project would result in a net decrease in annual VMT compared to the existing use.
Light-Duty Vehicle (LDV) Zero-Emission Vehicles (ZEVs)	
100% of LDV sales are ZEV by 2035.	**Consistent.** The proposed Project would be designed and constructed in accordance with the 2022 Title 24 Part 6

Action	Consistency
	and Part 11 requirements, which includes constructing homes to allow for electric vehicle charging.
Truck ZEVs	
100% of medium-duty (MDV)/HDC sales are ZEV by 2040 (AB 74 University of California Institute of Transportation Studies [ITS] report).	**Not Applicable.** The proposed Project is a residential project that would not be associated with significant truck sales or use.
Aviation	
20% of aviation fuel demand is met by electricity (batteries) or hydrogen (fuel cells) in 2045. Sustainable aviation fuel meets most or the rest of the aviation fuel demand that has not already transitioned to hydrogen or batteries.	**Not Applicable.** The proposed Project would not utilize aviation fuel.
Ocean-going Vessels (OGV)	
2020 OGV At-Berth regulation fully implemented, with most OGVs utilizing shore power by 2027. 25% of OGVs utilize hydrogen fuel cell electric technology by 2045.	**Not Applicable.** The proposed Project would not utilize any OGVs.
Port Operations	
100% of cargo handling equipment is zero-emission by 2037. 100% of drayage trucks are zero emission by 2035.	**Not Applicable.** The proposed Project would not impact any operations at any ports.
Freight and Passenger Rail	
100% of passenger and other locomotive sales are ZEV by 2030. 100% of line haul locomotive sales are ZEV by 2035. Line haul and passenger rail rely primarily on hydrogen fuel cell technology, and others primarily utilize electricity.	**Not Applicable.** The proposed Project would not involve any freight or passenger rail operations.
Oil and Gas Extraction	
Reduce oil and gas extraction operations in line with petroleum demand by 2045.	**Not Applicable.** The proposed Project would not involve any oil or gas extraction.
Petroleum Refining	
CCS on majority of operations by 2030, beginning in 2028. Production reduced in line with petroleum demand.	**Not Applicable.** The proposed Project would not involve any petroleum refining.
Electricity Generation	
Sector GHG target of MMTCO2e in 2030 and 30 MMTCO2e in 2035. Retail sales load coverage of 20 gigawatts (GW) of offshore wind by 2045. Meet increased demand for electrification without new fossil gas-fired resources.	**Consistent.** The Project would comply with the 2022 Title 24, Part 6 building energy requirements, including increases in onsite renewable energy generation requirements via implementation of solar as well as improved insulation reducing energy consumption.

Action	Consistency
New Residential and Commercial Buildings	
All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030.	**Consistent.** The Project would comply with the 2022 Title 24, Part 6 building energy requirements, which would require all in-unit appliances for residential projects to be all-electric and Energy Star certified.
Existing Residential Buildings	
80% of appliance sales are electric by 2030 and 100% of appliance sales are electric by 2035. Appliances are replaced at end of life such that by 2030 there are 3 million all-electric and electric-ready homes—and by 2035, 7 million homes—as well as contributing to 6 million heat pumps installed statewide by 2030.	**Not Applicable.** The Project site does not involve any existing residential buildings.
Existing Commercial Buildings	
80% of appliance sales are electric by 2030, and 100% of appliance sales are electric by 2045. Appliances are replaced at end of life, contributing to 6 million heat pumps installed statewide by 2030.	**Not Applicable.** The Project proposes to demolish the existing office buildings.
Food Products	
7.5% of energy demand electrified directly and/or indirectly by 2030; 75% by 2045.	**Not Applicable.** The proposed Project does not involve the production of food.
Construction Equipment	
25% of energy demand electrified by 2030 and 75% electrified by 2045.	**Consistent.** The proposed Project would be required to use construction equipment that are registered by CARB and meet CARB's standards. CARB sets its standards to be in line with the goal of reducing energy demand by 25% in 2030 and 75% in 2045.
Chemicals and Allied Products; Pulp and Paper	
Electrify 0% of boilers by 2030 and 100% of boilers by 2045. Hydrogen for 25% of process heat by 2035 and 100% by 2045. Electrify 100% of other energy demand by 2045.	**Not Applicable.** The proposed Project would not be utilized for pulp and/or paper products.
Stone, Clay, Glass, and Cement	
CCS on 40% of operations by 2035 and on all facilities by 2045. Process emissions reduced through alternative materials and CCS.	**Not Applicable**. The proposed Project would not be utilized for stone, clay, glass, and/or cement storage.

Action	Consistency
Other Industrial Manufacturing	
0% energy demand electrified by 2030 and 50% by 2045.	**Not Applicable.** The Project site does not involve manufacturing operations.
Combined Heat and Power	
Facilities retire by 2040.	**Not Applicable.** The proposed Project would not involve any existing combined heat and power facilities.
Agriculture Energy Use	
25% energy demand electrified by 2030 and 75% by 2045.	**Not Applicable.** The proposed Project would not involve any agricultural uses.
Low Carbon Fuels for Transportation	
Biomass supply is used to produce conventional and advanced biofuels, as well as hydrogen.	**Not Applicable.** The proposed Project would not involve any production of biofuels.
Low Carbon Fuels for Buildings and Industry	
In 2030s, biomethane135 blended in pipeline Renewable hydrogen blended in fossil gas pipeline at 7% energy (~20% by volume), ramping up between 2030 and 2040. In 2030s, dedicated hydrogen pipelines constructed to serve certain industrial clusters	**Not Applicable.** The proposed Project would not involve any production of fuels for buildings and industry.
Non-combustion Methane Emissions	
Increase landfill and dairy digester methane capture. Some alternative manure management deployed for smaller dairies. Moderate adoption of enteric strategies by 2030. Divert 75% of organic waste from landfills by 2025. Oil and gas fugitive methane emissions reduced 50% by 2030 and further reductions as infrastructure components retire in line with reduced fossil gas demand	**Not Applicable.** The proposed Project would not involve any landfill and/or dairy uses.
High GWP Potential Emissions	
Low GWP refrigerants introduced as building electrification increases, mitigating HFC emissions.	**Not Applicable.** The proposed Project does not include large-scale refrigeration uses nor would the proposed operation include any manufacturing.
Transportation Electrification	
Convert local government fleets to ZEV	**Not Applicable.** The proposed project is residential in nature and will not include fleet usage.
Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as	**Consistent.** The proposed Project would be designed and constructed in accordance with the 2022 Title 24 Part 6 and Part 11 requirements, which includes constructing

Action	Consistency
permit streamlining, infrastructure siting, consumer education, or preferential parking policies)	homes to allow for electric vehicle charging. Therefore, the proposed Project would not interfere with the implementation of a ZEV ecosystem within the City.
VMT Reduction	
Reduce or eliminate minimum parking standards in new developments	**Consistent.** The Project includes 290 garage spaces and 40 shared guest/resident parking spaces, for a total of 330 parking spaces. The proposed Project would reduce the existing number of parking stalls provided and it would result in a reduction of annual VMT.
Adopt and implement Complete Streets policies and investments, consistent with general plan circulation element requirements	**Consistent.** The Project site is located in a developed urban area with sidewalks available along all nearby roadways. However, the existing driveways on 17th Street providing access to the site would be closed off and no longer accessible. Therefore, the Project would restripe the east bound merge land upon closer of the 17th Street driveways. The proposed Project would not interfere with the implementation of Complete Streets policies and investments within the City.
Increase public access to shared clean mobility options (such as planning for and investing in electric shuttles, bike share, car share, transit)	**Consistent.** The Project site is located in a developed urban area with sidewalks available along all nearby roadways. The proposed on-site roadway system includes sidewalks throughout the Project site that would connect to the off-site sidewalks. A Class I bike lane would also be implemented (off-street) on the existing landscaped right of way, adjacent to the existing sidewalks along 17th Street. In addition, the proposed residential units would allow for charging of electric vehicles.
Implement parking pricing or transportation demand management pricing strategies	**Not Applicable**. The Project proposes the development of residential uses, which does not propose public parking.
Amend zoning or development codes to enable mixed-use, walkable, and compact infill development (such as increasing allowable density of the neighborhood)	**Not Applicable.** The proposed Project is consistent with the General Plan land use designation and zoning and does not require any amendments.
Preserve natural and working lands	**Not Applicable.** The proposed Project would not convert any natural and working lands to urban uses. The Project site is located within an area that is already developed.
Building Decarbonization	
Adopt all-electric new construction reach codes	**Consistent.** The proposed Project would comply with 2022 Title 24 Parts 6 and 11, which includes electric heat pumps installed during construction and electric hookups for all appliances.
Adopt policies and incentive programs to implement energy efficiency retrofits (such as weatherization, lighting upgrades, replacing energy intensive appliances and equipment with more efficient systems, etc.)	**Not Applicable**. The proposed Project includes development of new residential units and it does not involve energy retrofits of existing and older systems.

Action	Consistency
Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings	**Not Applicable.** The proposed Project includes the development of 145 new residential units and all existing buildings would be demolished.
Adopt policies and incentive programs to reduce electrical loads from equipment plugged into outlets (such as purchasing Energy Star equipment for municipal buildings, occupancy sensors, smart power strips, equipment controllers, etc.)	**Consistent.** The proposed Project would be constructed in accordance with Title 24 CALGreen requirements, which includes installation of Energy Star equipment and appliances in new residential construction.
Facilitate deployment of renewable energy production and distribution and energy storage	**Consistent.** The proposed Project would be constructed in accordance with the CALGreen Building Energy Efficiency Standards (Title 24 Part 6) and meet all other requirements related to energy efficiency standards.

Source: California's 2022 Climate Change Scoping Plan Table 2-1: Actions for the Scoping Plan Scenario: AB 32 GHG Inventory Sectors and California's 2022 Climate Change Scoping Plan Appendix D: Local Actions (CARB, 2022)

2.6 Conclusion

The proposed Project is consistent with the actions and measures of the CARB's 2022 Scoping Plan and would not interfere with the policies and goals set within those plans. Additionally, the proposed Project's total GHG emissions of 1,578 $MTCO_2e$ per year (and net annual reduction of 1,487 $MTCO_2e$) would not exceed the SCAQMD significance threshold of 3,000 $MTCO_2e$ per year. Therefore, the Project would result in less-than-significant impacts related to GHG emissions, with no mitigation required.

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APPENDIX A – CALEEMOD OUTPUT SHEETS

25-011 Proposed Cypress Grove Project v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	25-011 Proposed Cypress Grove Project v2
Construction Start Date	6/1/2026
Operational Year	2027
Lead Agency	City of Tustin
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	2.20
Location	33.758903885169794, -117.82133906390618
County	Orange
City	Tustin
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5969
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
Single Family Housing	62.0	Dwelling Unit	3.56	108,732	46,131	—	185	—

Condo/Townhouse	83.0	Dwelling Unit	1.76	159,696	0.00	—	247	—
Other Asphalt Surfaces	2.86	Acre	2.86	0.00	0.00	—	—	—
Parking Lot	40.0	Space	0.36	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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Unmit.	4.07	41.1	34.2	0.15	1.86	10.4	4.46	22,701
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Unmit.	69.0	41.9	29.6	0.15	1.28	8.62	3.54	22,661
Average Daily (Max)	—	—	—	—	—	—	—	—
Unmit.	5.46	11.3	10.0	0.03	0.37	3.04	0.95	4,587
Annual (Max)	—	—	—	—	—	—	—	—
Unmit.	1.00	2.07	1.83	0.01	0.07	0.55	0.17	759
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	PM10T	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—
2026	4.07	41.1	34.2	0.15	1.86	10.4	4.46	22,701
2027	1.36	10.9	18.3	0.03	0.37	1.57	0.63	4,203
Daily - Winter (Max)	—	—	—	—	—	—	—	—
2026	2.47	41.9	29.6	0.15	1.28	8.62	3.54	22,661
2027	69.0	10.9	17.8	0.03	0.37	1.57	0.63	4,148
Average Daily	—	—	—	—	—	—	—	—
2026	0.95	11.3	10.0	0.03	0.37	3.04	0.95	4,587
2027	5.46	5.89	9.60	0.02	0.20	0.82	0.33	2,181
Annual	—	—	—	—	—	—	—	—
2026	0.17	2.07	1.83	0.01	0.07	0.55	0.17	759
2027	1.00	1.07	1.75	< 0.005	0.04	0.15	0.06	361

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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Unmit.	10.5	3.63	36.4	0.08	0.15	7.09	1.91	9,993
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Unmit.	9.70	3.76	26.3	0.08	0.14	7.09	1.90	9,671
Average Daily (Max)	—	—	—	—	—	—	—	—

Unmit.	9.96	3.62	30.8	0.07	0.14	6.64	1.78	9,315
Annual (Max)	—	—	—	—	—	—	—	—
Unmit.	1.82	0.66	5.63	0.01	0.02	1.21	0.33	1,542
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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Mobile	3.43	2.36	27.6	0.07	0.04	6.99	1.80	7,479
Area	6.95	0.08	8.23	< 0.005	< 0.005	< 0.005	< 0.005	22.1
Energy	0.06	1.10	0.47	0.01	0.09	0.09	0.09	2,189
Water	—	—	—	—	—	—	—	83.8
Waste	—	—	—	—	—	—	—	208
Refrig.	—	—	—	—	—	—	—	1.92
Stationary	0.02	0.09	0.10	< 0.005	0.01	0.01	0.01	8.42
Total	10.5	3.63	36.4	0.08	0.15	7.09	1.91	9,993
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Mobile	3.40	2.57	25.7	0.07	0.04	6.99	1.80	7,179
Area	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.06	1.10	0.47	0.01	0.09	0.09	0.09	2,189
Water	—	—	—	—	—	—	—	83.8
Waste	—	—	—	—	—	—	—	208
Refrig.	—	—	—	—	—	—	—	1.92
Stationary	0.02	0.09	0.10	< 0.005	0.01	0.01	0.01	8.42
Total	9.70	3.76	26.3	0.08	0.14	7.09	1.90	9,671
Average Daily	—	—	—	—	—	—	—	—
Mobile	3.16	2.43	24.7	0.07	0.04	6.55	1.69	6,814
Area	6.72	0.05	5.64	< 0.005	< 0.005	< 0.005	< 0.005	15.1
Energy	0.06	1.10	0.47	0.01	0.09	0.09	0.09	2,189
Water	—	—	—	—	—	—	—	83.8
Waste	—	—	—	—	—	—	—	208
Refrig.	—	—	—	—	—	—	—	1.92
Stationary	0.01	0.03	0.03	< 0.005	< 0.005	< 0.005	< 0.005	2.88
Total	9.96	3.62	30.8	0.07	0.14	6.64	1.78	9,315
Annual	—	—	—	—	—	—	—	—
Mobile	0.58	0.44	4.51	0.01	0.01	1.19	0.31	1,128
Area	1.23	0.01	1.03	< 0.005	< 0.005	< 0.005	< 0.005	2.50
Energy	0.01	0.20	0.09	< 0.005	0.02	0.02	0.02	362
Water	—	—	—	—	—	—	—	13.9
Waste	—	—	—	—	—	—	—	34.5
Refrig.	—	—	—	—	—	—	—	0.32
Stationary	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.48
Total	1.82	0.66	5.63	0.01	0.02	1.21	0.33	1,542

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	2.29	20.7	19.0	0.03	0.84	0.84	0.78	3,438
Demolition	—	—	—	—	—	6.95	1.05	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	4.24	3.91	0.01	0.17	0.17	0.16	707
Demolition	—	—	—	—	—	1.43	0.22	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.77	0.71	< 0.005	0.03	0.03	0.03	117
Demolition	—	—	—	—	—	0.26	0.04	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.92	0.00	0.00	0.23	0.05	231
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	10.3	4.55	0.06	0.11	2.39	0.75	9,052
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.17	0.00	0.00	0.05	0.01	45.8

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.21	0.94	0.01	0.02	0.49	0.15	1,858
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	< 0.005	7.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.40	0.17	< 0.005	< 0.005	0.09	0.03	308

3.3. Site Preparation (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	4.00	36.3	33.1	0.05	1.86	1.86	1.71	5,872
Dust From Material Movement	—	—	—	—	—	5.66	2.69	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.99	0.91	< 0.005	0.05	0.05	0.05	161
Dust From Material Movement	—	—	—	—	—	0.16	0.07	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.17	< 0.005	0.01	0.01	0.01	26.6
Dust From Material Movement	—	—	—	—	—	0.03	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.07	0.06	1.05	0.00	0.00	0.26	0.06	264
Vendor	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	< 0.005	6.97
Vendor	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
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	1.15
Vendor	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

3.5. Grading (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	2.16	19.1	19.1	0.03	1.04	1.04	0.96	3,146
Dust From Material Movement	—	—	—	—	—	2.28	0.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	2.16	19.1	19.1	0.03	1.04	1.04	0.96	3,146

Dust From Material Movement	—	—	—	—	—	2.28	0.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	1.04	1.05	< 0.005	0.06	0.06	0.05	172
Dust From Material Movement	—	—	—	—	—	0.13	0.05	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.19	0.19	< 0.005	0.01	0.01	0.01	28.5
Dust From Material Movement	—	—	—	—	—	0.02	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.79	0.00	0.00	0.20	0.05	198
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.28	22.0	9.73	0.12	0.24	5.10	1.60	19,358
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.68	0.00	0.00	0.20	0.05	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.26	22.8	9.81	0.12	0.24	5.10	1.60	19,328
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	< 0.005	10.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	1.26	0.54	0.01	0.01	0.28	0.09	1,060
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	1.73

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.23	0.10	< 0.005	< 0.005	0.05	0.02	175

3.7. Building Construction (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	1.16	10.7	14.1	0.03	0.41	0.41	0.38	2,639
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.44	1.90	< 0.005	0.06	0.06	0.05	356
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.35	< 0.005	0.01	0.01	0.01	59.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.28	0.29	3.73	0.00	0.00	1.07	0.25	1,029
Vendor	0.01	0.52	0.25	< 0.005	< 0.005	0.14	0.04	507
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.52	0.00	0.00	0.14	0.03	141

Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.01	68.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.03	0.01	23.4
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	11.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - 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	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	10.2	14.0	0.03	0.36	0.36	0.34	2,639
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	1.11	10.2	14.0	0.03	0.36	0.36	0.34	2,639
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	5.04	6.95	0.01	0.18	0.18	0.17	1,306
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.92	1.27	< 0.005	0.03	0.03	0.03	216
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.23	0.25	4.06	0.00	0.00	1.07	0.25	1,066
Vendor	0.01	0.48	0.24	< 0.005	< 0.005	0.14	0.04	498
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.23	0.25	3.49	0.00	0.00	1.07	0.25	1,012
Vendor	0.01	0.50	0.24	< 0.005	< 0.005	0.14	0.04	497
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.80	0.00	0.00	0.53	0.12	509
Vendor	< 0.005	0.25	0.12	< 0.005	< 0.005	0.07	0.02	246
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.33	0.00	0.00	0.10	0.02	84.2
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	< 0.005	40.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - 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	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	6.94	9.95	0.01	0.30	0.30	0.27	1,516
Paving	0.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Off-Road Equipment	0.74	6.94	9.95	0.01	0.30	0.30	0.27	1,516
Paving	0.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.38	0.55	< 0.005	0.02	0.02	0.02	83.1
Paving	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	< 0.005	< 0.005	13.8
Paving	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.74	0.00	0.00	0.20	0.05	195
Vendor	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.64	0.00	0.00	0.20	0.05	185
Vendor	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
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	< 0.005	10.3
Vendor	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
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	1.70

Vendor	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

3.13. Architectural Coating (2027) - 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	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.11	1.50	< 0.005	0.03	0.03	0.02	179
Architectural Coatings	68.8	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.10	< 0.005	< 0.005	< 0.005	< 0.005	12.2
Architectural Coatings	4.71	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	< 0.005	2.03
Architectural Coatings	0.86	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Worker	0.05	0.05	0.70	0.00	0.00	0.21	0.05	202
Vendor	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
Average Daily	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	< 0.005	14.1
Vendor	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
Annual	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	2.33
Vendor	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

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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	1.76	1.21	14.1	0.04	0.02	3.58	0.92	3,832
Condo/Townhouse	1.67	1.15	13.4	0.04	0.02	3.41	0.88	3,647
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.43	2.36	27.6	0.07	0.04	6.99	1.80	7,479
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Single Family Housing	1.74	1.31	13.2	0.04	0.02	3.58	0.92	3,678
Condo/Townhouse	1.66	1.25	12.5	0.03	0.02	3.41	0.88	3,501
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.40	2.57	25.7	0.07	0.04	6.99	1.80	7,179
Annual	—	—	—	—	—	—	—	—
Single Family Housing	0.31	0.24	2.42	0.01	< 0.005	0.64	0.17	605
Condo/Townhouse	0.27	0.21	2.09	0.01	< 0.005	0.55	0.14	523
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.58	0.44	4.51	0.01	0.01	1.19	0.31	1,128

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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	408
Condo/Townhouse	—	—	—	—	—	—	—	364
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	13.1
Total	—	—	—	—	—	—	—	785
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	408
Condo/Townhouse	—	—	—	—	—	—	—	364
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	13.1
Total	—	—	—	—	—	—	—	785
Annual	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	67.5
Condo/Townhouse	—	—	—	—	—	—	—	60.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	2.17
Total	—	—	—	—	—	—	—	130

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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	0.04	0.60	0.26	< 0.005	0.05	0.05	0.05	764
Condo/Townhouse	0.03	0.50	0.21	< 0.005	0.04	0.04	0.04	641
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.06	1.10	0.47	0.01	0.09	0.09	0.09	1,405
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Single Family Housing	0.04	0.60	0.26	< 0.005	0.05	0.05	0.05	764

Condo/Townhouse	0.03	0.50	0.21	< 0.005	0.04	0.04	0.04	641
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.06	1.10	0.47	0.01	0.09	0.09	0.09	1,405
Annual	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.11	0.05	< 0.005	0.01	0.01	0.01	126
Condo/Townhouse	0.01	0.09	0.04	< 0.005	0.01	0.01	0.01	106
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.01	0.20	0.09	< 0.005	0.02	0.02	0.02	233

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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	5.76	—	—	—	—	—	—	—
Architectural Coatings	0.47	—	—	—	—	—	—	—
Landscape Equipment	0.72	0.08	8.23	< 0.005	< 0.005	< 0.005	< 0.005	22.1
Total	6.95	0.08	8.23	< 0.005	< 0.005	< 0.005	< 0.005	22.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	5.76	—	—	—	—	—	—	—

Architectural Coatings	0.47	—	—	—	—	—	—	—
Total	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	1.05	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—
Landscape Equipment	0.09	0.01	1.03	< 0.005	< 0.005	< 0.005	< 0.005	2.50
Total	1.23	0.01	1.03	< 0.005	< 0.005	< 0.005	< 0.005	2.50

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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	37.9
Condo/Townhouse	—	—	—	—	—	—	—	45.8
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	83.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	37.9
Condo/Townhouse	—	—	—	—	—	—	—	45.8

Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	83.8
Annual	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	6.28
Condo/Townhouse	—	—	—	—	—	—	—	7.59
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	13.9

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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	92.5
Condo/Townhouse	—	—	—	—	—	—	—	116
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	208
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	92.5
Condo/Townhouse	—	—	—	—	—	—	—	116

Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	208
Annual	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	15.3
Condo/Townhouse	—	—	—	—	—	—	—	19.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	34.5

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	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	0.78
Condo/Townhouse	—	—	—	—	—	—	—	1.14
Total	—	—	—	—	—	—	—	1.92
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	0.78
Condo/Townhouse	—	—	—	—	—	—	—	1.14
Total	—	—	—	—	—	—	—	1.92
Annual	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	0.13
Condo/Townhouse	—	—	—	—	—	—	—	0.19
Total	—	—	—	—	—	—	—	0.32

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.21
Fire Pump	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.21
Total	0.02	0.09	0.10	< 0.005	0.01	0.01	0.01	8.42
Daily, Winter (Max)	—	—	—	—	—	—	—	—

Emergency Generator	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.21
Fire Pump	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	4.21
Total	0.02	0.09	0.10	< 0.005	0.01	0.01	0.01	8.42
Annual	—	—	—	—	—	—	—	—
Emergency Generator	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.38
Fire Pump	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10
Total	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	0.48

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—

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

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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/1/2026	9/11/2026	5.00	75.0	—
Site Preparation	Site Preparation	9/12/2026	9/25/2026	5.00	10.0	—
Grading	Grading	9/26/2026	10/23/2026	5.00	20.0	—
Building Construction	Building Construction	10/24/2026	9/10/2027	5.00	230	—
Paving	Paving	9/11/2027	10/8/2027	5.00	20.0	—
Architectural Coating	Architectural Coating	10/9/2027	11/12/2027	5.00	25.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Crushing/Proc. Equipment	Diesel	Average	1.00	8.00	200	0.60
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	0.00	8.00	84.0	0.37
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Site Preparation	Other Construction Equipment	Diesel	Average	1.00	8.00	82.0	0.42
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	0.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	17.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	126	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	269	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	82.1	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	15.5	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	16.4	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	543,567	181,189	0.00	0.00	8,416

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	37,698	—
Site Preparation	—	—	35.0	0.00	—
Grading	—	43,000	50.0	0.00	—
Paving	0.00	0.00	0.00	0.00	3.90

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.68	0%
Condo/Townhouse	—	0%
Other Asphalt Surfaces	2.86	100%
Parking Lot	0.36	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	346	0.03	< 0.005
2026	0.00	346	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	585	588	526	210,491	5,004	5,031	4,500	1,801,690
Condo/Townhouse	559	378	320	182,246	4,788	3,232	2,742	1,559,926
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	62
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	83
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
543566.7	181,189	0.00	0.00	8,416

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)
Single Family Housing	427,499	346	0.0330	0.0040	2,376,791
Condo/Townhouse	381,150	346	0.0330	0.0040	1,994,520
Other Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00
Parking Lot	13,737	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	2,326,590	730,736
Condo/Townhouse	3,114,629	0.00
Other Asphalt Surfaces	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	49.1	—
Condo/Townhouse	61.3	—
Other Asphalt Surfaces	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	1.00	200	5.00	0.73
Fire Pump	Diesel	1.00	1.00	50.0	5.00	0.73

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	10.5	annual days of extreme heat
Extreme Precipitation	4.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	59.7
AQ-PM	71.2
AQ-DPM	18.7
Drinking Water	42.0
Lead Risk Housing	44.5
Pesticides	0.00
Toxic Releases	87.0
Traffic	31.6
Effect Indicators	—
CleanUp Sites	4.12
Groundwater	42.1
Haz Waste Facilities/Generators	40.1
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	21.7
Cardio-vascular	14.9
Low Birth Weights	4.08
Socioeconomic Factor Indicators	—
Education	24.1
Housing	40.9
Linguistic	12.3
Poverty	12.4
Unemployment	9.72

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	77.05633261
Employed	68.38188118
Median HI	78.01873476
Education	—
Bachelor's or higher	79.13512126
High school enrollment	24.48351084
Preschool enrollment	85.28166303
Transportation	—
Auto Access	49.51879892
Active commuting	8.161170281
Social	—
2-parent households	67.7659438
Voting	73.97664571
Neighborhood	—
Alcohol availability	89.13127165
Park access	61.41408957
Retail density	54.66444245
Supermarket access	60.86231233
Tree canopy	37.84165277
Housing	—
Homeownership	93.09636854
Housing habitability	34.8646221
Low-inc homeowner severe housing cost burden	40.02309765
Low-inc renter severe housing cost burden	13.69177467

Uncrowded housing	78.31387142
Health Outcomes	—
Insured adults	89.3750802
Arthritis	0.0
Asthma ER Admissions	76.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	72.0
Cognitively Disabled	8.5
Physically Disabled	43.7
Heart Attack ER Admissions	85.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	59.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	78.7
Elderly	8.3
English Speaking	71.4
Foreign-born	11.8
Outdoor Workers	90.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	59.7
Traffic Density	57.4
Traffic Access	23.0
Other Indices	—
Hardship	18.0
Other Decision Support	—
2016 Voting	90.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	8.00
Healthy Places Index Score for Project Location (b)	79.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Adjusted values per site plan.
Construction: Construction Phases	Extended demolition phase to due to extent of demolition required. Extended architectural coating phase due to proposed number of buildings
Construction: Off-Road Equipment	Conservatively assumed all equipment would run 8 hours a day. Replaced tractors/loaders/backhoes with crawler tractor to accurately assess site disturbance. Included 1 diesel crushing equipment to account for crushing during demolition phase. Included 1 "other construction equipment" to account for a woodchipper during the site preparation phase.
Construction: Off-Road Equipment EF	Input emissions factors for diesel crushing equipment using EMFAC OFFROAD2021 values for Orange County subarea, 2026.
Operations: Vehicle Data	Adjusted weekday, Saturday, and Sunday trip rates to ITE 11th edition rates (Land use codes 210 and 220).
Operations: Emergency Generators and Fire Pumps	Included proposed generator and fire pump information from Project Applicant.
Operations: Hearths	No proposed fireplaces.

25-011 Existing Cypress Grove Project Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	25-011 Existing Cypress Grove Project
Operational Year	2027
Lead Agency	City of Tustin
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	2.20
Location	33.758903885169794, -117.82133906390618
County	Orange
City	Tustin
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5969
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	193	1000sqft	3.39	193,000	41,113	—	185	—

Other Asphalt Surfaces	0.46	Acre	0.46	0.00	0.00	—	—	—
Parking Lot	521	Space	4.69	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	12.7	6.52	70.6	0.17	16.3	4.30	23,167
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	11.3	6.89	57.4	0.17	16.3	4.29	22,434
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	10.6	5.61	50.4	0.13	12.3	3.25	18,510
Annual (Max)	—	—	—	—	—	—	—
Unmit.	1.93	1.02	9.19	0.02	2.25	0.59	3,065
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.	—	—	—	—	—	—	Yes

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	6.59	5.13	61.1	0.17	16.2	4.19	17,262
Area	6.03	0.07	8.39	< 0.005	0.01	0.01	34.6
Energy	0.07	1.31	1.10	0.01	0.10	0.10	5,024
Water	—	—	—	—	—	—	507
Waste	—	—	—	—	—	—	338
Refrig.	—	—	—	—	—	—	0.47
Total	12.7	6.52	70.6	0.17	16.3	4.30	23,167
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	6.53	5.58	56.3	0.16	16.2	4.19	16,563
Area	4.66	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.07	1.31	1.10	0.01	0.10	0.10	5,024
Water	—	—	—	—	—	—	507
Waste	—	—	—	—	—	—	338
Refrig.	—	—	—	—	—	—	0.47
Total	11.3	6.89	57.4	0.17	16.3	4.29	22,434
Average Daily	—	—	—	—	—	—	—
Mobile	4.88	4.25	43.5	0.12	12.2	3.15	12,616
Area	5.60	0.05	5.75	< 0.005	0.01	0.01	23.7
Energy	0.07	1.31	1.10	0.01	0.10	0.10	5,024
Water	—	—	—	—	—	—	507
Waste	—	—	—	—	—	—	338
Refrig.	—	—	—	—	—	—	0.47

Total	10.6	5.61	50.4	0.13	12.3	3.25	18,510
Annual	—	—	—	—	—	—	—
Mobile	0.89	0.77	7.94	0.02	2.23	0.57	2,089
Area	1.02	0.01	1.05	< 0.005	< 0.005	< 0.005	3.93
Energy	0.01	0.24	0.20	< 0.005	0.02	0.02	832
Water	—	—	—	—	—	—	84.0
Waste	—	—	—	—	—	—	56.0
Refrig.	—	—	—	—	—	—	0.08
Total	1.93	1.02	9.19	0.02	2.25	0.59	3,065

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	6.59	5.13	61.1	0.17	16.2	4.19	17,262
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	6.59	5.13	61.1	0.17	16.2	4.19	17,262
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	6.53	5.58	56.3	0.16	16.2	4.19	16,563
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total	6.53	5.58	56.3	0.16	16.2	4.19	16,563
Annual	—	—	—	—	—	—	—
General Office Building	0.89	0.77	7.94	0.02	2.23	0.57	2,089
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.89	0.77	7.94	0.02	2.23	0.57	2,089

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	3,281
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	171
Total	—	—	—	—	—	—	3,452
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	3,281
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	171
Total	—	—	—	—	—	—	3,452
Annual	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	543

Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	28.3
Total	—	—	—	—	—	—	571

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	0.07	1.31	1.10	0.01	0.10	0.10	1,572
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.07	1.31	1.10	0.01	0.10	0.10	1,572
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	0.07	1.31	1.10	0.01	0.10	0.10	1,572
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.07	1.31	1.10	0.01	0.10	0.10	1,572
Annual	—	—	—	—	—	—	—
General Office Building	0.01	0.24	0.20	< 0.005	0.02	0.02	260
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.01	0.24	0.20	< 0.005	0.02	0.02	260

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	4.15	—	—	—	—	—	—
Architectural Coatings	0.51	—	—	—	—	—	—
Landscape Equipment	1.38	0.07	8.39	< 0.005	0.01	0.01	34.6
Total	6.03	0.07	8.39	< 0.005	0.01	0.01	34.6
Daily, Winter (Max)	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	4.15	—	—	—	—	—	—
Architectural Coatings	0.51	—	—	—	—	—	—
Total	4.66	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.76	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—
Landscape Equipment	0.17	0.01	1.05	< 0.005	< 0.005	< 0.005	3.93
Total	1.02	0.01	1.05	< 0.005	< 0.005	< 0.005	3.93

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	507
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	507
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	507
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	507
Annual	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	84.0
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	84.0

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	338

Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	338
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	338
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	338
Annual	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	56.0
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
Parking Lot	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	56.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	0.47
Total	—	—	—	—	—	—	0.47
Daily, Winter (Max)	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	0.47

Total	—	—	—	—	—	—	0.47
Annual	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	0.08
Total	—	—	—	—	—	—	0.08

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequestered	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

5. Activity Data

5.9. 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	2,092	427	135	574,731	22,802	4,649	1,472	6,264,030
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
General Office Building	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	62
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	289,500	96,500	13,457

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	3,439,315	346	0.0330	0.0040	4,891,868
Other Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00
Parking Lot	178,925	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	34,302,613	532,840
Other Asphalt Surfaces	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	179	—
Other Asphalt Surfaces	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	10.5	annual days of extreme heat
Extreme Precipitation	4.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	59.7

AQ-PM	71.2
AQ-DPM	18.7
Drinking Water	42.0
Lead Risk Housing	44.5
Pesticides	0.00
Toxic Releases	87.0
Traffic	31.6
Effect Indicators	—
CleanUp Sites	4.12
Groundwater	42.1
Haz Waste Facilities/Generators	40.1
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	21.7
Cardio-vascular	14.9
Low Birth Weights	4.08
Socioeconomic Factor Indicators	—
Education	24.1
Housing	40.9
Linguistic	12.3
Poverty	12.4
Unemployment	9.72

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	77.05633261
Employed	68.38188118
Median HI	78.01873476
Education	—
Bachelor's or higher	79.13512126
High school enrollment	24.48351084
Preschool enrollment	85.28166303
Transportation	—
Auto Access	49.51879892
Active commuting	8.161170281
Social	—
2-parent households	67.7659438
Voting	73.97664571
Neighborhood	—
Alcohol availability	89.13127165
Park access	61.41408957
Retail density	54.66444245
Supermarket access	60.86231233
Tree canopy	37.84165277
Housing	—
Homeownership	93.09636854
Housing habitability	34.8646221
Low-inc homeowner severe housing cost burden	40.02309765
Low-inc renter severe housing cost burden	13.69177467
Uncrowded housing	78.31387142
Health Outcomes	—
Insured adults	89.3750802
Arthritis	0.0

Asthma ER Admissions	76.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	72.0
Cognitively Disabled	8.5
Physically Disabled	43.7
Heart Attack ER Admissions	85.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	59.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	78.7
Elderly	8.3
English Speaking	71.4
Foreign-born	11.8

Outdoor Workers	90.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	59.7
Traffic Density	57.4
Traffic Access	23.0
Other Indices	—
Hardship	18.0
Other Decision Support	—
2016 Voting	90.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	8.00
Healthy Places Index Score for Project Location (b)	79.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Adjusted values per Phase I ESA and client input.
Construction: Construction Phases	Extended demolition phase to per Project Applicant input. Extended architectural coating phase due to proposed number of buildings
Construction: Off-Road Equipment	Conservatively assumed all equipment would run 8 hours a day. Replaced tractors/loaders/backhoes with crawler tractor to accurately assess site disturbance. Included 1 diesel crushing equipment to account for crushing during demolition phase. Included 1 "other construction equipment" to account for a woodchipper during the site preparation phase.
Construction: Off-Road Equipment EF	Input emissions factors for diesel crushing equipment using EMFAC OFFROAD2021 values for Orange County subarea, 2026.
Operations: Vehicle Data	Adjusted weekday, Saturday, and Sunday trip rates to ITE 11th edition rates (Land use code 710).
Operations: Emergency Generators and Fire Pumps	—
Operations: Hearths	No proposed fireplaces.

APPENDIX B – EMISSIONS CALCULATIONS

EMISSION FACTORS COUNT

Model Output: OFFROAD2021 (v1.0.9) Emissions Inventory
Region Type: Sub-Area
Region: Los Angeles (SC)
Calendar Year: 2025
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2021 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Y	Vehicle Cat	Model Year	Horsepowe	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consu	Total_Activi	Total_Popu	Horsepower_Hours_hhpy	hph/day
Orange (SC	2026	Constructi	Aggregate	Aggregate	Diesel	0.000298	0.00036	0.000429	0.003703	0.001863	1.28298	7.32E-05	6.73E-05	1.22E-05	0	41690.65	9084.239	15.53035	823251.1643	2255.483

Conversion factors

907185 grams in 1 ton
0.98632 bhp in 1 HP

HC_gpd	ROG_gpd	TOG_gpd	CO_gpd	NOx_gpd	CO2_gpd	PM10_gpd	PM2.5_gpd	SOx_gpd	NH3_gpd
270.1292	326.8563	388.9861	3359.018	1689.77	1163900	66.36155	61.05263	11.0254	0

HC_grams/	ROG_gram	TOG_grams	CO_grams/	NOx_grams	CO2_grams	PM10_gran	PM2.5_gra	SOx_grams	NH3_grams/hph
0.119766	0.144916	0.172462	1.489268	0.749183	516.0315	0.029422	0.027069	0.004888	0

FINAL VALUES

HC_grams/	ROG_gram	TOG_grams	CO_grams/	NOx_grams	CO2_grams	PM10_gran	PM2.5_gra	SOx_grams	NH3_grams/bhp-hr
0.121427	0.146926	0.174854	1.509924	0.759574	523.1887	0.02983	0.027444	0.004956	0

EMISSION F

Model Output: OFFROA
Region Type: Sub-Area
Region: Los Angeles (SI
Calendar Year: 2025
Scenario: All Adopted F
Vehicle Classification:
Units: tons/day for Emi

						HC	ROG	TOG	CO	NOx	CO2	PM10	PM2.5	SOx	NH3
Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	**HC_tpd**	**ROG_tpd**	**TOG_tpd**	**CO_tpd**	**NOx_tpd**	**CO2_tpd**	**PM10_tpd**	**PM2.5_tpd**	**SOx_tpd**	**NH3_tpd**
Orange (SC)	2026	Construction and Minir	Aggregate	Aggregate	Diesel	0.000297766392538404	0.000360297334971464	0.000428736052553304	0.003702682853055720	0.001862651531593941	1.282979809035530	0.000073151071286116	0.000067298985832200	0.000012153418954500	0

Fuel Consumption	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy	hph/day
41690.652731724	9084.23929624865	15.530346786	823251.164275204	=T12/365

Conversion factors

907185	grams in 1 ton
0.98632	bhp in 1 HP

HC_gpd	**ROG_gpd**	**TOG_gpd**	**CO_gpd**	**NOx_gpd**	**CO2_gpd**	**PM10_gpd**	**PM2.5_gpd**	**SOx_gpd**	**NH3_gpd**
=G12*$A$15	=H12*$A$15	=I12*$A$15	=J12*$A$15	=K12*$A$15	=L12*$A$15	=M12*$A$15	=N12*$A$15	=O12*$A$15	=P12*$A$15

=CONCATENATE(G7,"	**=CONCATENATE(H7,"**	**=CONCATENATE(I7,"**	**=CONCATENATE(J7,"**	**=CONCATENATE(K7,"**	**=CONCATENATE(L7,"**	**=CONCATENATE(M7,"**	**=CONCATENATE(N7,"**	**=CONCATENATE(O7,"**	**=CONCATENATE(P7,"_gra**
=G15/$U$12	=H15/$U$12	=I15/$U$12	=J15/$U$12	=K15/$U$12	=L15/$U$12	=M15/$U$12	=N15/$U$12	=O15/$U$12	=P15/$U$12

FINAL VALUES

=CONCATENATE(G7,"	**=CONCATENATE(H7,"**	**=CONCATENATE(I7,"**	**=CONCATENATE(J7,"**	**=CONCATENATE(K7,"**	**=CONCATENATE(L7,"**	**=CONCATENATE(M7,"**	**=CONCATENATE(N7,"**	**=CONCATENATE(O7,"**	**=CONCATENATE(P7,"_gra**
=G18/$A$16	=H18/$A$16	=I18/$A$16	=J18/$A$16	=K18/$A$16	=L18/$A$16	=M18/$A$16	=N18/$A$16	=O18/$A$16	=P18/$A$16

	Equipment	Fuel Type	Number/day	hours/day	hp	LF
Equipment	crushing/proc.	diesel	1	8	200	0.6

CONVERSION FACTORS

453.592 grams in 1 lb

Emissions Rates (g/bhp-hr)

TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	CO_2	CH_4	N_2O
0.174854456	0.146926	0.759574	1.509924	0.004956	0.02983	0.027444	523.1887	0.022	0.004

Emissions (lb/day)

TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	CO_2	CH_4	N_2O
0.370068867	0.310961	1.607593	3.195662	0.010489	0.063134	0.058084	1107.297	0.046562	0.008466

	Equipment	Fuel Type	Number/day	hours/day	hp	LF
Equipment	crushing/proc.	diesel	1	8	200	0.6

CONVERSION FACTORS

453.592 grams in 1 lb

Emissions Rates (g/bhp-hr)

TOG	ROG	NOx	CO	SO_2	PM10E	PM2.5E	CO_2	CH_4	N_2O
=EF!I21	=EF!H21	=EF!K21	=EF!J21	=EF!O21	=EF!M21	=EF!N21	=EF!L21	0.022	0.004

Emissions (lb/day)

=I2	=J2	=K2	=L2	=M2	=N2	=O2	=P2	=Q2	=R2
=(I3*$D$2*$E$2*$F$2*$G$2)/	=(J3*$D$2*$E$2*F	=(K3*$D$2*$E$2*F	=(L3*$D$2*$E$2*F	=(M3*$D$2*$E$2*F	=(N3*$D$2*$E$2*F	=(O3*$D$2*$E$2*F	=(P3*$D$2*$E$2*F	=(Q3*$D$2*$E$2*F	=(R3*$D$2*$E$2*F