

To: City of Garden Grove
Drafted by: Maryam Javanmardi, EPD Solutions, Inc.
Reviewed by: Alex J. Garber, Tina Yuan, EPD Solutions, Inc.
Date: 3/16/2026
Re: Air Quality, Energy, and Greenhouse Gas Impact Analysis for 9822 Russell Ave,
Garden Grove Project, EPD Project Number 25-142

Project Overview

The 9822 Russell Avenue, Garden Grove Project (“Project,” or “proposed Project”) is located at 9822 Russell Avenue in the central portion of the City of Garden Grove. The Project site is approximately 0.12 miles north of State Route 22 (SR-22) and one block west of Brookhurst Street, both of which provide regional access to the site. Local access to the Project site is provided by Russell Avenue to the north and Kerry Street to the west.

The Project site is identified as Assessor Parcel Number’s (APN) 098-081-19. It is located within the United States Geologic Survey (USGS) Anaheim 7.5 Minute Series Topographic Quadrangle, and within Section 5, Township 5 South, Range 10. The 1.81-acre Project site is currently developed with a church, preschool and daycare facility, wireless facility, a parking lot, and landscaping areas. The church sanctuary consists of 7,700 square feet, the office and meeting rooms used by the church total 7,892 square feet, and the preschool/daycare is 2,875 square feet, which totals 18,467 square feet of building space on the site. The existing preschool/daycare facility (Orangefield Child Development Center) is for children ages 2 to 6 years and has a licensed capacity for 60 students¹.

The Project requests the approval from the City of Garden Grove to demolish the existing church, preschool, and daycare facility building and improvements on the Project site and construct 26 two-story townhome residences, open space/recreation, and parking. Each residential unit would have three or four bedrooms, ranging in size from approximately 1,442 square feet to 1,800 square feet and would have two-car garages. The 26 residences on the 1.81-acre site would result in a density of 14.4 units per acre. The Project would include parking, open space, ornamental landscaping, and associated infrastructure.

The Project requests the approval of a General Plan Amendment to change the land use from Low-Density Residential (LDR) to Low-Medium Density Residential (LMR), which allows residential densities between 11 and 21 dwelling units per acre. The Project also includes a zone change to change the site zoning from R-1 to Planned Unit Development (PUD) with a general R-2 (Limited Multiple Residential) zoning designation used as the base guiding standards. The proposed Project site plan is shown in Figure 1.

To support the CEQA document for the proposed Project, this report analyzes the proposed Project’s construction and net operational impacts related to air quality (emission of criteria pollutants), energy, and greenhouse gas (GHG) emissions using the California Emissions Estimator Model (CalEEMod Version 2022.1)

¹CA Department of Social Services. (2025). *Facility Detail – Orangefield Child Development Center*. Accessed: <https://www.cclld.dss.ca.gov/carefacilitysearch/FacDetail/304371054>

and the Emission Factor model (EMFAC Version 2021). Table 1, *Construction Schedule*, shows the estimated construction schedule, which is expected to last about 11 months.

Table 1: Construction Schedule

Activity	Start Date	End Date	Total Working Days
Demolition	9/1/2027	9/29/2027	20
Site Preparation	9/30/2027	10/2/2027	2
Grading	10/3/2027	10/8/2027	4
Building Construction	10/9/2027	7/15/2028	200
Paving	10/9/2027	10/22/2028	10
Architectural Coating	7/1/2028	7/22/2028	15

Source: CalEEMod output sheets are provided in Attachment A

CalEEMod Modeling Details

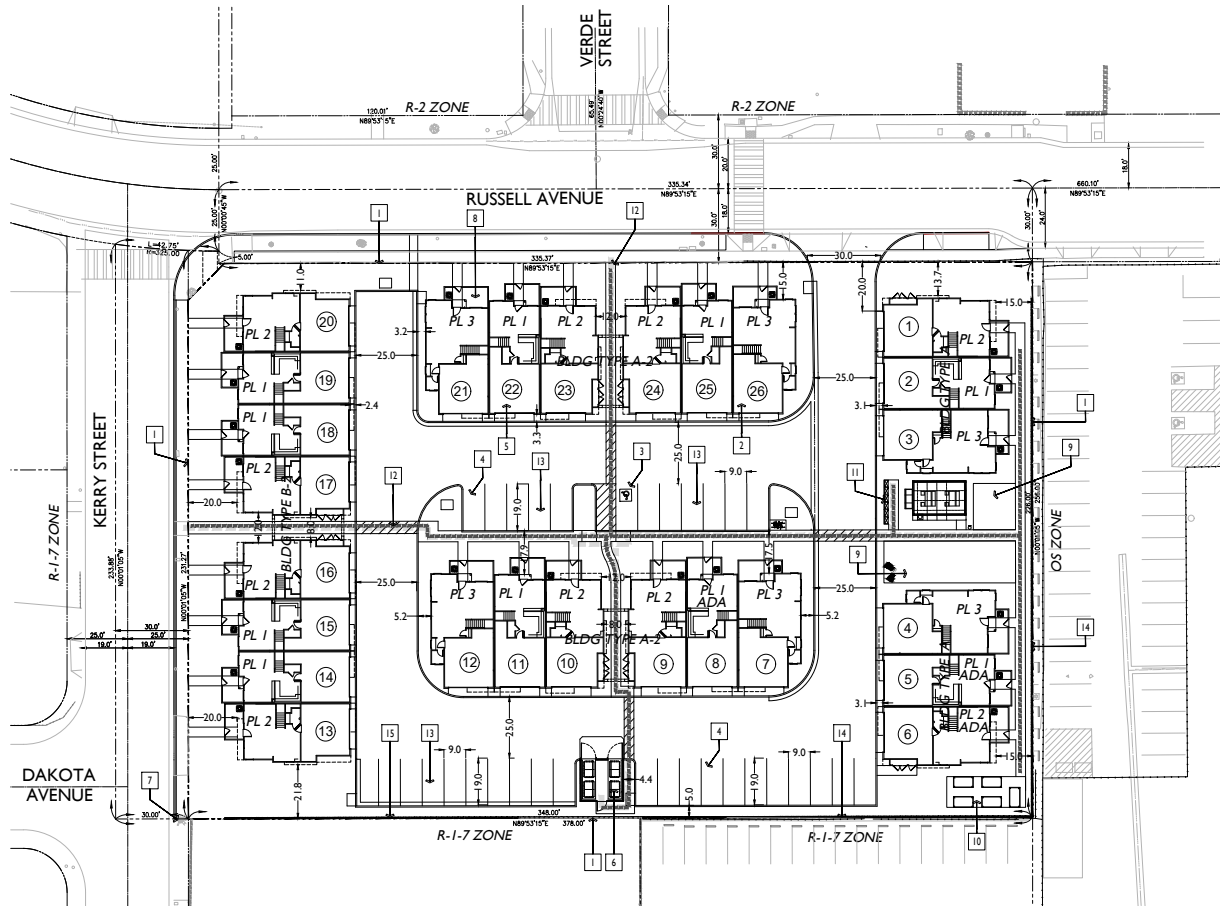
The following non-default assumptions were used in CalEEMod for this analysis:

- **Land Use:** The lot acreage was adjusted to match the site plan provided by the client.
- **Construction Schedule:** The demolition phase was extended to accommodate the size of the buildings and the volume of debris. The building construction duration was shortened to align with the Project's anticipated operational year. Paving is scheduled to commence on October 9, 2029, with a duration of 10 days. Architectural coating will be completed in a single phase, spanning three weeks from July 1 to July 22, 2029, consistent with the updated project assumptions.
- **Construction Equipment:** It was assumed that all equipment would be used for 8 hours per workday. Tractor/loaders/backhoes were replaced with crawler tractors in the site preparation and grading construction phases.
- **Demolition:** The demolition of the existing buildings and hardscape is anticipated to amount to 3,527 tons of debris. These calculations can be found in Attachment C, *Demo Calculations Sheet*.
- **Construction Earthmoving Activity:** Based on the preliminary grading plan, the Project would not require import or export of material during the grading phase; however, for conservative analysis purposes, 1,000 cubic yards of export is assumed to account for potential spoils.
- **Operations:** Hearths, wood stoves, and wood fireplaces were removed in accordance with South Coast Air Quality Management District (SCAQMD) Rule 445, which prohibits the installation of wood-burning devices in an effort to reduce particulate matter and reduce production of volatile organic compounds (VOCs).² Gas and propane fireplaces were also removed as neither is proposed for the Project.
- **Operational Vehicle Data:** The trip rate was adjusted to match the Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition (2025), using the Church land use (ITE Land Use Code 560) for the existing church building, the Day Care Center land use (ITE Land Use Code 565) for the existing the preschool/daycare facility, and the Multifamily Housing land use (ITE Land Use Code 220) for the proposed Project.³
- **Measures, Energy:** The Project does not propose natural gas. *Measure E-15, requiring all-electric development*, is selected for the Project.

² SCAQMD (2020). *Rule 445, Wood-Burning Devices*. <https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-445.pdf>

³ EPD Solutions, Inc. (2025). 25-142 9822 Russell Ave, Garden Grove Vehicles Miles Traveled (VMT) Screening Memo.

Figure 1: Proposed Project Site Plan



PROJECT SUMMARY

A.P.N. 098-081-19
 EXISTING G.P. LOW DENSITY RESIDENTIAL (LDR)
 EXISTING ZONE SINGLE FAMILY RESIDENTIAL (R-1-7)
 PROPOSED G.P. LOW MEDIUM DENSITY RESIDENTIAL (LMDR)
 PROPOSED ZONE PLANNED UNIT DEVELOPMENT (PUD)

TOTAL UNITS 26 UNITS
 SITE AREA 78,537 S.F. / 1.8 AC
 DENSITY 14.4 DU/AC
 LOT COVERAGE 43.2% (50% ALLOWED)
 BUILDING HEIGHT 3'

DWELLING UNIT SUMMARY

	PRIV. YD.
PL 1 10 1,442 SF 3 BD	111 S.F.
PL 2 10 1,622 SF 3BD/LOFT-OPT 4BD	104 S.F.
PL 3 6 1,800 SF 4 BD	136 S.F.

PARKING SUMMARY

GARAGE STALLS (20' X 20', 2 CAR)	52 STALLS
GUEST STALLS (9' X 19')	33 STALLS
TOTAL PARKING PROVIDED	85 STALLS
3 & 4 BEDROOMS - 3.25 STALLS/UNIT REQUIRED	
TOTAL PARKING REQUIRED	84.5 STALLS

ELECTRIC VEHICLE CHARGING SUMMARY
 REQUIRED = 11 DWELLING UNIT = 26 EV GARAGE STALLS
 TOWN-HOUSES W/ ATTACHED PRIVATE GARAGES SHALL COMPLY WITH 2025 CGESC 4.106.4.1.

LOT COVERAGE
 BLDG TYPE A FOOTPRINT = 3,239 S.F. X 2 = 6,478 S.F.
 BLDG TYPE B FOOTPRINT = 4,478 S.F. X 2 = 8,956 S.F.
 BLDG TYPE B-2 FOOTPRINT = 8,364 S.F. X 1 = 8,364 S.F.
 BUILDING COVERAGE = 27,796 S.F.
 TRASH ENCLOSURE = 312 S.F.
 OPEN PARKING STALLS = 5,795 S.F.
 LOT COVERAGE = 33,905 S.F. / 78,537 S.F. = 0.432 OR 43.2%

OPEN SPACE SUMMARY (SEE SHEET 05)

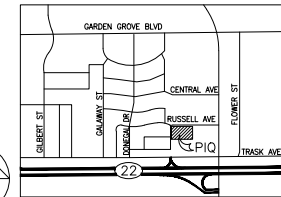
COMMON AREA - ACTIVE	3,695 S.F. (142/4)
PRIVATE YARDS (EXCL. UNITS 13-20)	2,106 S.F. (6 MIN. DIM.)
PASSIVE OPEN AREA (5,802 S.F. X 50%)	2,901 S.F. (10' MIN. DIM.)
TOTAL OPEN SPACE PROVIDED	8,702 S.F. (33.5 S.F./UNIT)

ACCESSIBLE UNIT SUMMARY (MULTISTORY, PRIVATELY FUNDED)
 REQUIRED = 10% OF MULTISTORY DWELLINGS PER CBC 1102A.3.1
 26 DU X 10% = 3 REQUIRED ACCESSIBLE UNIT
 PROVIDED = 3 ACCESSIBLE UNITS (UNIT NOS. 5, 6 AND 8)

BUILDING CODE SUMMARY
 CALIFORNIA RESIDENTIAL CODE (2025 CRC)
 OCCUPANCY TYPE R3/U
 NUMBER OF STORIES 2
 CONSTRUCTION TYPE V-B
 FIRE SPRINKLERS NFPA 13D (CRC R313.1)

KEYNOTES

- 1 PROPERTY LINE
- 2 2-STORY ROW TOWNHOME, TYP.
- 3 ACCESSIBLE PARKING STALL - 9' X 19' (TYP.)
 VAN W/ 8' WIDE STRIPING (PASSENGER SIDE)
 STANDARD OPEN GUEST STALL - 9' X 19' (TYP.)
 2-CAR GARAGE (20' X 20' MIN.)
- 4 COVERED COMMUNITY TRASH ENCLOSURE
- 5 PUBLIC FIRE HYDRANT
- 6 PRIVATE PATIO, TYP.
- 7 COMMON OPEN SPACE AREA
- 8 COMMUNITY GARDEN AREA
- 9 COMMUNITY MAILBOX LOCATION
- 10 ADA PATH OF TRAVEL
- 11 WATER QUALITY AREA (INFILTRATION CHAMBERS) - SEE CIVIL PLANS
- 12 NEW CONCRETE BLOCK WALL - REFER TO LANDSCAPE PLANS
- 13 EXISTING CONCRETE BLOCK WALL TO BE REMOVED AND REPLACED

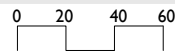


VICINITY MAP
 NOT TO SCALE

GARDEN GROVE

MELIA HOMES
 9860 Irvine Center Dr
 Irvine, CA 92618
 (949) 759-4367

9822 RUSSELL - 2 STORY TOWNHOMES



JAN 12, 2026

SITE PLAN

SUMMA
 CONSULTANTS
 5256 S. Mission Road, Ste. 404
 Bonsall, CA 92003
 www.summarch.com p.760.724.1198

SP

Summary of Air Quality, Energy and GHG Impacts

Air Quality

The proposed Project's maximum daily emissions (regional and local) for construction and operation would not exceed the SCAQMD's regional thresholds of significance. In addition, all construction activities would comply with applicable SCAQMD rules and regulations, including Rule 402, Rule 403, Rule 445, Rule 1113, and Rule 1403:

- Rule 402, *Public Nuisance*: Prohibits the discharge of air contaminants that cause injury, nuisance, or annoyance to the public or damage to property.
- Rule 403, *Fugitive Dust*: Aims to minimize fugitive particulate matter dust emissions during construction activities.
- Rule 445, *Wood-Burning Devices*: Reduce emission production of particulate matter and volatile organic compounds from wood-burning devices.
- Rule 1113, *Architectural Coatings*: Allows only low-VOC paints to be used.
- Rule 1403, *Asbestos Demolition and Removal*: Establishes work practice requirements to limit asbestos emissions from building demolition or renovation. These requirements include asbestos surveying, public notification, removal and handling procedures, time schedules, and storage/disposal/landfill requirements. Records of compliance must be maintained and all appropriate warning labels, signs, and marking must be utilized.

The construction and operation of the proposed Project would not exceed SCAQMD thresholds for any of the six criteria pollutants. Projects that do not exceed the regional thresholds are assumed to not have a significant impact on both a project level and cumulative level. The proposed Project aligns with SCAQMD'S 2022 Air Quality Management Plan (AQMP), reflecting adherence to regional air quality management goals and standards. Furthermore, odors produced by construction and operation of the proposed Project would be minimal and comply with SCAQMD Rule 402. Therefore, the proposed Project would have a less-than-significant air quality impact. No mitigation would be required.

Energy

Construction activities related to the proposed Project and the associated infrastructure are not expected to result in demand for fuel greater on a per-unit-of-development basis than any other development projects in Southern California. The proposed Project's energy consumption during construction activities would comply with existing fuel standards, machinery efficiency requirements, and California Air Resources Board (CARB) regulations limiting truck idling. Additionally, for operation, the proposed Project would be required to meet the California Code of Regulations (CCR) Title 24 energy efficiency standards and comply with all applicable County energy codes. The Project buildings would install solar in compliance with current Title 24 requirements. There are no unusual Project characteristics that would cause the construction or operation of the Project to be less energy-efficient when compared with other similar commercial developments throughout the state. Therefore, the proposed Project would not result in impacts related to inefficient, wasteful, or unnecessary consumption of energy, nor would the Project inhibit the use of, and would instead allow for future flexibility relating to, renewable energy.

GHG Emissions

The proposed Project's construction and operational GHG emissions would total 234 metric tons of carbon dioxide equivalent (MTCO₂e) per year. When compared to emissions from the existing buildings, the Project would result in a net decrease of 180 MTCO₂e per year, below the SCAQMD significance threshold of 3,000 MTCO₂e per year and baseline conditions. Additionally, the Project would be consistent with applicable policies and measures for reducing GHG emissions, including the 2022 CARB Scoping Plan and the City's General Plan. Therefore, the Project would have a less-than-significant impact on GHG emissions.

Air Quality

Regional Emissions

To calculate the operational impacts, the air quality emissions from the existing land use were estimated using CalEEMod. The SCAQMD has adopted maximum daily emission thresholds (pounds/day) for criteria pollutants during the construction and operation of a project.⁴ While incremental regional air quality impacts of an individual project are generally very small and difficult to measure, SCAQMD's regional maximum emission thresholds set standards to reduce the burden of SCAQMD to attain and maintain ambient air quality standards. The regional thresholds apply to the criteria pollutants listed in Table 2, *Regional Construction Emission Estimates*, and Table 3, *Regional Operation Emission Estimates*.

Table 2 shows the CalEEMod estimated emissions for the project construction. The estimated Project emissions include those generated both from on-site sources (such as off-road construction equipment and fugitive dust) and off-site sources (vehicles traveling to and from the site). As shown in Table 2, the proposed Project would not exceed SCAQMD's thresholds for construction emissions, and therefore, would have less-than-significant regional air quality impacts related to construction.

Table 2: Regional Construction Emission Estimates

Maximum Daily Emissions	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2027	2.17	19.61	23.81	0.04	5.20	2.00
2028	13.78	12.16	17.79	0.03	0.67	0.40
Maximum Daily Emission (2027-2028)	13.78	19.61	23.81	0.04	5.20	2.00
SCAQMD Significance Thresholds	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Notes: ROG = reactive organic gases, NO_x = nitrogen oxides, CO = carbon monoxide, SO₂ = sulfur dioxide, PM₁₀ = particulate matter 10 microns in diameter, PM_{2.5} = particulate matter 2.5 microns in diameter

Source: CalEEMod output sheets are provided in Attachment A, and the detailed calculation sheets are provided in Attachment B.

Table 3 shows the CalEEMod estimated Project emissions for operation. As detailed in the VMT Analysis Screening Memo prepared for the Project, the existing church, preschool and daycare uses are estimated to generate approximately 219 daily trips, including 37 trips during the AM peak hour and 28 trips during the PM peak hour. The proposed Project is anticipated to generate approximately 161 daily trips, with 11 trips during the AM peak hour and 14 trips during the PM peak hour. Overall, the Project would result in 58 fewer daily trips, including 26 fewer trips during the AM peak hour, and 24 fewer trips during the PM peak hour. Thus, as seen in Table 3, the reduction in vehicle trips from operation of the proposed Project would result in a net decrease for ROG, NO_x, CO, SO₂, PM₁₀, and PM_{2.5} daily emissions. Therefore, operation of the Project would not exceed the SCAQMD's thresholds for any of the six criteria pollutants and would have a less-than-significant regional air quality impact related to operation.

⁴ SCAQMD. (March 2023). *South Coast AQMD Air Quality Significance Thresholds*. <https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25>

Table 3: Regional Operation Emission Estimates

Operational Activity	Maximum Daily Regional Emissions (pounds/day)*					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Mobile	0.49	0.38	4.62	0.01	1.28	0.33
Area	0.78	0.01	1.48	<0.01	<0.01	<0.01
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Total Operational Emissions	1.27	0.39	6.10	0.01	1.28	0.33
Existing Operational Emissions	1.55	0.96	9.57	0.02	2.08	0.55
Net Operational Emissions	- 0.28	- 0.56	- 3.47	- 0.01	- 0.79	- 0.22
SCAQMD Significance Thresholds	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Notes: ROG = reactive organic gases, NO_x = nitrogen oxides, CO = carbon monoxide, SO₂ = sulfur dioxide, PM₁₀ = particulate matter 10 microns in diameter, PM_{2.5} = particulate matter 2.5 microns in diameter

* Values may vary slightly due to rounding.

CalEEMod output sheets are provided in Attachment A, and the detailed calculation sheets are provided in Attachment B.

Local Emissions

Localized significance thresholds (LSTs) were also adopted by the SCAQMD due to project-related construction or operational air emissions having the potential to exceed the State and national air quality standards in the project vicinity, while not exceeding the regional emission significance thresholds adopted by the SCAQMD. These thresholds set the maximum rates of daily construction or operational emissions from a project site that would not exceed a national or State ambient air quality standard.⁵ The differences between regional thresholds and LSTs are as follows:

1. Regional thresholds include all sources of project construction and operational emissions generated from on-site and off-site emission sources whereas the LSTs only consider the emissions generated from on-site emission sources.
2. LSTs only apply to carbon monoxide (CO), nitrogen oxides (NO_x), and particulate matter (PM₁₀ and PM_{2.5}), while regional thresholds include both reactive organic gases (ROG) and sulfur dioxide (SO₂).
3. Regional thresholds apply to emission sources located anywhere within the SCAQMD whereas the LSTs are location dependent and rely on the size of the project and emission location relative to the nearest sensitive receptor.

SCAQMD provides screening tables (Appendix C of the SCAQMD 2008 *Final Localized Significance Threshold Methodology*) for projects that disturb less than or equal to 5 acres in a day.⁶ These tables were created to easily determine if the daily emissions of NO_x, CO, PM₁₀, and PM_{2.5} from a project could result in a significant impact to the local air quality. The thresholds are determined by:

- Source receptor area (SRA), which is the geographic area within the SCAQMD that can act as both a source of emissions and a receptor of emission impacts (the Project is located within SRA 17, Central Orange County);

⁵ SCAQMD. (2008). *Final Localized Significance Threshold Methodology*.

<http://www.aqmd.gov/docs/defaultsource/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf>

⁶ SCAQMD. (2008). *Final Localized Significance Threshold Methodology Appendix C*. <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2>

- Size of grading disturbance (construction)/size of the project (operation); and
- Distance to the nearest sensitive receptor, which is defined as an individual who is most susceptible to negative health effects when exposed to air pollutants, and includes children, the elderly, and adults with chronic health issues. Locations for such receptors include residences, schools, elderly care centers, and hospitals.

The demolition, site preparation, and grading phases would result in approximately 0.5 acres, 1.5 acres, and 2.5 acres of ground disturbance, respectively, as can be found in Attachment B, *Detailed Calculation Sheets*. Therefore, the maximum ground disturbance occurs during the grading phase with a maximum of 2.5 acres disturbed. Pursuant to SCAQMD guidance, which recommends selecting thresholds based on the smaller of the total site area or the daily disturbed area, construction emissions were evaluated by interpolating between the 1-acre and 2-acre disturbance thresholds to estimate thresholds for a 1.81-acre site (total site area). The nearest sensitive receptor to the Project site is the residence located south of the Project site, at a distance of 2.25 meters (7.38 feet). Therefore, the construction emission thresholds for 25 meters were used as an approximate distance and the lowest distance thresholds available.

Table 4, *Localized Construction Emission Estimates*, shows the thresholds and estimated maximum daily construction emissions for the proposed Project. As shown in Table 4, the proposed Project would not exceed applicable thresholds and therefore would result in a less-than-significant localized construction air quality impact.

Table 4: Localized Construction Emission Estimates

Construction Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
2027 (Year 1)				
Demolition	12.43	14.44	4.20	1.00
Site Preparation	18.37	19.78	0.88	0.81
Grading	17.00	17.83	0.91	0.84
Building Construction	11.46	15.23	0.37	0.34
Maximum On-site Emission (2027)	18.37	19.78	4.20	1.00
2028 (Year 2)				
Building Construction	10.95	15.21	0.33	0.30
Paving	4.88	7.21	0.19	0.18
Architectural Coating	1.08	1.49	0.02	0.02
Maximum On-site Emission (2028)	10.95	15.21	0.33	0.30
Maximum Daily Emissions	18.37	19.78	4.20	1.00
SCAQMD Screening Thresholds	108.50	671.30	5.60	3.80
Threshold Exceeded?	No	No	No	No

Notes: NO_x = nitrogen oxides, CO = carbon monoxide, PM₁₀ = particulate matter 10 microns in diameter, PM_{2.5} = particulate matter 2.5 microns in diameter

Source: CalEEMod output sheets are provided in Attachment A, and the detailed calculation sheets are provided in Attachment B.

According to the SCAQMD LST methodology, LSTs apply to a project's stationary and on-site mobile sources. Projects that involve mobile sources that spend long periods queuing and idling at a site, such as transfer facilities or warehousing and distribution buildings, have the potential to exceed the operational LSTs. The proposed Project would operate as a residential development, which does not typically involve diesel vehicles regularly idling or queuing for long periods. Therefore, due to the lack of significant stationary

source emissions or idling diesel-powered vehicles, impacts related to operational LSTs are presumed to be less than significant.

Air Quality Management Plan Consistency

The SCAQMD's CEQA Handbook provides the following two criteria to determine whether a project would be consistent with the 2022 AQMP:

1. The Project would not generate population and employment growth that would be inconsistent with Southern California Association of Governments (SCAG)'s growth forecasts from the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS); and
2. The Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Consistency Criterion No. 1 refers to SCAG's growth forecasts and the associated assumptions included in the AQMP. The future air quality levels projected in the AQMP are based on SCAG's regional growth projections, which rely in part on the general plans of jurisdictions within the SCAG region. Implementation of the proposed Project would require a General Plan Amendment to change the land use from LDR to LMR, which allows residential densities between 11 and 21 dwelling units per acre. The Project also includes a zone change to change the site zoning from R-1 to PUD for small lot subdivisions with the general R-2 (Limited Multiple Residential) zoning designation used as the base guiding standards.

As a residential development consisting of 26 two-story townhomes, the Project does not include employment-generating uses beyond what is anticipated under the County's General Plan. Therefore, it would not induce substantial unplanned employee growth or exceed growth assumptions for the area. The population of City of Garden Grove in 2025 as recorded by the California Department of Finance is approximately 171,492 persons.⁷ SCAG growth forecasts indicated an increase from 176,000 persons in 2016 to 185,800 persons in 2045.⁸ Based on the California Department of Finance reported average household size of 3.47 persons per household for Garden Grove, the Project's 26 two-story townhome units would add approximately 90 residents. This increase represents a negligible portion (0.92 percent increase) of the City's projected population growth over the 2016–2045 period.

Accordingly, the Project would be consistent with the growth assumptions used in the development of the 2020–2045 RTP/SCS and would not jeopardize attainment of the air quality levels identified in the AQMP. With the required City approvals, the Project would be consistent with the applicable General Plan and zoning designations and thus satisfies Consistency Criterion No. 1.

Consistency Criterion No. 2 refers to the California Ambient Air Quality Standards. An impact would occur if emissions associated with the proposed Project exceed SCAQMD's significance thresholds during construction or operation. As shown in Table 2 and Table 3, the Project's construction and operational

⁷ City of Garden Grove's Population and Persons per Household Estimates (171,492 persons and 3.47 persons per household as of January 1, 2025):

California Department of Finance. (January 2025). *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2025*. <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2025>

⁸ SCAG Growth Forecasts (9,800 persons between 2016 and 2045):

Southern California Association of Governments (SCAG). (September 2020). *Demographics and Growth Forecast*. [/https://scag.ca.gov/sites/default/files/old/file-attachments/0903fconnectsocial_demographics-and-gro...](https://scag.ca.gov/sites/default/files/old/file-attachments/0903fconnectsocial_demographics-and-gro...)

emissions would not exceed any applicable SCAQMD thresholds. Therefore, the Project would be consistent with Consistency Criterion No. 2.

As the Project would be consistent with both Consistency Criteria No. 1 and 2, impacts related to the Project's consistency with the AQMP would be less than significant.

Odors

Odors would be produced during the construction of the proposed Project due to the operation of heavy-duty off-road equipment. The primary odor emitted would be diesel particulate matter (DPM) from the vendor trucks and heavy-duty off-road equipment. This odor may be noticeable by nearby residents; however, these odors would be expected and not necessarily objectionable. These odors would also dissipate quickly and would be temporary. Therefore, due to the nature of the odor produced during construction as temporary and non-objectionable to a substantial number of people, the odor impact from construction of the proposed Project would be less than significant.

For operational odor emissions, SCAQMD's *CEQA Air Quality Handbook* describes odor complaints associated with the following land uses:

- Agricultural uses
- Chemical plants
- Composting activities
- Dairies
- Fiberglass molding
- Food processing plants
- Landfills
- Refineries
- Wastewater treatment plants

The Project does not propose any of the above land uses and is required to comply with SCAQMD Rule 402, *Nuisance*, which states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Thus, impacts associated with odor produced by operation of the proposed Project would be less than significant.

Conclusion

The proposed Project's maximum daily regional and localized construction and operational emissions would not exceed SCAQMD's regional thresholds of significance, as detailed in Tables 2 through 4. All construction activities would comply with applicable SCAQMD rules and regulations, ensuring minimal and temporary odor exposure during construction. Operational impacts are also anticipated to be minimal and consistent with surrounding land uses. In addition, the proposed Project is consistent with SCAQMD'S 2022 AQMP, reflecting adherence to regional air quality management goals and standards. During construction, any odors produced will be temporary and not significantly objectionable. Additionally, the proposed Project

involves land uses that do not typically generate significant odor complaints and complies with SCAQMD Rule 402, which addresses potential odor impacts. Overall, the proposed Project's impacts related to air quality would be less than significant.

Energy

The CEQA Guidelines do not have specific numerical thresholds for energy consumption. Rather, the questions in Appendix G, (VI) Energy, ask: (a) “[Would the proposed Project] Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?” and (b) “[Would the project] Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?”¹⁰ Therefore, for the purpose of this analysis, a significant impact would occur if:

- a) The project design and/or location encourages wasteful, inefficient, and unnecessary consumption of energy, especially fossil fuels such as coal, natural gas, and petroleum, as well as the use of fuel by vehicles anticipated to travel to and from the project; or
- b) The project design impedes the growth of future renewable energy developments.

Southern California Edison and the Southern California Gas Company would provide electricity and natural gas, respectively, for construction and operation of the proposed Project. The following assumptions were used to calculate the energy (electricity, natural gas, and petroleum) consumption of the proposed Project:

- Construction equipment fuel consumption was derived from the CARB OffRoad2021 emission model.
- Fuel consumption from vehicle travel was derived from the CARB EMFAC2021 emission model.
- The Project would not consume natural gas on-site; therefore, CalEEMod measure *E-15 Require All-Electric Development* is applied.
- Electricity consumption was derived from CalEEMod (Version 2022.1).

Construction

Electricity and Natural Gas Usage

Due to the Project size and the fact that construction is temporary, the electricity used during construction of the proposed Project would be substantially less than that required for Project operation and would have a negligible contribution to the Project’s overall energy consumption. The electric power used would be for as-necessary lighting and electronic equipment such as computers inside temporary construction trailers. Natural gas is not anticipated to be needed for construction activities. Any natural gas consumption during construction would be minor and negligible in comparison with Countywide consumption.

Petroleum Fuel Usage

Construction equipment associated with construction activities (off-road/heavy duty vehicles) would rely on diesel fuel, as would vendor and haul trucks involved in delivering building materials and removing demolition debris from the Project site. Construction workers would travel to and from the Project site throughout the duration of construction, and for a conservative analysis, it is assumed that construction workers would travel in gasoline-powered passenger vehicles. The proposed Project’s construction vehicle fuel usage is based on vehicle miles traveled (VMT) and fuel usage factors contained in the CARB EMFAC2021 model, which are included in Attachment B, *Detailed Calculation Sheets*. The trips included are those of worker vehicles, vendor vehicles, and haul vehicles. Construction equipment would be transported to the site and operated on-site only. Please refer to Attachment B for the total fuel consumption and horsepower-hour data contained within the CARB Off-Road 2021 emission model for specific types of diesel construction equipment.

¹⁰ California Energy Commission. (2023). *CEQA Statutes and Guidelines Attachment 10 Appendix G: Environmental Checklist Form*. https://www.energy.ca.gov/sites/default/files/2024-01/11_Attachment_10_-_Appendix_G_from_CEQA_Handbook_ada.docx

As shown in Table 5, *Total Construction Fuel Usage*, construction of the proposed Project would require a total of 25,810 gallons of diesel fuel and 6,369 gallons of gasoline fuel from construction vehicles. As shown in Table 5, this would result in a <0.01 percent increase in both countywide construction diesel fuel consumption and countywide on-road gasoline consumption. Thus, increased energy consumption from the construction of the proposed Project would be nominal. Additionally, it should be noted that this total fuel consumption is a conservative analysis and would likely overstate the amount of fuel usage, as specific construction equipment (e.g., crane) is not expected to operate during the entire duration of the construction activity.

Table 5: Total Construction Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Construction Vehicles	2,342	6,369
Off-Road Construction Equipment	23,468	-
Total	25,810	6,369
Orange Countywide Consumption	148,356,352	863,917,364
Percentage Increase (%)	<0.01%	<0.01%

Source: CalEEMod Output Sheets (see Attachment A) and Detailed Calculation Sheets (see Attachment B)

Operation

Operation of the proposed Project would consume electricity and gasoline. Electricity consumption for the proposed Project can be found in Attachment A, *CalEEMod Output Sheets*. The gasoline consumption rates utilize the same assumptions that were used for construction worker vehicles. The Project's estimated net energy consumption is shown in Table 6, *Project Net Annual Operational Energy Requirements*, below. The proposed Project is expected to require consumption of electricity and gasoline. However, the proposed Project's energy consumption would be consistent with similar sized projects and would not constitute an inefficient use of energy. Additionally, the Project is anticipated to result in a net decrease in consumption of electricity and gasoline fuel in comparison to the existing site. Finally, as shown in Table 6, operation of the proposed Project would account for less than 0.01 percent of countywide electricity consumption and less than 0.01 percent of countywide gasoline consumption. Thus, the Project's operational energy use would be nominal at the countywide scale.

Table 6: Project Net Annual Operational Energy Requirements

Operational Source	Energy Usage	Orange Countywide Energy Consumption	Project Percentage
Electricity (Kilowatt-Hour)			
Proposed Project	106,474.3	18,759,000,000	<0.01%
Existing Use	167,551.2		
Net Electricity	- 61,076.91		
Petroleum (Gasoline) Consumption			
Gallons of Gasoline Fuel			
Proposed Project	24,208.6	863,917,364	<0.01%
Existing Use	37,270.5		
Net Petroleum (Gasoline)	- 13,061.9		

Source: CalEEMod Output Sheets (see Attachment A) and Detailed Calculation Sheets (see Attachment B)

Future Renewable Energy Developments

The proposed Project would be required to meet the CCR Title 24 State Building Energy Efficiency Standards, appliance efficiency regulations, and green building standards in effect during permitting of the proposed Project and comply with all applicable City energy codes. The City's administration of energy efficiency requirements includes review of design components and energy conservation measures during the permitting process to ensure that all requirements are met. In addition, the Project buildings would install solar in compliance with current Title 24 requirements. As such, the Project would not inhibit the use of and would instead allow for future flexibility relating to renewable energy.

Conclusion

As described above, the Project would not result in significant impacts related to energy. Construction activities associated with the proposed Project are not expected to result in fuel demand, on a per-unit-of-development basis, that exceeds that of comparable residential projects in Southern California. The Project does not include any unusual characteristics that would require the use of construction equipment with lower energy efficiency than that used for typical residential development. In addition, construction activities would comply with applicable regulations aimed at reducing energy consumption and emissions, including restrictions on vehicle idling, fuel standards, and equipment efficiency requirements, and estimated energy consumption from construction of the Project would be nominal compared to the energy consumption of the region.

During operation, the Project would consume less electricity and gasoline than the site's previous use. Operational energy demand would be consistent with that of similar residential developments and would not result in inefficient, wasteful, or unnecessary energy consumption. Energy consumption from the operation of the Project would be nominal compared to that of the region. Therefore, the Project would result in a less-than-significant energy impact during both construction and operation, and no mitigation would be required.

In addition, the operation of the Project would also be similar to other residential projects within the County and would be required to meet CCR Title 24 energy efficiency standards and comply with all applicable County energy codes. The proposed Project would install solar energy systems in compliance with current Title 24 requirements. Therefore, the Project would not inhibit the use of and would instead allow for future flexibility relating to renewable energy.

Overall, the Project would result in less-than-significant impacts related to wasteful, inefficient, and unnecessary consumption of energy and impediment of future renewable energy development.

Greenhouse Gas Emissions

Regulatory Background and Thresholds

California State Executive Order S-3-05, issued by Governor Arnold Schwarzenegger in June 2005, established comprehensive GHG reduction targets for the State.¹¹ It mandated reducing GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. This Executive Order laid the foundation for subsequent climate change mitigation efforts in California, including the development of various policies and programs aimed at reducing emissions across sectors such as transportation, energy, and industry. The objective of the Executive Order is to contribute to capping worldwide CO₂ concentrations at 450 parts-per-million (ppm), stabilizing global climate change.

The SCAQMD convened a GHG Emissions CEQA Significance Threshold Working Group to help lead agencies determine significance thresholds for GHG emissions when the SCAQMD is not the lead agency. The last working group was held in September 2010 (Meeting No. 15) and proposed a tiered approach (Tier 1 to Tier 5), which involves different methods to determine significance of GHG emissions.¹² This assessment will apply the Tier 3 (Numerical Screening Thresholds) approach. Tier 3 consists of screening values which the lead agency can choose from, but it must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project impact would be less than significant:

- Option 1, all land use types: 3,000 metric tons of carbon dioxide equivalent (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

The City of Garden Grove does not have an adopted climate action plan or GHG reduction plan. Therefore, the proposed Project was analyzed for consistency with the goals of Assembly Bill (AB) 32, the 2022 Scoping Plan, which accounts for SB 32 and AB 1279 GHG reduction targets, and the SCAG 2020–2045 RTP/SCS.

The City of Garden Grove understands that the 3,000 MTCO_{2e} per year threshold was proposed by the 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 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 (latest of which occurred in 2010).¹³ 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 SCAQMD, this threshold “uses the Executive Order S- 3-05 goal [80 percent below 1990 levels by 2050] as the basis for deriving the screening level” and, thus,

¹¹ Executive Department State of California Executive Order S-3-05: <https://www.library.ca.gov/wp-content/uploads/GovernmentPublications/executive-order-proclamation/5129-5130.pdf>

¹² SCAQMD. (2010). *Minutes of the GHG CEQA Significance Threshold Stakeholder Working Group #15*. <http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-ghg-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf>

¹³ SCAQMD. (2008). *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*. <http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-ghg-ceqa-significance-thresholds/ghgboardsynopsis.pdf>

remains valid for use in 2025 and for purposes of this CEQA document. Lastly, this threshold has been used for hundreds, if not thousands of GHG analyses performed for projects located within the SCAQMD jurisdiction.

Project GHG Emissions

The Project's construction GHG emissions are shown in Table 7, *Project Construction GHG Emissions*, which are amortized over 30 years and added to the operational GHG emissions shown in Table 8, *Total Project GHG Emissions*. These emissions were calculated using the CalEEMod model. As shown in Table 8, the proposed Project's construction and operational GHG emissions would total 234 metric tons of carbon dioxide equivalent (MTCO_{2e}) per year.

When compared to emissions from operation of the existing church, preschool, and daycare buildings, including the reduction in 58 daily vehicle trips, the Project would result in a net decrease of 180 MTCO_{2e} per year. Thus, the proposed Project would not exceed the SCAQMD significance threshold of 3,000 MTCO_{2e} per year, and would result in a less than significant impact on GHG emissions.

Table 7: Project Construction GHG Emissions

Activity	Annual GHG Emissions (MTCO _{2e})
2027	155
2028	197
Total Emissions	352
Total Emissions Amortized Over 30 Years	12

Source: CalEEMod output sheets are provided in Attachment A, and the detailed calculation sheets are provided in Attachment B.

Table 8: Total Project GHG Emissions

Activity	Annual GHG Emissions (MTCO _{2e})*
Mobile	195
Area	<0.01
Energy	18
Water	3
Waste	6
Refrigeration	<0.01
Total Project Operation Emissions	222
Amortized Construction Emissions	12
Total Project Emissions	234
Existing Emissions	414
Net New Emissions	-180
Significance Threshold	3,000
Threshold Exceeded?	No

* Numbers may vary due to rounding.

Source: CalEEMod output sheets are provided in Attachment A, and the detailed calculation sheets are provided in Attachment B.

Greenhouse Gas Reduction Plans Consistency

Based on project-specific emissions modeling, the proposed Project would result in annual GHG emissions of 234 MTCO_{2e}, a net decrease of approximately 180 MTCO_{2e} compared to existing emissions, as shown in Table 8 above. This is below the SCAQMD's 3,000 MTCO_{2e} per year screening threshold as well as the baseline conditions. Thus, the Project would not exceed the applicable GHG significance threshold.

The Project would comply with applicable plans and programs intended to reduce greenhouse gas emissions, including the City of Garden Grove General Plan, the 2022 CARB Scoping Plan, and the SCAG 2020–2045 RTP/SCS. The Project would implement all mandatory measures in effect at the time of construction and operation, including compliance with the California Building Standards Code (Title 24), which incorporates the California Energy Code and CALGreen Code. As a residential development of 26 two-story townhome units, the Project would not result in population or employment growth beyond what is anticipated in the City's General Plan and would remain consistent with the site's designated land use and zoning, with the City's approval. These measures collectively ensure the Project aligns with local and regional GHG reduction policies and growth assumptions.

The Project would also follow applicable provisions of the 2022 CARB Scoping Plan, which establishes sector-specific regulations and actions necessary to achieve carbon neutrality by 2045, including emissions reductions from building energy, transportation, waste, and land use. The Project would implement all mandatory measures in effect at the time of construction and operation, including compliance with the California Building Standards Code (Title 24), which incorporates the California Energy Code and CALGreen Code.

The Project site lies within the SCAG region and is subject to the regional planning framework outlined in the SCAG 2020–2045 RTP/SCS. As a residential development consisting of 26 two-story townhome units, the Project would not generate population or employment growth beyond what is anticipated in the City's General Plan and would be consistent with the site's land use and zoning designations. Therefore, the Project would align with the growth assumptions used in the 2020–2045 RTP/SCS and would not conflict with SCAG's regional planning framework or projections. A detailed discussion of consistency with the 2022 CARB Scoping Plan is provided in the following sections.

Project Consistency with the 2022 CARB Scoping Plan

CARB's 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) sets California's GHG emission reduction target for 2045 at 85 percent below 1990 levels, which was codified by SB 32.¹⁴ Table 9, *2022 Scoping Plan Consistency Summary*, demonstrates that the Project would comply with all applicable actions intended to reduce GHG emissions.

Table 9: 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 Title 24, Part 6 building energy requirements and other applicable local and State initiatives. Compared with the existing use, the Project would result in a reduction of GHG emissions and

¹⁴ California Air Resources Board. (2022). *California's 2022 Climate Change Scoping Plan Table 2-1: Actions for the Scoping Plan Scenario: AB 32 GHG Inventory Sectors*. Referenced at: <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>

Action	Consistency
	contribute toward the statewide goal of 40 percent below 1990 levels by 2030. The Project would also result in a net reduction of GHG emissions which would further the State’s GHG reduction goals
Smart Growth/Vehicle Miles Traveled VMT	
VMT per capita reduced 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045.	Consistent. As previously discussed, the Project would be consistent with the growth and land use assumptions in the 2020–2045 RTP/SCS, and would not interfere with the analysis completed for the RTP/SCS report outlining VMT reduction targets and measures. The Project is located in a VMT area below the County’s average and proposes increased housing density, which encourages walking, biking, transit use, and other non-driving travel by placing residents closer to destinations and transit options.
Light-Duty Vehicle (LDV) Zero-Emission Vehicles (ZEVs)	
100% of LDV sales are ZEV by 2035.	Consistent. While the Project is a residential development and does not involve the sale of vehicles, the homes will be constructed with electric vehicle (EV) hookups to support the transition to 100% ZEV by 2035.
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 development and does not propose the sale of trucks.
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 is a residential development and 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 is a residential development and 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 is a residential development and 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 is a residential development and 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 is a residential development and would not involve oil and gas extraction operations.

Action	Consistency
Petroleum Refining	
CCS on majority of operations by 2030, beginning in 2028. Production reduced in line with petroleum demand.	Not Applicable. The proposed Project is a residential development and would not involve any petroleum refining.
Electricity Generation	
Sector GHG target of 38 million metric tons of carbon dioxide equivalent (MMTCO _{2e}) in 2030 and 30 MMTCO _{2e} in 2035. Retail sales load coverage 13420 gigawatts (GW) of offshore wind by 2045. Meet increased demand for electrification without new fossil gas-fired resources.	Consistent. The proposed Project would install solar energy systems in compliance with Title 24 requirements to meet the demand for electrification without relying on new fossil gas-fired resources.
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 proposed project would comply with Title 24, Part 6 energy efficiency requirements, including the installation of electrical wiring for all built-in appliances. As a residential development, the project would not use natural gas on-site and would rely entirely on electricity to meet its energy needs.
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 contain any existing residential buildings. Conversely, the proposed Project will introduce residential on the site which would be 100% electric.
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.	Consistent. The Project site is currently occupied by three buildings, including a church and two structures used for preschool/daycare and office uses. While the proposed residential townhomes and multifamily units would not sell appliances, they would consume energy; however, the Project is fully electric and does not propose any natural gas, ensuring consistency with the applicable requirements. The three existing buildings would be demolished to accommodate the new fully electric residential development.
Food Products	
7.5% of energy demand electrified directly and/or indirectly by 2030; 75% by 2045.	Not Applicable. The Project is a residential development and would not involve mass food production.
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 is 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 percent in 2030 and 75 percent in 2045.
Chemicals and Allied Products; Pulp and Paper	
Electrify 0% of boilers by 2030 and 100% of boilers by 2045.	Not Applicable. The proposed Project is a residential development and would not involve the production and/or storage of chemicals and allied products like pulp and paper.

Action	Consistency
Hydrogen for 25% of process heat by 2035 and 100% by 2045. Electrify 100% of other energy demand by 2045.	
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 is a residential development and would not involve the production and/or storage of stone, clay, glass, and/or cement.
Other Industrial Manufacturing	
0 percent energy demand electrified by 2030 and 50% by 2045.	Not Applicable. The proposed Project is a residential development and does not include any industrial manufacturing uses.
Combined Heat and Power	
Facilities retire by 2040.	Not Applicable. The proposed Project is a residential development and 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 is a residential development and 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 is a residential development and would not involve any production of biofuels.
Low Carbon Fuels for Buildings and Industry	
In 2030s, biomethane 135 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 is a residential development and 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 is a residential development and would not involve any production of non-combustion methane emissions or organic waste.
High GWP Potential Emissions	
Low GWP refrigerants introduced as building electrification increases, mitigating HFC emissions.	Consistent. The proposed residential development would include refrigerators in each home and would comply with Title 24 Part 6 (Energy Code) and Part 11 (CALGreen) requirements.

Source: CARB. (2022). *California's 2022 Climate Change Scoping Plan Table 2-1: Actions for the Scoping Plan Scenario: AB 32 GHG Inventory Sectors*. Referenced at: <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>.

Table 10, *Local Action Policies (Appendix D of the 2022 Scoping Plan)*, identifies GHG reduction measures for implementation by local governments. These local policies focus on climate action planning and approval of new land use development projects. The Project is consistent with these measures and would not conflict with any plan, policy, or regulation adopted for the purpose of reducing GHG emissions within the 2022 Scoping Plan.

Table 10: Local Actions Policies (Appendix D of the 2022 Scoping Plan)

Action	Consistency
VMT Reduction	
Adopt and implement Complete Streets policies and investments, consistent with general plan circulation element requirements.	Consistent. The proposed Project would maintain the existing sidewalks and include sidewalks throughout the site to provide pedestrian circulation within the Project and connections to adjacent off-site areas, enhancing existing conditions and supporting the CARB's Complete Streets goals.
Increase public access to shared clean mobility options (such as planning for and investing in electric shuttles, bike share, car share, transit).	Consistent. The proposed Project site at 9822 Russell Avenue is situated in a developed urban area with existing sidewalks along all adjacent roadways. The Project would provide ADA-compliant sidewalks throughout the site, connecting to the existing sidewalk network along Russell Avenue and a new sidewalk along Kerry Street to be constructed as part of the Project. The nearest public transit access is provided by bus stops on Brookhurst Street (Stop IDs 2187 and 2208) along Line 35.
Amend zoning or development codes to enable mixed-use, walkable, and compact infill development (such as increasing allowable density of the neighborhood).	Consistent. The Project requests approval of a General Plan Amendment to change the land use designation from LDR to LMR, allowing residential densities of 11 to 21 dwelling units per acre, therefore increasing residential density. The Project also includes a zone change from R-1 to PUD for small-lot subdivisions, using the R-2 designation as the base guiding standard, therefore increasing residential density.
Building Decarbonization	
Adopt all-electric new construction reach codes.	Consistent. The proposed Project is fully electric, does not propose any natural gas, and would comply with Title 24 Parts 6 and 11, including the installation of EV charging infrastructure in garages, electric heat pumps and electric hookups for all appliances.
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 buildings.
Facilitate deployment of renewable energy production and distribution and energy storage.	Consistent. The proposed Project would be constructed in accordance with the California Energy Code (Title 24 Part 6) to meet all requirements related to solar energy production and the CALGreen Building Energy Efficiency Standards (Title 24 Part 11) to meet efficiency standards.

Source: California Air Resources Board. (2022). *California's 2022 Climate Change Scoping Plan Table 2-1: Actions for the Scoping Plan Scenario: AB 32 GHG Inventory Sectors*. Referenced at: <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>

Conclusion

The proposed Project's construction and operational GHG emissions would total 234 metric tons of carbon dioxide equivalent (MTCO_{2e}) per year. When compared to emissions from the existing buildings, the Project

would result in a net decrease of 180 MTCO₂e per year, which remains below the SCAQMD significance threshold of 3,000 MTCO₂e per year. Additionally, as shown in Tables 9 and 10, the Project is consistent with the applicable policies of the 2022 CARB Scoping Plan and applicable local action policies. The Project is also consistent with the SCAG 2020–2045 RTP/SCS. The Project would implement measures to reduce greenhouse gas emissions, including compliance with the California Building Standards Code (Title 24), which incorporates the California Energy Code and CALGreen Code. The Project would not conflict with the actions or goals established in these plans and would be consistent with regional growth and land use assumptions. Overall, the Project's GHG emissions impacts would be less than significant.

Attachment A – CalEEMod Output Sheets

25-142 9822 Russell Ave Garden Grove Detailed Report

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5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

8.1. Justifications

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	25-142 9822 Russell Ave Garden Grove
Construction Start Date	9/1/2027
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.8
Precipitation (days)	18
Location	9822 Russell Ave, Garden Grove, CA 92844, USA
County	Orange
City	Garden Grove
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5887
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.35

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Low Rise	26	Dwelling Unit	0.64	27,798	16,278	—	77	Residential units

Parking Lot	33	Space	0.13	0.00	0.00	—	—	Open parking spaces
Other Asphalt Surfaces	0.53	Acre	0.53	0.77	0.00	—	—	—
City Park	0.27	Acre	0.27	0.00	0.00	0.00	—	Open Space
Parking Lot	10	1000sqft	0.24	0.00	0.00	—	—	Garage Spaces

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-15	Require All-Electric Development

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Unmit.	14	18	21	0.04	5.2	1.8	5,782
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	2.2	20	24	0.04	3.9	2.0	5,365
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	1.0	4.3	6.2	0.01	0.46	0.17	1,192
Annual (Max)	—	—	—	—	—	—	—
Unmit.	0.18	0.79	1.1	< 0.005	0.08	0.03	197
Exceeds (Daily Max)	—	—	—	—	—	—	—
Threshold	75	100	550	150	150	55	—
Unmit.	No	No	No	No	No	No	—
Exceeds (Average Daily)	—	—	—	—	—	—	—

Threshold	75	100	550	150	150	55	—
Unmit.	No	No	No	No	No	No	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—
2027	2.2	18	21	0.04	5.2	1.8	5,782
2028	14	12	18	0.03	0.67	0.40	3,299
Daily - Winter (Max)	—	—	—	—	—	—	—
2027	2.2	20	24	0.04	3.9	2.0	5,365
2028	1.3	11	16	0.03	0.60	0.37	3,064
Average Daily	—	—	—	—	—	—	—
2027	0.36	3.2	4.1	0.01	0.46	0.17	935
2028	1.0	4.3	6.2	0.01	0.23	0.14	1,192
Annual	—	—	—	—	—	—	—
2027	0.06	0.59	0.75	< 0.005	0.08	0.03	155
2028	0.18	0.79	1.1	< 0.005	0.04	0.03	197

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—
2027	2.2	18	21	0.04	5.2	1.8	5,782
2028	14	12	18	0.03	0.67	0.40	3,299
Daily - Winter (Max)	—	—	—	—	—	—	—
2027	2.2	20	24	0.04	3.9	2.0	5,365
2028	1.3	11	16	0.03	0.60	0.37	3,064

Average Daily	—	—	—	—	—	—	—
2027	0.36	3.2	4.1	0.01	0.46	0.17	935
2028	1.0	4.3	6.2	0.01	0.23	0.14	1,192
Annual	—	—	—	—	—	—	—
2027	0.06	0.59	0.75	< 0.005	0.08	0.03	155
2028	0.18	0.79	1.1	< 0.005	0.04	0.03	197

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.	1.3	0.50	6.1	0.01	1.3	0.34	1,634
Mit.	1.3	0.39	6.1	0.01	1.3	0.33	1,500
% Reduced	< 0.5%	21%	1%	—	1%	3%	8%
Daily, Winter (Max)	—	—	—	—	—	—	—
Unmit.	1.1	0.52	4.3	0.01	1.3	0.34	1,577
Mit.	1.1	0.41	4.3	0.01	1.3	0.33	1,442
% Reduced	1%	21%	1%	—	1%	3%	9%
Average Daily (Max)	—	—	—	—	—	—	—
Unmit.	1.2	0.49	5.0	0.01	1.2	0.30	1,475
Mit.	1.2	0.39	5.0	0.01	1.1	0.30	1,341
% Reduced	1%	22%	1%	—	1%	3%	9%
Annual (Max)	—	—	—	—	—	—	—
Unmit.	0.22	0.09	0.92	< 0.005	0.21	0.06	244
Mit.	0.21	0.07	0.91	< 0.005	0.21	0.05	222
% Reduced	1%	22%	1%	6%	1%	3%	9%
Exceeds (Daily Max)	—	—	—	—	—	—	—
Threshold	55	55	550	150	150	55	—

Unmit.	No	No	No	No	No	No	—
Mit.	No	No	No	No	No	No	—
Exceeds (Average Daily)	—	—	—	—	—	—	—
Threshold	55	55	550	150	150	55	—
Unmit.	No	No	No	No	No	No	—
Mit.	No	No	No	No	No	No	—
Exceeds (Annual)	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	3,000
Unmit.	—	—	—	—	—	—	No
Mit.	—	—	—	—	—	—	No

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Mobile	0.49	0.38	4.6	0.01	1.3	0.33	1,334
Area	0.78	0.01	1.5	< 0.005	< 0.005	< 0.005	4.0
Energy	0.01	0.11	0.05	< 0.005	0.01	0.01	245
Water	—	—	—	—	—	—	16
Waste	—	—	—	—	—	—	36
Refrig.	—	—	—	—	—	—	0.20
Total	1.3	0.50	6.1	0.01	1.3	0.34	1,634
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	0.49	0.41	4.3	0.01	1.3	0.33	1,280
Area	0.65	—	—	—	—	—	—
Energy	0.01	0.11	0.05	< 0.005	0.01	0.01	245
Water	—	—	—	—	—	—	16

Waste	—	—	—	—	—	—	36
Refrig.	—	—	—	—	—	—	0.20
Total	1.1	0.52	4.3	0.01	1.3	0.34	1,577
Average Daily	—	—	—	—	—	—	—
Mobile	0.44	0.38	4.0	0.01	1.1	0.30	1,176
Area	0.74	0.01	1.0	< 0.005	< 0.005	< 0.005	2.7
Energy	0.01	0.11	0.05	< 0.005	0.01	0.01	245
Water	—	—	—	—	—	—	16
Waste	—	—	—	—	—	—	36
Refrig.	—	—	—	—	—	—	0.20
Total	1.2	0.49	5.0	0.01	1.2	0.30	1,475
Annual	—	—	—	—	—	—	—
Mobile	0.08	0.07	0.72	< 0.005	0.21	0.05	195
Area	0.13	< 0.005	0.18	< 0.005	< 0.005	< 0.005	0.45
Energy	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	41
Water	—	—	—	—	—	—	2.6
Waste	—	—	—	—	—	—	6.0
Refrig.	—	—	—	—	—	—	0.03
Total	0.22	0.09	0.92	< 0.005	0.21	0.06	244

2.6. Operations Emissions by Sector, Mitigated

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	0.49	0.38	4.6	0.01	1.3	0.33	1,334
Area	0.78	0.01	1.5	< 0.005	< 0.005	< 0.005	4.0
Energy	0.00	0.00	0.00	0.00	0.00	0.00	110
Water	—	—	—	—	—	—	16

Waste	—	—	—	—	—	—	36
Refrig.	—	—	—	—	—	—	0.20
Total	1.3	0.39	6.1	0.01	1.3	0.33	1,500
Daily, Winter (Max)	—	—	—	—	—	—	—
Mobile	0.49	0.41	4.3	0.01	1.3	0.33	1,280
Area	0.65	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	110
Water	—	—	—	—	—	—	16
Waste	—	—	—	—	—	—	36
Refrig.	—	—	—	—	—	—	0.20
Total	1.1	0.41	4.3	0.01	1.3	0.33	1,442
Average Daily	—	—	—	—	—	—	—
Mobile	0.44	0.38	4.0	0.01	1.1	0.30	1,176
Area	0.74	0.01	1.0	< 0.005	< 0.005	< 0.005	2.7
Energy	0.00	0.00	0.00	0.00	0.00	0.00	110
Water	—	—	—	—	—	—	16
Waste	—	—	—	—	—	—	36
Refrig.	—	—	—	—	—	—	0.20
Total	1.2	0.39	5.0	0.01	1.1	0.30	1,341
Annual	—	—	—	—	—	—	—
Mobile	0.08	0.07	0.72	< 0.005	0.21	0.05	195
Area	0.13	< 0.005	0.18	< 0.005	< 0.005	< 0.005	0.45
Energy	0.00	0.00	0.00	0.00	0.00	0.00	18
Water	—	—	—	—	—	—	2.6
Waste	—	—	—	—	—	—	6.0
Refrig.	—	—	—	—	—	—	0.03
Total	0.21	0.07	0.91	< 0.005	0.21	0.05	222

3. Construction Emissions Details

3.1. Demolition (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	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.3	12	14	0.02	0.47	0.43	2,502
Demolition	—	—	—	—	3.7	0.56	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.68	0.79	< 0.005	0.03	0.02	137
Demolition	—	—	—	—	0.20	0.03	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.14	< 0.005	< 0.005	< 0.005	23
Demolition	—	—	—	—	0.04	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.04	0.04	0.62	0.00	0.16	0.04	162
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	3.5	1.6	0.02	0.84	0.26	3,117
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.01	< 0.005	8.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	0.20	0.09	< 0.005	0.05	0.01	171
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	1.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	0.02	< 0.005	0.01	< 0.005	28

3.2. Demolition (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.3	12	14	0.02	0.47	0.43	2,502
Demolition	—	—	—	—	3.7	0.56	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.68	0.79	< 0.005	0.03	0.02	137
Demolition	—	—	—	—	0.20	0.03	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.14	< 0.005	< 0.005	< 0.005	23
Demolition	—	—	—	—	0.04	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.04	0.04	0.62	0.00	0.16	0.04	162
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.05	3.5	1.6	0.02	0.84	0.26	3,117

Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.01	< 0.005	8.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.20	0.09	< 0.005	0.05	0.01	171
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	1.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	0.02	< 0.005	0.01	< 0.005	28

3.3. Site Preparation (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	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	2.1	18	20	0.03	0.88	0.81	3,347
Dust From Material Movement	—	—	—	—	2.1	0.92	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	2.1	18	20	0.03	0.88	0.81	3,347
Dust From Material Movement	—	—	—	—	2.1	0.92	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.11	< 0.005	< 0.005	< 0.005	18
Dust From Material Movement	—	—	—	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	3.0
Dust From Material Movement	—	—	—	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.06	0.07	1.1	0.00	0.29	0.07	292
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.06	0.07	0.96	0.00	0.29	0.07	277
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	1.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2027) - Mitigated

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

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

Off-Road Equipment	2.1	18	20	0.03	0.88	0.81	3,347
Dust From Material Movement	—	—	—	—	2.1	0.92	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	2.1	18	20	0.03	0.88	0.81	3,347
Dust From Material Movement	—	—	—	—	2.1	0.92	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.11	< 0.005	< 0.005	< 0.005	18
Dust From Material Movement	—	—	—	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	3.0
Dust From Material Movement	—	—	—	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.06	0.07	1.1	0.00	0.29	0.07	292
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.06	0.07	0.96	0.00	0.29	0.07	277
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	1.5

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (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	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.9	17	18	0.03	0.91	0.84	3,005
Dust From Material Movement	—	—	—	—	2.3	0.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.19	0.20	< 0.005	0.01	0.01	33
Dust From Material Movement	—	—	—	—	0.02	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	< 0.005	5.5
Dust From Material Movement	—	—	—	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.04	0.04	0.53	0.00	0.16	0.04	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.6	1.1	0.01	0.59	0.19	2,206
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	1.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	0.01	< 0.005	24
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	4.0

3.6. Grading (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.9	17	18	0.03	0.91	0.84	3,005
Dust From Material Movement	—	—	—	—	2.3	0.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.19	0.20	< 0.005	0.01	0.01	33
Dust From Material Movement	—	—	—	—	0.02	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	< 0.005	5.5
Dust From Material Movement	—	—	—	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.04	0.04	0.53	0.00	0.16	0.04	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.6	1.1	0.01	0.59	0.19	2,206
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	1.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	0.01	< 0.005	24
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	4.0

3.7. 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	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.3	11	15	0.03	0.37	0.34	2,749
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—

Off-Road Equipment	0.21	1.9	2.5	< 0.005	0.06	0.06	452
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.34	0.46	< 0.005	0.01	0.01	75
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.05	0.06	0.80	0.00	0.24	0.06	231
Vendor	< 0.005	0.09	0.04	< 0.005	0.02	0.01	89
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.04	0.01	39
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	15
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.01	< 0.005	6.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.3	11	15	0.03	0.37	0.34	2,749
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.21	1.9	2.5	< 0.005	0.06	0.06	452
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.34	0.46	< 0.005	0.01	0.01	75
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.05	0.06	0.80	0.00	0.24	0.06	231
Vendor	< 0.005	0.09	0.04	< 0.005	0.02	0.01	89
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.04	0.01	39
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	15
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.01	< 0.005	6.4
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.2	11	15	0.03	0.33	0.30	2,750
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.2	11	15	0.03	0.33	0.30	2,750
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.48	4.2	5.9	0.01	0.13	0.12	1,060
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.77	1.1	< 0.005	0.02	0.02	176
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.05	0.05	0.87	0.00	0.24	0.06	236
Vendor	< 0.005	0.08	0.04	< 0.005	0.02	0.01	87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.05	0.06	0.75	0.00	0.24	0.06	227
Vendor	< 0.005	0.09	0.04	< 0.005	0.02	0.01	87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	0.02	0.02	0.30	0.00	0.09	0.02	89
Vendor	< 0.005	0.03	0.02	< 0.005	0.01	< 0.005	34
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.06	0.00	0.02	< 0.005	15
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	5.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.2	11	15	0.03	0.33	0.30	2,750
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	1.2	11	15	0.03	0.33	0.30	2,750
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.48	4.2	5.9	0.01	0.13	0.12	1,060
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.77	1.1	< 0.005	0.02	0.02	176
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.05	0.05	0.87	0.00	0.24	0.06	236
Vendor	< 0.005	0.08	0.04	< 0.005	0.02	0.01	87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.05	0.06	0.75	0.00	0.24	0.06	227
Vendor	< 0.005	0.09	0.04	< 0.005	0.02	0.01	87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	0.02	0.02	0.30	0.00	0.09	0.02	89
Vendor	< 0.005	0.03	0.02	< 0.005	0.01	< 0.005	34
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.06	0.00	0.02	< 0.005	15
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	5.6
Hauling	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	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.9	7.2	0.01	0.19	0.18	1,106
Paving	0.24	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.13	0.20	< 0.005	0.01	< 0.005	30
Paving	0.01	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.04	< 0.005	< 0.005	< 0.005	5.0
Paving	< 0.005	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.04	0.04	0.53	0.00	0.16	0.04	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	4.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.71
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.9	7.2	0.01	0.19	0.18	1,106
Paving	0.24	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.13	0.20	< 0.005	0.01	< 0.005	30
Paving	0.01	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.04	< 0.005	< 0.005	< 0.005	5.0
Paving	< 0.005	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—
Worker	0.04	0.04	0.53	0.00	0.16	0.04	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	< 0.005	< 0.005	4.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.71
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.1	1.5	< 0.005	0.02	0.02	179
Architectural Coatings	12	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.06	< 0.005	< 0.005	< 0.005	7.3
Architectural Coatings	0.51	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	1.2

Architectural Coatings	0.09	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.01	0.01	0.17	0.00	0.05	0.01	47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	1.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.1	1.5	< 0.005	0.02	0.02	179
Architectural Coatings	12	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.06	< 0.005	< 0.005	< 0.005	7.3

Architectural Coatings	0.51	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	1.2
Architectural Coatings	0.09	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—
Worker	0.01	0.01	0.17	0.00	0.05	0.01	47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	< 0.005	< 0.005	1.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	0.49	0.38	4.6	0.01	1.3	0.33	1,334
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.49	0.38	4.6	0.01	1.3	0.33	1,334
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	0.49	0.41	4.3	0.01	1.3	0.33	1,280
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.49	0.41	4.3	0.01	1.3	0.33	1,280
Annual	—	—	—	—	—	—	—
Apartments Low Rise	0.08	0.07	0.72	< 0.005	0.21	0.05	195
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.08	0.07	0.72	< 0.005	0.21	0.05	195

4.1.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	0.49	0.38	4.6	0.01	1.3	0.33	1,334
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.49	0.38	4.6	0.01	1.3	0.33	1,334
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	0.49	0.41	4.3	0.01	1.3	0.33	1,280
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.49	0.41	4.3	0.01	1.3	0.33	1,280
Annual	—	—	—	—	—	—	—
Apartments Low Rise	0.08	0.07	0.72	< 0.005	0.21	0.05	195
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.08	0.07	0.72	< 0.005	0.21	0.05	195

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	95
Parking Lot	—	—	—	—	—	—	14
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	109

Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	95
Parking Lot	—	—	—	—	—	—	14
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	109
Annual	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	16
Parking Lot	—	—	—	—	—	—	2.2
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	18

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	97
Parking Lot	—	—	—	—	—	—	14
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	110
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	97
Parking Lot	—	—	—	—	—	—	14
Other Asphalt Surfaces	—	—	—	—	—	—	0.00

City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	110
Annual	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	16
Parking Lot	—	—	—	—	—	—	2.2
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	18

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	0.01	0.11	0.05	< 0.005	0.01	0.01	136
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.01	0.11	0.05	< 0.005	0.01	0.01	136
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	0.01	0.11	0.05	< 0.005	0.01	0.01	136
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.01	0.11	0.05	< 0.005	0.01	0.01	136
Annual	—	—	—	—	—	—	—
Apartments Low Rise	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	23

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	23

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	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
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	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
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—
Apartments Low Rise	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
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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)	—	—	—	—	—	—	—
Consumer Products	0.60	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—
Landscape Equipment	0.13	0.01	1.5	< 0.005	< 0.005	< 0.005	4.0
Total	0.78	0.01	1.5	< 0.005	< 0.005	< 0.005	4.0
Daily, Winter (Max)	—	—	—	—	—	—	—
Consumer Products	0.60	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—
Total	0.65	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Consumer Products	0.11	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—
Landscape Equipment	0.02	< 0.005	0.18	< 0.005	< 0.005	< 0.005	0.45
Total	0.13	< 0.005	0.18	< 0.005	< 0.005	< 0.005	0.45

4.3.2. Mitigated

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)	—	—	—	—	—	—	—
Consumer Products	0.60	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—
Landscape Equipment	0.13	0.01	1.5	< 0.005	< 0.005	< 0.005	4.0
Total	0.78	0.01	1.5	< 0.005	< 0.005	< 0.005	4.0

Daily, Winter (Max)	—	—	—	—	—	—	—
Consumer Products	0.60	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—
Total	0.65	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—
Consumer Products	0.11	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—
Landscape Equipment	0.02	< 0.005	0.18	< 0.005	< 0.005	< 0.005	0.45
Total	0.13	< 0.005	0.18	< 0.005	< 0.005	< 0.005	0.45

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	16
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	16
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	16
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	16

Annual	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	2.6
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	2.6

4.4.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	16
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	16
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	16
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	16
Annual	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	2.6
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00

City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	2.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	36
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.04
Total	—	—	—	—	—	—	36
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	36
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.04
Total	—	—	—	—	—	—	36
Annual	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	6.0
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.01
Total	—	—	—	—	—	—	6.0

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	36
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.04
Total	—	—	—	—	—	—	36
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	36
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.04
Total	—	—	—	—	—	—	36
Annual	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	6.0
Parking Lot	—	—	—	—	—	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	0.00
City Park	—	—	—	—	—	—	0.01
Total	—	—	—	—	—	—	6.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	0.20
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	0.20
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	0.20
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	0.20
Annual	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	0.03
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	0.03

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10T	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	0.20
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	0.20
Daily, Winter (Max)	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	0.20
City Park	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	0.20
Annual	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	0.03
City Park	—	—	—	—	—	—	0.00

Total	—	—	—	—	—	—	0.03
-------	---	---	---	---	---	---	------

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	—	—	—	—	—	—	—

4.7.2. Mitigated

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	—	—	—	—	—	—	—

4.8.2. Mitigated

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	—	—	—	—	—	—	—
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4.9.2. Mitigated

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	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

4.104. Soil Carbon Accumulation By Vegetation Type - Mitigated

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	—	—	—	—	—	—	—

4.105. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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	—	—	—	—	—	—	—

4.106. Avoided and Sequestered Emissions by Species - Mitigated

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2027	9/29/2027	5.0	20	—
Site Preparation	Site Preparation	9/30/2027	10/2/2027	5.0	2.0	—
Grading	Grading	10/3/2027	10/8/2027	5.0	4.0	—
Building Construction	Building Construction	10/9/2027	7/15/2028	5.0	200	—
Paving	Paving	10/9/2027	10/22/2027	5.0	10.0	—
Architectural Coating	Architectural Coating	7/1/2028	7/22/2028	5.0	15	—

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	Concrete/Industrial Saws	Diesel	Average	1.00	8.0	33	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Demolition	Tractors/Loaders/Back hoes	Diesel	Average	3.0	8.0	84	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	0.00	8.0	84	0.37
Site Preparation	Crawler Tractors	Diesel	Average	2.0	8.0	87	0.43
Site Preparation	Graders	Diesel	Average	1.00	8.0	148	0.41
Site Preparation	Trenchers	Diesel	Average	1.00	8.0	40	0.50
Site Preparation	Dumpers/Tenders	Diesel	Average	1.00	8.0	16	0.38
Site Preparation	Excavators	Diesel	Average	1.00	8.0	36	0.38
Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	8.0	71	0.37
Site Preparation	Plate Compactors	Diesel	Average	1.00	8.0	8.0	0.43
Grading	Graders	Diesel	Average	1.00	8.0	148	0.41

Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Grading	Tractors/Loaders/Back hoes	Diesel	Average	0.00	8.0	84	0.37
Grading	Crawler Tractors	Diesel	Average	3.0	8.0	87	0.43
Building Construction	Cranes	Diesel	Average	1.00	8.0	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	8.0	82	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.0	14	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.0	8.0	84	0.37
Building Construction	Welders	Diesel	Average	3.0	8.0	46	0.45
Paving	Pavers	Diesel	Average	1.00	8.0	81	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.0	89	0.36
Paving	Rollers	Diesel	Average	1.00	8.0	36	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.0	10.0	0.56
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.0	84	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.0	37	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.0	33	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Demolition	Tractors/Loaders/Back hoes	Diesel	Average	3.0	8.0	84	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	0.00	8.0	84	0.37
Site Preparation	Crawler Tractors	Diesel	Average	2.0	8.0	87	0.43
Site Preparation	Graders	Diesel	Average	1.00	8.0	148	0.41

Site Preparation	Trenchers	Diesel	Average	1.00	8.0	40	0.50
Site Preparation	Dumpers/Tenders	Diesel	Average	1.00	8.0	16	0.38
Site Preparation	Excavators	Diesel	Average	1.00	8.0	36	0.38
Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	8.0	71	0.37
Site Preparation	Plate Compactors	Diesel	Average	1.00	8.0	8.0	0.43
Grading	Graders	Diesel	Average	1.00	8.0	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Grading	Tractors/Loaders/Back hoes	Diesel	Average	0.00	8.0	84	0.37
Grading	Crawler Tractors	Diesel	Average	3.0	8.0	87	0.43
Building Construction	Cranes	Diesel	Average	1.00	8.0	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	8.0	82	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.0	14	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.0	8.0	84	0.37
Building Construction	Welders	Diesel	Average	3.0	8.0	46	0.45
Paving	Pavers	Diesel	Average	1.00	8.0	81	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.0	89	0.36
Paving	Rollers	Diesel	Average	1.00	8.0	36	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.0	10.0	0.56
Paving	Tractors/Loaders/Back hoes	Diesel	Average	1.00	8.0	84	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.0	37	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	Worker	13	19	LDA,LDT1,LDT2

Demolition	Vendor	—	10	HHDT,MHDT
Demolition	Hauling	44	20	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	23	19	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10	HHDT,MHDT
Site Preparation	Hauling	0.00	20	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	13	19	LDA,LDT1,LDT2
Grading	Vendor	—	10	HHDT,MHDT
Grading	Hauling	31	20	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	19	19	LDA,LDT1,LDT2
Building Construction	Vendor	2.8	10	HHDT,MHDT
Building Construction	Hauling	0.00	20	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	13	19	LDA,LDT1,LDT2
Paving	Vendor	—	10	HHDT,MHDT
Paving	Hauling	0.00	20	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	3.7	19	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	13	19	LDA,LDT1,LDT2
Demolition	Vendor	—	10	HHDT,MHDT

Demolition	Hauling	44	20	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	23	19	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10	HHDT,MHDT
Site Preparation	Hauling	0.00	20	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	13	19	LDA,LDT1,LDT2
Grading	Vendor	—	10	HHDT,MHDT
Grading	Hauling	31	20	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	19	19	LDA,LDT1,LDT2
Building Construction	Vendor	2.8	10	HHDT,MHDT
Building Construction	Hauling	0.00	20	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	13	19	LDA,LDT1,LDT2
Paving	Vendor	—	10	HHDT,MHDT
Paving	Hauling	0.00	20	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	3.7	19	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

54. Vehicles

54.1. 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	56,291	18,764	0.00	0.00	2,350

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	3,527	0.00
Site Preparation	—	0.00	4.0	0.00	0.00
Grading	—	1,000	10.0	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.90

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Apartments Low Rise	—	0%
Paving	Parking Lot	0.13	100%
Paving	Other Asphalt Surfaces	0.53	100%
Paving	City Park	0.00	0%
Paving	Parking Lot	0.24	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	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Low Rise	161	118	100	53,496	1,797	1,316	1,117	595,249
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Low Rise	161	118	100	53,496	1,797	1,316	1,117	595,249
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	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

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Low Rise	Wood Fireplaces	0	0
Apartments Low Rise	Gas Fireplaces	0	0
Apartments Low Rise	Propane Fireplaces	0	0
Apartments Low Rise	Electric Fireplaces	0	0
Apartments Low Rise	No Fireplaces	0	0
Apartments Low Rise	Conventional Wood Stoves	0	0
Apartments Low Rise	Catalytic Wood Stoves	0	0
Apartments Low Rise	Non-Catalytic Wood Stoves	0	0
Apartments Low Rise	Pellet Wood Stoves	0	0
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	0
Other Asphalt Surfaces	Wood Fireplaces	0	0
Other Asphalt Surfaces	Gas Fireplaces	0	0
Other Asphalt Surfaces	Propane Fireplaces	0	0
Other Asphalt Surfaces	Electric Fireplaces	0	0
Other Asphalt Surfaces	No Fireplaces	0	0
Other Asphalt Surfaces	Conventional Wood Stoves	0	0
Other Asphalt Surfaces	Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Non-Catalytic Wood Stoves	0	0
Other Asphalt Surfaces	Pellet Wood Stoves	0	0

City Park	Wood Fireplaces	0	0
City Park	Gas Fireplaces	0	0
City Park	Propane Fireplaces	0	0
City Park	Electric Fireplaces	0	0
City Park	No Fireplaces	0	0
City Park	Conventional Wood Stoves	0	0
City Park	Catalytic Wood Stoves	0	0
City Park	Non-Catalytic Wood Stoves	0	0
City Park	Pellet Wood Stoves	0	0
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
undefined	56,291	18,764	0.00	0.00	2,350

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Low Rise	99,711	346	0.0330	0.0040	423,948
Parking Lot	5,075	346	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00
City Park	0.00	346	0.0330	0.0040	0.00
Parking Lot	9,082	346	0.0330	0.0040	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Low Rise	101,399	346	0.0330	0.0040	0.00
Parking Lot	5,075	346	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00
City Park	0.00	346	0.0330	0.0040	0.00
Parking Lot	9,082	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Low Rise	975,667	257,851
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
City Park	0.00	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Low Rise	975,667	257,851
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
City Park	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)
Apartments Low Rise	19	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
City Park	0.02	0.00
Parking Lot	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Low Rise	19	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
City Park	0.02	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.5	2.5	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.0	4.0	18
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.5	2.5	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.0	4.0	18
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

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)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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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	8.9	annual days of extreme heat
Extreme Precipitation	3.6	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 $\frac{3}{4}$ 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	4	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	4	1	1	4
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	43
AQ-PM	72
AQ-DPM	79
Drinking Water	58
Lead Risk Housing	78
Pesticides	0.00
Toxic Releases	89
Traffic	91
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	2.1
Haz Waste Facilities/Generators	30
Impaired Water Bodies	0.00
Solid Waste	0.00

Sensitive Population	—
Asthma	38
Cardio-vascular	50
Low Birth Weights	82
Socioeconomic Factor Indicators	—
Education	79
Housing	57
Linguistic	94
Poverty	47
Unemployment	13

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	21.62196843
Employed	38.39343
Median HI	40.89567561
Education	—
Bachelor's or higher	27.48620557
High school enrollment	25.49724111
Preschool enrollment	17.40023098
Transportation	—
Auto Access	49.51879892
Active commuting	32.09290389
Social	—
2-parent households	65.03272167
Voting	10.39394328

Neighborhood	—
Alcohol availability	30.80970101
Park access	14.84665726
Retail density	64.8659053
Supermarket access	72.55229052
Tree canopy	17.92634416
Housing	—
Homeownership	47.09354549
Housing habitability	20.39009367
Low-inc homeowner severe housing cost burden	26.53663544
Low-inc renter severe housing cost burden	5.119979469
Uncrowded housing	14.8209932
Health Outcomes	—
Insured adults	32.65751315
Arthritis	51.7
Asthma ER Admissions	62.8
High Blood Pressure	26.8
Cancer (excluding skin)	71.8
Asthma	58.2
Coronary Heart Disease	47.4
Chronic Obstructive Pulmonary Disease	31.1
Diagnosed Diabetes	19.9
Life Expectancy at Birth	93.8
Cognitively Disabled	80.8
Physically Disabled	83.0
Heart Attack ER Admissions	36.2
Mental Health Not Good	37.4
Chronic Kidney Disease	45.1

Obesity	83.6
Pedestrian Injuries	68.0
Physical Health Not Good	30.9
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	95.9
Current Smoker	30.4
No Leisure Time for Physical Activity	12.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	67.0
Elderly	61.3
English Speaking	19.1
Foreign-born	95.8
Outdoor Workers	35.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	26.1
Traffic Density	90.9
Traffic Access	23.0
Other Indices	—
Hardship	70.6
Other Decision Support	—
2016 Voting	29.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	63

Healthy Places Index Score for Project Location (b)	26
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Adjusted based on the site plan.
Construction: Construction Phases	Adjusted based on the provided info by the applicant.
Construction: Off-Road Equipment	Added typical equipment used for trenching under the Site Preparation phase. Assumed all construction will be utilized 8 hours per workday. Replaced Tractors/Loaders/Backhoes with Crawler Tractors in the Site Preparation and Grading Phases.
Operations: Vehicle Data	Adjusted rates for Weekday Trips (based on ITE 12th Edition), Saturday Trips, and Sunday Trips to match ITE trip rates for 220-Multifamily Housing (Low-Rise).
Operations: Hearths	Fireplaces and Wood Stoves are removed in accordance with SCAQMD Rule 445.

Attachment B – Detailed Calculation Sheets

Construction Emissions

Construction Activity	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
2027 (Year 1)						
Demolition	1.43	15.96	16.61	0.04	5.20	1.30
Off-Road	1.34	12.43	14.44	0.02	0.47	0.43
Demolition					3.73	0.56
Off-Site (Worker Trip)	0.04	0.04	0.62	0.00	0.16	0.04
Off-Site (Hauling Trip)	0.05	3.49	1.56	0.02	0.84	0.26
Site Preparation	2.17	18.44	20.90	0.03	3.30	1.80
Off-Road	2.11	18.37	19.78	0.03	0.88	0.81
Dust From Material Movement					2.12	0.92
Off-Site (Worker Trip)	0.06	0.07	1.11	0.00	0.29	0.07
Grading	1.98	17.04	18.36	0.03	3.33	1.81
Off-Road	1.94	17.00	17.83	0.03	0.91	0.84
Dust From Material Movement					2.26	0.94
Off-Site (Worker Trip)	0.04	0.04	0.53	0.00	0.16	0.04
Hauling	0.03	2.57	1.11	0.01	0.59	0.19
Building Construction	1.35	11.60	16.07	0.03	0.64	0.40
Off-Road	1.30	11.46	15.23	0.03	0.37	0.34
Off-Site (Worker Trip)	0.05	0.06	0.80	0.00	0.24	0.06
Off-Site (Vendor Trip)	0.00	0.09	0.04	0.00	0.02	0.01
Maximum Daily Emissions (2027)	2.17	18.44	20.90	0.04	5.20	1.81
2028 (Year 2)						
Building Construction	1.30	11.09	16.12	0.03	0.60	0.37
Off-Road	1.25	10.95	15.21	0.03	0.33	0.30
Off-Site (Worker Trip)	0.05	0.06	0.87	0.00	0.24	0.06
Off-Site (Vendor Trip)	0.00	0.09	0.04	0.00	0.02	0.01
Paving	0.79	4.92	7.74	0.01	0.36	0.22
Off-Road	0.52	4.88	7.21	0.01	0.19	0.18
Paving	0.24					
Off-Site (Worker Trip)	0.04	0.04	0.53	0.00	0.16	0.04
Architectural Coating	12.48	1.09	1.67	0.00	0.07	0.03
Off-Road	0.14	1.08	1.49	0.00	0.02	0.02
Architectural Coating	12.33					
Off-Site (Worker Trip)	0.01	0.01	0.17	0.00	0.05	0.01
Maximum Daily Emissions (2028)	12.48	11.09	16.12	0.03	0.60	0.37
Maximum Daily Emissions	12.48	18.44	20.90	0.04	5.20	1.81
SCAQMD Thresholds	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Notes: ROG = reactive organic gases, NOx = nitrogen oxides, CO = carbon monoxide, SOx = sulfur oxides, PM₁₀ = particulate matter 10 microns in diameter, PM_{2.5} = particulate matter 2.5 microns in diameter

Source: CalEEMod Output Sheets.

Operational Emissions

Operational Activity	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NOx	CO	SOx	PM ₁₀	PM _{2.5}
Mobile	0.49	0.38	4.62	0.01	1.28	0.33
Area	0.78	0.01	1.48	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Total Operational Emissions	1.27	0.39	6.10	0.01	1.28	0.33
Existing Operational Emissions	1.55	0.96	9.57	0.02	2.08	0.55
Net Operational Emissions	(0.28)	(0.56)	(3.47)	(0.01)	(0.79)	(0.22)
SCAQMD Significance Thresholds	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

<0.01

Construction Equipment Modeled in CalEEMod and Acres Disturbed Per Day

Activity	Equipment Type	Equipment Quantity	Operating Hours per Day	Acres Disturbed per Piece of Equipment per Day	Acres Disturbed per Day
Demolition	Concrete/Industrial Saws	1	8	0.5	0.5
	Rubber Tired Dozers	1	8	0	0
	Tractors/Loaders/Backhoes	3	8	0	0
Total Acres Disturbed Per Day					0.5
Site Preparation	Rubber Tired Dozers	1	8	0.5	0.5
	Crawler Tractors	2	8	0.5	1
	Graders	1	8	0	0
	Trenchers	1	8	0	0
	Dumpers/Tenders	1	8	0	0
	Excavators	1	8	0	0
	Skid Steer Loaders	1	8	0	0
Plate Compactors	1	8	0	0	
Total Acres Disturbed Per Day					1.5
Grading	Graders	1	8	0.5	0.5
	Rubber Tired Dozers	1	8	0.5	0.5
	Crawler Tractors	3	8	0.5	1.5
Total Acres Disturbed Per Day					2.5
Maximum Acres Disturbed Per Day					2.5

Source: CalEEMod Output Sheets.

Localized Construction Emission Estimates

Construction Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
2027 (Year 1)				
Demolition	12.43	14.44	4.20	1.00
Site Preparation	18.37	19.78	0.88	0.81
Grading	17.00	17.83	0.91	0.84
Building Construction	11.46	15.23	0.37	0.34
Maximum On-site Emission (2027)	18.37	19.78	4.20	1.00
2028 (Year 2)				
Building Construction	10.95	15.21	0.33	0.30
Paving	4.88	7.21	0.19	0.18
Architectural Coating	1.08	1.49	0.02	0.02
Maximum On-site Emission (2028)	10.95	15.21	0.33	0.30
Maximum Daily Emissions	18.37	19.78	4.20	1.00
SCAQMD Screening Thresholds	108.50	671.30	5.60	3.80
Threshold Exceeded?	No	No	No	No

Construction Equipment Fuel Usage (Off-Road)

Activity	Equipment	Number	Hours per day	Horsepower	Load Factor	Days of Construction	Total Horsepower-hours	Fuel Rate (gal/hp-hr)	Fuel Use (gallons)
Demolition	Concrete/Industrial Saws	1	8	33	0.73	20	3,854	0.04190267	162
	Rubber Tired Dozers	1	8	367	0.4	20	23,488	0.05079664	1,193
	Tractors/Loaders/Backhoes	3	8	84	0.37	20	14,918	0.05298396	790
Site Preparation	Rubber Tired Dozers	1	8	367	0.4	2	2,349	0.05079664	119
	Crawler Tractors	2	8	87	0.43	2	1,197	0.05097346	61
	Graders	1	8	148	0.41	2	971	0.05073945	49
	Trenchers	1	8	40	0.5	2	320	0.05280441	17
	Dumpers/Tenders	1	8	16	0.38	2	97	0.43708279	43
	Excavators	1	8	36	0.38	2	219	0.05144523	11
	Skid Steer Loaders	1	8	71	0.37	2	420	0.05548087	23
	Plate Compactors	1	8	8	0.43	2	55	0.05129226	3
Grading	Graders	1	8	148	0.41	4	1,942	0.05073945	99
	Rubber Tired Dozers	1	8	367	0.4	4	4,698	0.05079664	239
	Crawler Tractors	3	8	87	0.43	4	3,591	0.05097346	183
	Cranes	1	8	367	0.29	200	170,288	0.05071774	8,637
Building Construction	Forklifts	1	8	82	0.2	200	26,240	0.05291564	1,389
	Generator Sets	1	8	14	0.74	200	16,576	0.06897961	1,143
	Tractors/Loaders/Backhoes	3	8	84	0.37	200	149,184	0.05298396	7,904
	Welders	3	8	46	0.45	200	99,360	0.03020615	3,001
	Pavers	1	8	81	0.42	10	2,722	0.05163103	141
	Paving Equipment	1	8	89	0.36	10	2,563	0.05116527	131
Paving	Rollers	1	8	36	0.38	10	1,094	0.05224824	57
	Cement and Mortar Mixers	1	8	10	0.56	10	448	0.05129226	23
	Tractors/Loaders/Backhoes	1	8	84	0.37	10	2,486	0.05298396	132
	Air Compressors	1	8	37	0.48	10	1,421	0.02936797	42
Architectural Coating	Air Compressors	1	8	37	0.48	5	710	0.02936797	21
Total									23,468

0.152509545
0.255803101
0.259320763

Source: Fuel Calculation Sheets (see Attachment C)

Model Output: OFFROAD2021 (v1.0.9) Emissions Inventory

Region Type: Sub-Area
Region: Orange (SC)
Calendar Year: 2027
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 Year	Vehicle Category	Model Year	Horsepower	BFuel	Fuel Consu	Horsepower_Hours_	Fuel Rate
Orange (SC)	2027	Construction and Mining - Cranes	Aggregate	Aggregate	Diesel	266266.49	5249968.008	0.050718
Orange (SC)	2027	Construction and Mining - Crawler Tractors	Aggregate	Aggregate	Diesel	785253.95	15405154.13	0.050973
Orange (SC)	2027	Construction and Mining - Crushing/Processing Equipment	Aggregate	Aggregate	Diesel	41468.567	817724.9747	0.050712
Orange (SC)	2027	Construction and Mining - Excavators	Aggregate	Aggregate	Diesel	2470438.2	48020741.49	0.051445
Orange (SC)	2027	Construction and Mining - Graders	Aggregate	Aggregate	Diesel	357109.67	7038106.857	0.050739
Orange (SC)	2027	Construction and Mining - Misc - Concrete/Industrial Saws	Aggregate	Aggregate	Diesel	4915.95	117318.3	0.041903
Orange (SC)	2027	Construction and Mining - Pavers	Aggregate	Aggregate	Diesel	159123.79	3081940.86	0.051631
Orange (SC)	2027	Construction and Mining - Paving Equipment	Aggregate	Aggregate	Diesel	175723.61	3434431.654	0.051165
Orange (SC)	2027	Construction and Mining - Rollers	Aggregate	Aggregate	Diesel	417724.01	7994986.435	0.052248
Orange (SC)	2027	Construction and Mining - Rubber Tired Dozers	Aggregate	Aggregate	Diesel	98400.825	1937152.268	0.050797
Orange (SC)	2027	Construction and Mining - Scrapers	Aggregate	Aggregate	Diesel	1001101.3	19792036.37	0.050581
Orange (SC)	2027	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	Aggregate	Diesel	2406307.5	45415770.98	0.052984
Orange (SC)	2027	Industrial - Forklifts	Aggregate	Aggregate	Diesel	1253630	23691104.2	0.052916
Orange (SC)	2027	Light Commercial - Misc - Air Compressors	Aggregate	Aggregate	Diesel	99117.897	3375034.55	0.029368
Orange (SC)	2027	Light Commercial - Misc - Generator Sets	Aggregate	Aggregate	Diesel	417947.23	6058996.35	0.06898
Orange (SC)	2027	Light Commercial - Misc - Pumps	Aggregate	Aggregate	Diesel	233144.14	3546142.9	0.065746
Orange (SC)	2027	Construction and Mining - Trenchers	Aggregate	Aggregate	Diesel	83991.224	1590610.14	0.052804
Orange (SC)	2027	Construction and Mining - Misc - Dumpers/Tenders	Aggregate	Aggregate	Gasoline	7791.7	17826.6	0.437083
Orange (SC)	2027	Construction and Mining - Skid Steer Loaders	Aggregate	Aggregate	Diesel	847719.06	15279484.99	0.055481
Orange (SC)	2027	Construction and Mining - Other Construction Equipment	Aggregate	Aggregate	Diesel	509341.22	9930177.797	0.051292
Orange (SC)	2027	Light Commercial - Misc - Welders	Aggregate	Aggregate	Diesel	499746.49	16544530.2	0.030206

46352.02

Construction On-Road Fuel Consumption

Construction Source	Total Trips	VMT	Fuel Rate (Gallons/Mile)	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Haul Trucks	339.1	6782.5	6.3	4,060	-
Vendor Trucks	1111.8	11140.5	8.9	1,271	-
Worker Vehicles	8465.0	156613.0	24.8	-	6,369
			Total	2,342	6,369

Source: CalEEMod Output Sheets (see Attachment A)

5.3. Construction Vehicles

5.3.1 Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	12.5	18.5	LDA,LDL1,LDL2
Demolition	Vendor		10.2	HHDT,MHDT
Demolition	Hauling	44.1	20	HHDT
Demolition	Onsite truck			HHDT
Site Preparation	Worker	22.5	18.5	LDA,LDL1,LDL2
Site Preparation	Vendor		10.2	HHDT,MHDT
Site Preparation	Hauling	0	20	HHDT
Site Preparation	Onsite truck			HHDT
Grading	Worker	12.5	18.5	LDA,LDL1,LDL2
Grading	Vendor		10.2	HHDT,MHDT
Grading	Hauling		20	HHDT
Grading	Onsite truck			HHDT
Building Construction	Worker	18.72032214	18.5	LDA,LDL1,LDL2
Building Construction	Vendor	2.779525711	10.2	HHDT,MHDT
Building Construction	Hauling	0	20	HHDT
Building Construction	Onsite truck			HHDT
Paving	Worker	12.5	18.5	LDA,LDL1,LDL2
Paving	Vendor		10.2	HHDT,MHDT
Paving	Hauling	0	20	HHDT
Paving	Onsite truck			HHDT
Architectural Coating	Worker	3.744064428	18.5	LDA,LDL1,LDL2
Architectural Coating Phase	Vendor		10.2	HHDT,MHDT
Architectural Coating Phase	Hauling	0	20	HHDT
Architectural Coating Phase	Onsite truck			HHDT
Architectural Coating Phase	Worker		18.5	LDA,LDL1,LDL2
Architectural Coating Phase	Vendor		10.2	HHDT,MHDT
Architectural Coating Phase	Hauling	0	20	HHDT
Architectural Coating Phase	Onsite truck			HHDT

Construction Schedule

Construction Schedule	Days per phase
Demolition	20
Site Prep	2
Grading	4
Building Construction	200
Paving	10
Coating	5

3,527 Tons

2713 CY

CalEEMod Daily Trucks	CY per truck	CY	Total Truck	Miles	Truck Miles
0	16	2713	170	30.0	6782.5

Demo

Source: EMFAC2025 (v2.0.0) Emissions Inventory

Region Type: Sub-Area

Region: Orange (SC)

Calendar Year: 2027

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/year for Combustion VMT and Electric VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption, kWh/year for Energy Consumption, kg/year for Hydrogen Consumption

Region	Calendar Year Vehicle Category	Model Year	Speed	Fuel	Total VMT Fuel Consumption	Fuel Rate	Trip %
Orange (SC)	2027 HHDT	Aggregate	Aggregate	Diesel	5.67E+08	89344.86464	6.345930964
Orange (SC)	2027 LHDT1	Aggregate	Aggregate	Diesel	2.03E+08	9741.049618	20.81287394
Orange (SC)	2027 LHDT2	Aggregate	Aggregate	Diesel	2.16E+08	11724.225	18.41805547
Orange (SC)	2027 MHDT	Aggregate	Aggregate	Diesel	2.59E+08	29073.09221	8.908937815
Orange (SC)	2027 LDA	Aggregate	Aggregate	Gasoline	7.54E+09	284716.4141	26.46986964
Orange (SC)	2027 LDL1	Aggregate	Aggregate	Gasoline	8.35E+08	38859.17461	22.7906172
Orange (SC)	2027 LDL2	Aggregate	Aggregate	Gasoline	6.08E+09	268737.7085	22.63465382
			50.25/25 Splits		24.58836		

Operational Energy Consumption

Operational Source	Energy Usage	Countywide Energy Consumption	Percentage Increase
Electricity (Kilowatt-Hour)			
Proposed Project	106,474.3	18,759,000,000	0.001%
Existing Project	167,551.2	18,759,000,000	0.001%
Net Electricity	(61,076.9)	18,759,000,000	0.000%
Petroleum (Gasoline) Consumption			
Annual VMT		Gallons of Gasoline Fuel	
Proposed Project	595,249.0	24,208.6	863,917,364.2
Existing Project	916,420.0	37,270.5	863,917,364.2
Net Petroleum (Gasoline)	(321,171.0)	(13,061.9)	863,917,364.2

Source: CalEEMod Output Sheets (see Attachment A)

Proposed Project				
CalEEMod Output				
Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	VMT/Year
Apartments Low Rise	161.4600002	118.3000001		595249.0497
Parking Lot	0	((0
Other Asphalt Surface	0	((0
City Park	0	((0
Parking Lot	0	((0
5.11. Operational Energy Consumption				
5.11.1 mitigated				
Land Use	Electricity (kWh/yr)	Natural Gas (kBtu/yr)		
Apartments Low Rise	101399.2461		0	
Parking Lot	5075.08848		0	
Other Asphalt Surface	0		0	
City Park	0		0	
Parking Lot	0		0	

Existing Project				
CalEEMod Output				
Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	VMT/Year
Day-Care Center	112.9874999	112.9874999		561667.7044
Place of Worship	105.7137599	174.6303998		354752.3237
Other Non-Asphalt Surfaces	0	0		0
5.11. Operational Energy Consumption				
5.11.1 Unmitigated				
Land Use	Electricity (kWh/yr)			
Day-Care Center	17981.24415			
Place of Worship	149569.9406			
Other Non-Asphalt Surfaces	0			

Source: EMFAC2025 (v2.0.0) Emissions Inventory

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Fuel Consumption
Orange (SC)	2027	HHTD	Aggregate	Aggregate	Gasoline	90.89088158
Orange (SC)	2027	HHTD	Aggregate	Aggregate	Diesel	89344.86464
Orange (SC)	2027	LDA	Aggregate	Aggregate	Gasoline	284716.4141
Orange (SC)	2027	LDA	Aggregate	Aggregate	Diesel	448.6543753
Orange (SC)	2027	LDT1	Aggregate	Aggregate	Gasoline	38859.17461
Orange (SC)	2027	LDT1	Aggregate	Aggregate	Diesel	4.970185034
Orange (SC)	2027	LDT2	Aggregate	Aggregate	Gasoline	268737.7085
Orange (SC)	2027	LDT2	Aggregate	Aggregate	Diesel	400.6386689
Orange (SC)	2027	LHDT1	Aggregate	Aggregate	Gasoline	29293.65156
Orange (SC)	2027	LHDT1	Aggregate	Aggregate	Diesel	9741.049618
Orange (SC)	2027	LHDT2	Aggregate	Aggregate	Gasoline	7365.227423
Orange (SC)	2027	LHDT2	Aggregate	Aggregate	Diesel	11724.225
Orange (SC)	2027	MCY	Aggregate	Aggregate	Gasoline	2564.739092
Orange (SC)	2027	MDV	Aggregate	Aggregate	Gasoline	200054.2241
Orange (SC)	2027	MDV	Aggregate	Aggregate	Diesel	5193.845905
Orange (SC)	2027	MH	Aggregate	Aggregate	Gasoline	3981.6606
Orange (SC)	2027	MH	Aggregate	Aggregate	Diesel	972.5217674
Orange (SC)	2027	MHDT	Aggregate	Aggregate	Gasoline	24925.81356
Orange (SC)	2027	MHDT	Aggregate	Aggregate	Diesel	29073.09221
Orange (SC)	2027	OBUS	Aggregate	Aggregate	Gasoline	1530.690092
Orange (SC)	2027	OBUS	Aggregate	Aggregate	Diesel	919.1854926
Orange (SC)	2027	SBUS	Aggregate	Aggregate	Gasoline	646.0762361
Orange (SC)	2027	SBUS	Aggregate	Aggregate	Diesel	533.3043266
Orange (SC)	2027	UBUS	Aggregate	Aggregate	Gasoline	1151.093392
Fuel	Sum	Annual Consumption				
Diesel	148356.3522		148,356,352			
Gasoline	863917.3642		863,917,364			

Construction Fuel Consumption Summary

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
On-road Construction Vehicles	2,342	6,369
Off-Road Construction Equipment	23,468	-
Total	25,810	6,369
On-road Countywide	148,356,352	863,917,364
Off-road Countywide	14,243,342	980,232
onroad percentage	0.002%	0.001%

Model Output: Off-Road Web Query (v1.1.2) Emissions Inventory

Region Type: County
 Region: Orange
 Calendar Year: 2027
 Scenario: All Adopted Rules - Exhaust
 Vehicle Classification: Off-Road Web Query Equipment Types
 Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Year	Vehicle Category	Model Year	Horsepower	Fuel Consumption
Orange	2027	Construction and Mining - Bore/Drill Rigs	Aggregate	Aggregate	305157.8947
Orange	2027	Construction and Mining - Bucket	Aggregate	Aggregate	7124.31712
Orange	2027	Construction and Mining - Compactor	Aggregate	Aggregate	11593.60747
Orange	2027	Construction and Mining - Concrete Mixer	Aggregate	Aggregate	1074.759072
Orange	2027	Construction and Mining - Concrete Pump	Aggregate	Aggregate	10937.344
Orange	2027	Construction and Mining - Crane less than 3	Aggregate	Aggregate	5265.789068
Orange	2027	Construction and Mining - Cranes	Aggregate	Aggregate	266266.4904
Orange	2027	Construction and Mining - Crawler Tractors	Aggregate	Aggregate	785253.9487
Orange	2027	Construction and Mining - Crushing/Process	Aggregate	Aggregate	41468.5673
Orange	2027	Construction and Mining - Excavators	Aggregate	Aggregate	2470438.161
Orange	2027	Construction and Mining - Graders	Aggregate	Aggregate	357109.666
Orange	2027	Construction and Mining - Hopper Tractor T	Aggregate	Aggregate	701.1846962
Orange	2027	Construction and Mining - Misc - Bore/Drill R	Aggregate	Aggregate	86.6
Orange	2027	Construction and Mining - Misc - Cement An	Aggregate	Aggregate	125.5
Orange	2027	Construction and Mining - Misc - Concrete/I	Aggregate	Aggregate	4915.95
Orange	2027	Construction and Mining - Misc - Dumpers/T	Aggregate	Aggregate	10.2
Orange	2027	Construction and Mining - Misc - Excavators	Aggregate	Aggregate	72.4
Orange	2027	Construction and Mining - Misc - Other	Aggregate	Aggregate	270
Orange	2027	Construction and Mining - Misc - Pavers	Aggregate	Aggregate	19.1
Orange	2027	Construction and Mining - Misc - Paving Equ	Aggregate	Aggregate	32.3
Orange	2027	Construction and Mining - Misc - Plate Comp	Aggregate	Aggregate	90.4
Orange	2027	Construction and Mining - Misc - Rollers	Aggregate	Aggregate	555
Orange	2027	Construction and Mining - Misc - Rubber Tir	Aggregate	Aggregate	13.3
Orange	2027	Construction and Mining - Misc - Signal Boar	Aggregate	Aggregate	3570.8
Orange	2027	Construction and Mining - Misc - Skid Steer	Aggregate	Aggregate	3710
Orange	2027	Construction and Mining - Misc - Tractors/Lo	Aggregate	Aggregate	347
Orange	2027	Construction and Mining - Misc - Trenchers	Aggregate	Aggregate	466
Orange	2027	Construction and Mining - Nurse Rig Other	Aggregate	Aggregate	65.61681695
Orange	2027	Construction and Mining - Off-Highway Trac	Aggregate	Aggregate	444744.4552
Orange	2027	Construction and Mining - Off-Highway Truc	Aggregate	Aggregate	1065051.138
Orange	2027	Construction and Mining - Other Constructio	Aggregate	Aggregate	509341.2234
Orange	2027	Construction and Mining - Other Material H	Aggregate	Aggregate	156713.4201
Orange	2027	Construction and Mining - Pavers	Aggregate	Aggregate	159123.7919
Orange	2027	Construction and Mining - Paving Equipmen	Aggregate	Aggregate	175723.6124
Orange	2027	Construction and Mining - Rollers	Aggregate	Aggregate	417724.0068
Orange	2027	Construction and Mining - Rough Terrain Fo	Aggregate	Aggregate	518943.7341
Orange	2027	Construction and Mining - Rubber Tired Doz	Aggregate	Aggregate	98400.82464
Orange	2027	Construction and Mining - Rubber Tired Loa	Aggregate	Aggregate	1814872.72
Orange	2027	Construction and Mining - Scrapers	Aggregate	Aggregate	1001101.293
Orange	2027	Construction and Mining - Skid Steer Loader	Aggregate	Aggregate	847719.058
Orange	2027	Construction and Mining - Spray Truck	Aggregate	Aggregate	10436.87011
Orange	2027	Construction and Mining - Spreader Tractor	Aggregate	Aggregate	1320.232061
Orange	2027	Construction and Mining - Spreader Truck	Aggregate	Aggregate	8158.779479
Orange	2027	Construction and Mining - Surfacing Equipm	Aggregate	Aggregate	84091.63144
Orange	2027	Construction and Mining - Tank Truck	Aggregate	Aggregate	17762.85028
Orange	2027	Construction and Mining - Tanker Truck Trai	Aggregate	Aggregate	1351.100606
Orange	2027	Construction and Mining - Telescopic Handl	Aggregate	Aggregate	35432.26614
Orange	2027	Construction and Mining - Tractors/Loaders	Aggregate	Aggregate	2406307.457
Orange	2027	Construction and Mining - Trenchers	Aggregate	Aggregate	83991.22375
Orange	2027	Construction and Mining - Vacuum Truck	Aggregate	Aggregate	27132.00254
Orange	2027	Construction and Mining - Water Truck	Aggregate	Aggregate	81155.9431
Orange	2027	Construction and Mining - Misc - Asphalt Pa	Aggregate	Aggregate	19927.3
Orange	2027	Construction and Mining - Misc - Bore/Drill R	Aggregate	Aggregate	12871.95
Orange	2027	Construction and Mining - Misc - Cement An	Aggregate	Aggregate	74736
Orange	2027	Construction and Mining - Misc - Concrete/I	Aggregate	Aggregate	95872.05
Orange	2027	Construction and Mining - Misc - Cranes	Aggregate	Aggregate	10650.7
Orange	2027	Construction and Mining - Misc - Crushing/P	Aggregate	Aggregate	474
Orange	2027	Construction and Mining - Misc - Dumpers/T	Aggregate	Aggregate	7791.7
Orange	2027	Construction and Mining - Misc - Other	Aggregate	Aggregate	16206
Orange	2027	Construction and Mining - Misc - Paving Equ	Aggregate	Aggregate	140863.7
Orange	2027	Construction and Mining - Misc - Plate Comp	Aggregate	Aggregate	51224
Orange	2027	Construction and Mining - Misc - Rollers	Aggregate	Aggregate	67420.75
Orange	2027	Construction and Mining - Misc - Rough Terr	Aggregate	Aggregate	75087.8
Orange	2027	Construction and Mining - Misc - Rubber Tir	Aggregate	Aggregate	39803.25
Orange	2027	Construction and Mining - Misc - Surfacing E	Aggregate	Aggregate	62248
Orange	2027	Construction and Mining - Misc - Tampers/R	Aggregate	Aggregate	8554
Orange	2027	Construction and Mining - Misc - Tractors/Lo	Aggregate	Aggregate	25517.15
Orange	2027	Construction and Mining - Misc - Signal Boar	Aggregate	Aggregate	1452.2
Orange	2027	Construction and Mining - Misc - Trenchers	Aggregate	Aggregate	123652.9
Orange	2027	Construction and Mining - Misc - Skid Steer	Aggregate	Aggregate	145878.35

Project Construction GHG Emissions

Activity	CO2e
	2027
2028	197
Total Emissions	352
Total Emissions Amortized Over 30 Years	12

Source: CalEEMod Output Sheets

Total Project GHG Emissions

Activity	CO2e
	Project Operation
Mobile	195
Area	0
Energy	18
Water	3
Waste	6
Refrig.	0
Total Project Gross Operation Emissions	222
Project Construction	
Amortized Construction Emissions	12
Project Construction and Operation	
Project Total Emissions	234
Existing Emissions	414
Net New Emissions	-180
Significance Threshold	3,000
Threshold Exceeded?	No

Notes: 1. Numbers may vary due to rounding.

Source: CalEEMod Output Sheets

Attachment C – Demo Calculation Sheet

25-142 9822 Russell Ave Garden Grove

Estimates of Demolition Debris

Building Demolition

Building	Height(ft)	Area (ft2)	Volume (ft3)	Demo Building Volume (cy)
1	14	21520	301280	3682
			0	0
			0	0
			0	0
Total		21520	301280	3682

Weight of the Building Demolition Debris (ton/cy): 0.5

Total Weight of Building Debris 1841 tons

Note 1: Total square footage of existing school buildings contained in the project description

Note 2: FEMA Debris Estimating Field Guide, FEMA 329. September 2010

Note 3: CalEEMod User Guide

Hardscape Demolition

Weight of Hardscape 145 lb/ft3

	Area	Height (ft)	Area (ft2)	Volume (cf)	Weight (lbs)	Weight (tons)
Concrete	1	0.5	7229	3615	524103	262
Asphalt	2	0.5	39264	19632	2846640	1423
	3	0		0	0	0
Total			46493	23247	3370743	1685

Total Demolition Weight 3527 tons



Building
Concrete
Landscape