

Appendix C

Air Quality and GHG Technical Evaluation

MEMORANDUM

To: Kory Lynch
FivePoint

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Ramboll

Subject: **HERITAGE FIELDS GREAT PARK NEIGHBORHOODS
AIR QUALITY AND GREENHOUSE GAS TECHNICAL EVALUATION**

EXECUTIVE SUMMARY

Date: August 19, 2025

The purpose of this study is to analyze the air quality and greenhouse gas impacts of (a) the 2025 Great Park Neighborhoods Zone Change (Zone Change); (b) all governmental approvals necessary to construct, develop, and permanently operate and occupy the development authorized by the Zone Change, including without limitation site-specific subdivision maps and master plans; and (c) approval of the Affordable Housing and Necessary Government Use Property Exchange Agreement ("Agreement") by and between the City of Irvine and Heritage Fields (collectively, the "Proposed Project") located in Planning Area 51 in the City of Irvine, and compare the results to the previously analyzed air quality and greenhouse gas emissions as reported for the Baseline (Approved) Project analyzed in the Orange County Great Park Environmental Impact Report (2003 OCGP FEIR), Supplemental EIR prepared in 2011 (2011 SEIR), Second Supplemental EIR prepared in 2012 (2012 SSEIR) (State Clearinghouse No. SCH# 2002101020) and 13 addenda prepared between 2006 and 2024. This expressly includes Addendum #13 to the Orange County Great Park Environmental Impact Report for the Vesting Tentative Parcel Map (VTPM) 2019-146 Additive City of Hope Outpatient Cancer Center and Inpatient Hospital at FivePoint Gateway Campus. Henceforth, these are collectively referred to as the Certified EIR. The Baseline (Approved) Project analyzed in the Certified EIR consists of the development of up to 9,500 dwelling units and 5,152,200 square feet of non-residential uses within Planning Area 51 in the City of Irvine, as well as an additional 1,056 dwelling units previously approved and authorized by Section 9-0-3(C) of the Irvine Zoning Ordinance.

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The Proposed Project analyzed in this study includes (1) the Baseline (Approved) Project, and (2) the approval of the Proposed Project (which is more fully described below). Consistent with best practices to ensure a complete evaluation of the conditions associated with build-out and operation of the Proposed Project, this analysis accounts for other land use refinements which have previously occurred within the Great Park Neighborhoods since approval of the SSEIR. These land use refinements are consistent with the allowable land uses within Planning Area 51 and are not the subject of the current applications submitted to the City

of Irvine. The Proposed Project would allow for the potential conversion of non-residential land uses to 1,300 additional condominium units.

This analysis shows that the Proposed Project would not cause any new or substantially greater significant air quality or greenhouse gas emissions compared to those previously discussed and analyzed for the Baseline (Approved) Project.

BACKGROUND

The following report evaluates the potential change in air quality (AQ) and greenhouse gas (GHG) emissions that would be caused by approval, build-out, and operation of the Proposed Project as compared to the Baseline (Approved) Project. The Baseline (Approved) Project and Proposed Project reside within the South Coast Air Basin, which is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Thus, the California Environmental Quality Act significance thresholds discussed within this memorandum are based on guidance published by the SCAQMD. **Table 1** compares the land uses as analyzed in the Baseline (Approved) Project and the Proposed Project.

METHODOLOGY

This section describes the methodology used to evaluate the AQ and GHG emissions associated with the Proposed Project. The SSEIR included a comprehensive AQ and GHG analysis that conservatively estimated the AQ and GHG emissions that may occur. For consistency, and in order to provide a like-for-like comparison with the Certified EIR, the methodology for evaluating the Proposed Project follows a similar approach as that used in the Certified EIR overall, including the analysis in Addendum #13.

Construction Emissions Methodology

While refinements have occurred in the identified land uses in the Proposed Project as compared to the Baseline (Approved) Project, the nature and amount of development remains consistent with the allowable land uses contemplated by the Baseline (Approved) Project and would require a similar level of construction equipment activity on the day with the maximum emissions.¹

The Proposed Project footprint for horizontal construction (e.g., site preparation, grading, demolition, and utilities installation) is consistent with the Baseline (Approved) Project since the change in land use sizing is limited in scale. The quantity of construction equipment needed for grading or soil movement will be consistent between the Proposed Project and the Baseline (Approved) Project. Accordingly, the construction emissions from horizontal construction phases would not increase for the Proposed Project compared to the Baseline (Approved) Project.

While the Proposed Project will result in a change in building types compared to what was analyzed in the Baseline (Approved) Project, the amount of vertical construction evaluated is not expected to change relative to what was evaluated in the Baseline (Approved) Project since non-residential development would be reduced in proportion to the increase in residential development. Furthermore, since the maximum daily AQ construction equipment and activity are reasonably expected to be the same as those analyzed in the Baseline (Approved) Project, the maximum daily construction emissions also would not change.

¹ Per communications regarding analysis of construction parameters with FivePoint, as development manager of the Proposed Project.

Overall, the construction emissions from the Proposed Project will not result in a new significant impact when compared to construction emissions expected from the Baseline (Approved) Project.

Operational Emissions Methodology

In this analysis, California Emission Estimator Model (CalEEMod®) 2016.3.2 was used to calculate the criteria air pollutant (CAP) and GHG operational emissions from area sources (landscaping equipment and natural gas hearths), building energy use (natural gas and electricity), water use, and solid waste, consistent with the Baseline (Approved) Project.^{2,3} Unless otherwise noted in the CalEEMod® output files presented in **Appendix A**, default parameters were used in this analysis. GHG emissions were estimated using Southern California Edison's energy intensity factor (**Table 2**) that accounts for the 60% Renewable Portfolio Standard required by 2030. **Table 3** presents GHG emissions reduction estimates from recycled water use; the assumptions used in this table are consistent with the water usage assumptions in the Certified EIR and the Baseline (Approved) Project.

The mobile source emissions associated with the Proposed Project were calculated based on the trip rates (**Table 4**) specified in the traffic technical evaluation and CalEEMod® 2016.3.2 default inputs for mobile source emission factors, trip lengths, trip purpose, and trip type for the land uses listed in **Table 1**. For consistency, Ramboll used the fleet mix distribution that was utilized in the Certified EIR and the Baseline (Approved) Project analysis.⁴ This fleet mix distribution was derived from both Southern California Association of Government's traffic model validation and Institute of Transportation Engineers (ITE) truck trip information. As stated in the Certified EIR, the Project is considered a compact infill development that will improve the job-housing balance in the region and could result in over 30% vehicle miles traveled (VMT) reductions⁵ as compared to the default VMT estimates for this type of Project.⁶ For purposes of this analysis, Ramboll has conservatively assumed a 25% reduction in VMT. This approach is consistent with the methodologies used for AQ and greenhouse gas analysis in the Certified EIR and the Baseline (Approved) Project. The maximum daily CAP and annual average GHG emissions associated with mobile sources are presented in **Table 5** and **Table 6**, respectively.

For the area source emissions, the Certified EIR assumed that there were no fireplaces in apartments and that each condo and single-family home would have one natural gas fireplace. Based on the current design plans, the Proposed Project is expected to include 1,860 natural gas fireplaces in single-family homes and 5,946 natural gas fireplaces in condos. No wood burning, propane, or electric fireplaces are anticipated to be constructed as part of the Proposed Project.

² Note that the emissions associated with electricity, water, and solid waste were only included for GHG.

³ CalEEMod® 2016.3.2 was used for the analysis of the Proposed Project to ensure methodological consistency with the previous analysis of the Baseline (Approved) Project and allow a like-for-like comparison. A newer version of the model, CalEEMod® 2022.1 is now available. A sensitivity analysis that estimates the emissions of the Proposed Project and the Baseline (Approved) Project using this version of CalEEMod, is presented under the Section titled **Emissions Model Sensitivity Analyses**.

⁴ For land uses that were not present in the Certified EIR analysis, the fleet mix distribution for a land use with similar characteristics was chosen.

⁵ VMT reductions were estimated in the Certified EIR using methods discussed in California Air Pollution Control Officer Association's publication entitled "Quantifying Greenhouse Gas Mitigation Measures" dated August 2010.

⁶ Default VMT estimates are based on CalEEMod default values for trip length, trip purpose, and trip type (which come from ITE, SCAQMD, San Diego Association of Governments, and Southern California Association of Governments) and trip rates from the traffic study prepared by Urban Crossroads.

Refinement of Land Use Assumptions

In order to provide a conservative analysis that accurately accounts for the current uses that would be permissible within Planning Area 51, the analysis of commercial land uses has also been updated to reflect the existing right to develop a 3,700 square foot fast food restaurant and 758,320 square feet of warehouse space within Planning Area 51.⁷ Based on reasonable build-out projections from the prior approvals issued by the City since preparation of Addendum #13, it is expected that build-out of the remaining non-residential capacity under both the Baseline (Approved) Project and the Proposed Project would result in an increased amount of office parks and hospitals and a reduced amount of other previously anticipated land uses. These refined assumptions based on more specific historic land use approvals have been incorporated into this analysis. The land uses designated for a hotel and health club in the Baseline (Approved) Project have thus been removed for this Proposed Project.

SUMMARY OF RESULTS

CAP Emissions

The maximum daily construction emissions are not expected to change between the Baseline (Approved) Project and the Proposed Project. As stated earlier, since the maximum daily AQ construction equipment and activity are reasonably projected to be the same for the Proposed Project as those analyzed in the Baseline (Approved) Project, the maximum daily construction emissions also would not change. Thus, the Proposed Project would not cause a new or substantially greater significant AQ construction emissions compared to those previously reported for the Baseline (Approved) Project.

A health risk assessment is not required based on a variety of factors. Notably, SCAQMD does not require a health risk assessment for construction emissions, as the nature of construction emissions is generally considered short-term, and the potential for health risk impacts is dependent on the amount and duration of emissions, and the proximity of sensitive receptors. A construction Health Risk Assessment was not performed as part of the Certified EIR based on an assessment related to the nature of the emissions (i.e., that they are relatively short-term) and proximity to potential sensitive receptors (i.e., that there were not sensitive receptors that were particularly close to the Proposed Project). As shown in **Table 1**, the additional 1,300 condominium units are substantially offset by corresponding decreases in the square footage of various non-residential land uses. The level of increase in construction emissions (estimated to be less than 7% based on the GHG emissions) is also small. Thus, the overall nature of construction emissions has not changed substantively from the Certified EIR, and the small increase in construction emissions for the Proposed Project is not expected to substantively change the potential health risk from construction emissions.

Table 7 presents the maximum daily operational CAP emissions of the Proposed Project compared to those reported in the most recent AQ and GHG Technical Evaluation dated November 20, 2019 and included as Appendix C in Addendum #13. The operational CAP emissions in the Certified EIR are greater than SCAQMD mass significance thresholds for Volatile Organic Compound (VOC), Oxides of Nitrogen (NO_x), Carbon Monoxide (CO), and Particulate Matter Less Than 2.5 Microns In Diameter (PM_{2.5}). As a result, the Certified EIR had identified potential AQ impacts as a significant unavoidable adverse impact and a Statement of Overriding Considerations was adopted. Since AQ impacts were previously identified as significant and unavoidable, no additional environmental review would be necessary for the Proposed Project unless there is a new significant impact or a substantial increase in

⁷ The fast-food restaurant and the warehouse land uses are part of the Baseline (Approved) Project and were approved by the City of Irvine Planning Commission Resolutions 23-3931, 23-3929, and 23-3920.

the severity of the operational CAP emissions associated with it. A substantial increase is defined as one that would result in an emission increase greater than SCAQMD mass emissions significance thresholds.⁸

As shown in **Table 7**, the operational CAP emissions associated with each of the Proposed Project and the Baseline (Approved) Project are below SCAQMD mass emission significance thresholds for Sulfur Dioxide (SO₂) and PM₁₀ and greater than SCAQMD mass emissions significance thresholds for VOC, NO_x, CO, and PM_{2.5}. **Table 7** also shows that the incremental change in the maximum daily CAP emissions for the Proposed Project as compared to the Baseline (Approved) Project is lower than the SCAQMD significant thresholds for daily operational CAP mass emissions. Thus, the Proposed Project would not cause a new or substantial increase in operational CAP emissions as compared to those for the Baseline (Approved) Project.

An analysis of the SCAQMD's Localized Significance Threshold (LST) methodology⁹ is not required to assess for localized impacts for operational emissions since neither the Baseline (Approved) Project nor the Proposed Project include any of the land uses that would suggest an LST analysis needs to be performed. The primary emissions from operational activities that could (in other circumstances) call for an LST analysis include, but are not limited to, NO_x and CO combustion emissions from substantial stationary sources such as flares and large combustion devices, and/or substantial on-site mobile sources such as earth-moving equipment. None of these uses would be introduced by the Proposed Project.

The Proposed Project could include emergency generators for back-up power. However, these generators are expected to operate only in the event of an emergency power failure or for routine maintenance and testing. Furthermore, other combustion sources (e.g., landscaping equipment, small natural gas burning devices such as stoves and water heaters) will result in minimal emissions for the area of the Project, and thus an LST analysis is not required. These sources would also exist to at least the same (and likely to a greater) extent under the Baseline (Approved) Project, and are not new types of sources for the Proposed Project. Hence, the Project would not create a significant AQ or health risk impact.

The Certified EIR included a CO hot-spot analysis to evaluate if increases in traffic volumes at intersections in and around the Project site would generate exceedances of the 1-hour CO ambient AQ standard. The Certified EIR estimated the highest average daily trips at an intersection as 120,604, which is well below the threshold of 400,000 vehicles per day¹⁰ that would likely result in an CO exceedance. Hence, the Certified EIR concluded that the Project would not generate any CO exceedances. The highest average daily trips at intersections affected by the Proposed Project is estimated to be 101,200 vehicles (at bake Parkway/Marine Way intersection), which is well below the threshold of 400,000 vehicles per day.¹¹ Hence, the Proposed Project would not generate exceedances of the 1-hour CO ambient AQ standard.

⁸ Per a communication with SCAQMD on September 27, 2018, the SCAQMD uses this same approach for projects when they are the lead agency.

⁹ SCAQMD. Final Localized Significance Threshold Methodology. June 2003. Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>. Accessed: May 2025.

¹⁰ This threshold was estimated in the Certified EIR based on the CO hot spot analysis in SCAQMD's 1992 Federal Attainment Plan for Carbon Monoxide.

¹¹ The higher average daily trips at affected intersections were provided by Urban Crossroads.

Greenhouse Gas Emissions

Table 8 presents a comparison of the annual GHG emissions associated with the Proposed Project to those reported in the AQ and GHG Technical Evaluation for the Baseline (Approved) Project, including the most recent AQ and GHG Technical Evaluation dated November 20, 2019 and included as Appendix C in Addendum #13 to the Certified EIR. As shown in **Table 8**, the total annual GHG emissions associated with the Proposed Project are lower than that for the Baseline (Approved) Project. Additionally, the GHG efficiency metric of 3.7 MT CO₂e/year/service population for the Proposed Project improves compared to the 4.0 MT CO₂e/year/service population GHG efficiency metric for the Baseline (Approved) Project. Hence, the Proposed Project would not cause a new significant or substantially more severe GHG impact compared to those previously reported in the Certified EIR for the Baseline (Approved) Project.

ADDITIONAL SENSITIVITY ANALYSES

Zone Change Sensitivity Analysis

As noted above, this analysis includes an assessment of the AQ and GHG impacts arising from the full build-out of the maximum amount of conversion of non-residential uses into multi-family dwelling units that would be allowed by the Zone Change, and the impacts of all site-specific subdivision maps and master plans necessary to implement that conversion of non-residential uses into the maximum 1,300 multi-family dwelling units authorized by the Zone Change. However, it is acknowledged the subdivision plans and master plans ultimately applied for might ultimately include a somewhat smaller amount of conversion than the maximum potential conversion that would be allowed by the Zone Change. To address this issue, this analysis qualitatively evaluated whether the addition of only 1,143 multi-family dwelling units (which would result in a 1.6% decrease in the number of multi-family dwelling units and a corresponding increase of 3.6% in office square footage as compared to the Proposed Project). It is concluded that these slight differences in land uses would not generate any new significant impacts or substantial increases in severity as compared to the Baseline (Approved) Project, or the results of the analysis for the Proposed Project. Therefore, subdivision maps and master plans (and other site-specific approvals) that allow for the conversion of 1,143 multi-family dwelling units would also be within the scope of analysis provided for the Proposed Project, and no additional AQ or GHG analysis would be required for such approvals.

Emissions Model Sensitivity Analysis

As described in **Operational Emissions Methodology** section, this analysis assesses the AQ and GHG impacts of the Proposed Project operation relative to the Baseline (Approved) Project using CalEEMod® 2016.3.2 to maintain consistency with the Certified EIR and allow a like-for-like comparison. However, a newer version of the model, CalEEMod® 2022.1.1 is now available. Therefore, a sensitivity analysis was conducted to evaluate the AQ and GHG impacts of the Proposed Project operation relative to the Baseline (Approved) Project using CalEEMod® 2022.1.1 (Refer to **Appendix B** for details).

Table 9 presents the operational CAP emissions estimated using CalEEMod® 2022.1.1 for the operation of Baseline (Approved) Project and the Proposed Project. This table also presents the incremental change in the maximum daily CAP emissions for the Proposed Project as compared to the Baseline (Approved) Project. Overall, we find that the operational CAP emissions associated with each of the Proposed Project and the Baseline (Approved) Project are below SCAQMD mass emission significance thresholds for SO₂, PM_{2.5}, and PM₁₀ and greater than SCAQMD mass emissions significance thresholds for VOC, NO_x, and CO. Additionally, the incremental changes the maximum daily CAP emissions for the Proposed Project as compared to the Baseline (Approved) Project are below SCAQMD's mass daily

significant thresholds for operation. Therefore, the Proposed Project would not cause a new or substantial increase in operational CAP emissions as compared to those for the Baseline (Approved) Project even when analyzed using the CalEEMod® 2022.1.1.

Table 10 presents a summary of the annual operational GHG emissions estimated using CalEEMod® 2022.1.1 and current emissions methodologies for the Baseline (Approved) Project and the Proposed Project. This table also presents the total annual GHG emissions for the Baseline (Approved) Project and the Proposed Project as a sum of the annual operational emissions and amortized one-time GHG emissions associated with project construction and vegetation. As shown in **Table 10**, the GHG efficiency metric for the Proposed Project is 4.1 MT CO₂e/year/service population, which is equivalent to the GHG efficiency metric for the Baseline (Approved) Project. Hence, the Proposed Project would not cause a new significant GHG impact compared to the Baseline (Approved) Project.

Table 1. Land Uses

Heritage Fields Great Park Neighborhoods
Irvine, California

Project Land Use	CalEEMod [®] Land Use Sub-Type ¹	Land Use Size		Land Use Size Metric
		Baseline (Approved) Project	Proposed Project	
Office (GP)	Office Park	1,009	2,636	1,000 sqft
Research and Development ²	Research & Development ²	2,689	1,419	1,000 sqft
Child Care Center	Day-Care Center	21.6	16.0	1,000 sqft
Elementary/Middle School	Elementary School	3,000	3,000	Students
High School	High School	2,600	2,600	Students
City Park	City Park	74.2	74.2	Acre
Hotel	Hotel	161	0	Rooms
Retail ³	Strip Mall ³	305	91	1,000 sqft
Medical Office	Medical Office Building	190	190	1,000 sqft
Hospital	Hospital	60	164	1,000 sqft
Health Club	Health Club	125	0	1,000 sqft
Single Family Detached	Single Family Housing	1,954	1,954	Dwelling Units
Multi-Family	Apartments - Low Rise and Condo/Townhouses	8,602	9,902	Dwelling Units

Notes:

¹ Land uses as available in CalEEMod[®] Version 2016.3.2. When an exact mapping of a project land use was not available in CalEEMod[®], a land use with similar emission characteristics was chosen.

² The Baseline (Approved) Project includes the conversion of land designated for Research and Development to warehouse use, in accordance with City of Irvine Planning Commission Resolutions 23-3929 and 23-3920. Consequently, the CalEEMod[®] model run in Appendix A utilizes a more detailed breakdown of the land use subtypes presented in this table.

³ The Baseline (Approved) Project includes the conversion of land designated for Retail to fast food restaurant use, in accordance with City of Irvine Planning Commission Resolutions 23-3931. Consequently, the CalEEMod[®] model run in Appendix A utilizes a more detailed breakdown of the land use subtypes presented in this table.

Abbreviations:

CalEEMod[®] - California Emissions Estimator Model

sqft - square feet

Table 2. Utility Greenhouse Gas Intensity Factor Associated with Renewable Portfolio Standard

Heritage Fields Great Park Neighborhoods

Irvine, California

Energy Delivered [MWh]					
Electricity Intensity Factors	SCE Historical Electricity Intensity Factors				Units
	2021	2022	2023	Average	
% of Total Energy From RPS-eligible Renewables ¹	34.8%	35.8%	40.8%	37.1%	%
% of Total Energy From Non-RPS-eligible/Non-Renewables	65.2%	64.2%	59.2%	62.9%	%
CO ₂ e Intensity Factor per Total Energy Delivered ¹	402	405	374	394	lbs CO ₂ e/MWh delivered
CO ₂ e Intensity Factor per Total Non-RPS-eligible/Non-Renewable Energy ²	616.6	630.8	631.8	626	lbs CO ₂ e/MWh delivered
Estimated Intensity Factors for Total Energy Delivered^{3,4}					
	lbs CO ₂ e / MWh delivered				Calculated lbs CO ₂ / MWh delivered
2030 RPS (60%)	246.63	252.34	252.70	250.55	248.54

Notes:

¹ Intensity Factor per Total Energy Delivered, and percent of Total Energy from RPS-eligible Renewables information for 2021 - 2023 provided in the 2023 SCE Sustainability Report, page 95. Available at:

https://www.edison.com/_gallery/get_file/?file_id=6657b3b63d6332eaafbcc867&file_ext=.pdf&page_id=. Accessed: April 2025.

² The emissions metric presented here is calculated based on the total CO₂ emissions divided by the energy delivered from non-renewable sources.

³ The intensity factor for total energy delivered is estimated by multiplying the percentage of energy delivered from non-renewable energy by the CO₂ emissions per total non-renewable energy metric calculated above. Power generation also produces CH₄ and N₂O, but as more renewable energy is integrated into the electricity grid, these intensity factors may also decrease. Given the uncertainty in the projections for these factors, they are conservatively assumed to remain constant and set equal to the CalEEMod defaults.

⁴ California emission factors presented here represent 60% projected RPS for 2030, consistent with SB 100. Available at:

https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100. Accessed: April 2025.

Abbreviations:

CO₂ - carbon dioxide

GHG - greenhouse gases

lbs - pounds

MT - metric tons

MWh - megawatt-hour

RPS - Renewable Portfolio Standard

SCE - Southern California Edison

Table 3. Greenhouse Gas Emission Reductions from Recycled Water

Heritage Fields Great Park Neighborhoods

Irvine, California

Category		Proposed Project		Proposed Project (No recycled water)	
Total Outdoor Water Use ¹ (gal/yr)		924,991,706		924,991,706	
Outdoor Water Source		Recycled Water	Potable Water	Recycled Water	Potable Water
Percentage by Source ¹		60.0%	40.0%	0%	100%
Water Use by Source (gal/yr)		554,995,023	369,996,682	0	924,991,706
Electricity Intensity Factors ² (kWh/Mgal)	Supply	--	9,727	--	9,727
	Treat	111	111	111	111
	Distribute	1,272	1,272	1,272	1,272
Annual Energy Use by Source ³ (kWh/yr)		767,558	4,110,663	0	10,276,658
Total Annual Energy Use (kWh/yr)		4,878,221		10,276,658	
GHG Intensity Factors ⁴	(lb CO ₂ /MWh)	248.54		248.54	
	(lb CH ₄ /MWh)	0.029		0.029	
	(lb N ₂ O/MWh)	0.006		0.006	
GHG Emissions ⁵	(MT CO ₂ /yr)	549.95		1,158.54	
	(MT CH ₄ /yr)	0.06		0.14	
	(MT N ₂ O/yr)	0.013		0.028	
Global Warming Potentials ⁶	CO ₂	1		1	
	CH ₄	25		25	
	N ₂ O	298		298	
Total GHG Emissions (MT CO ₂ e/yr)		555.5		1,170.3	
Reduction due to Recycled Water ⁷ (MT CO ₂ e/yr)		614.7			

Notes:

¹ Outdoor water usage based on CalEEMod[®] version 2016.3.2 output. The analysis assumes a 60% reduction in outdoor water usage due recycled water use required by project design feature PDF 4-5 defined in the SSEIR.

² CalEEMod[®] default assumptions are used for average embodied energy for the supply and conveyance, treatment and distribution of water, as well as treatment of wastewater, for Southern California.

³ Annual energy use is estimated as a product of water use and the sum of the electricity intensity factors to supply, treat and distribute the water.

⁴ Data obtained from Table 2.

⁵ GHG emissions were estimated as a product of annual energy use and intensity factor for each GHG.

⁶ Global warming potentials are the AR4 global warming potentials. Source: IPCC Fourth Assessment Report: Climate Change 2007. Available at: <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf>. Accessed: May 2025.

⁷ GHG reduction from using recycled water for outdoor use was estimated as the difference between GHG emissions from using 100% potable water minus GHG emissions from using 60% recycled water for outdoor water usage.

Abbreviations:

AR4 - Fourth Assessment Report

CalEEMod[®] - California Emissions Estimator ModelCH₄ - methaneCO₂e - carbon dioxide equivalents

gal - gallon

GHG - greenhouse gases

IPCC - Intergovernmental Panel on Climate Change

kWh - kilowatt-hour

lb - pound

Mgal - million gallons

MT - metric ton

MWh - megawatt-hour

N₂O - nitrous oxide

SSEIR - Second Supplemental Environmental Impact Repc

yr - year

Table 4. Mobile Source Trip Rates

Heritage Fields Great Park Neighborhoods
Irvine, California

Project Land Use	CalEEMod® Land Use Sub-Type	Project Trip Rates ¹ (trips / size / day)		
		Weekday	Saturday	Sunday
Office (GP)	Office Park	12.55	1.80	0.84
Research and Development	Research & Development	10.42	2.44	1.43
Child Care Center	Day-Care Center	41.93	3.52	3.30
Elementary/Middle School	Elementary School	1.24	0.00	0.00
High School	High School	1.24	0.44	0.18
City Park	City Park	3.59	43.21	31.80
Retail	Strip Mall	54.72	51.90	25.22
Medical Office ²	Medical Office Building	25.77	6.39	1.11
Hospital ²	Hospital	13.40	10.32	9.03
Single Family Detached	Single Family Housing	8.79	9.15	7.96
Multi-Family	Apartments Low Rise	7.15	7.77	6.59
	Condo/Townhouse	7.15	6.98	5.96
Fast Food	Fast Food Restaurant w/ Drive Thru	346.23	503.89	378.75
Warehouse/Industrial (GP)	Unrefrigerated Warehouse - No Rail	6.29	6.29	6.29

Notes:

¹ Weekday trip rates calculated from the data are provided by Urban Crossroads. Weekend trip rates are calculated by multiplying the weekday daily trip rates by the ratio of the default CalEEMod® version 2016.3.2 weekend to weekday daily trips.

² Because of the unique nature of the City of Hope, a distinct trip rate has been developed to accurately model the facility derived from actual experience with the existing uses at the current City of Hope campus. However, for conservative study purposes, this evaluation assumes the more intense medical office and hospital trip rates utilized in the Urban Crossroads Traffic Evaluation.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

TSF = Thousand Square Feet

Table 5. Criteria Air Pollutant Emissions Associated with Operational Mobile Sources

Heritage Fields Great Parks Neighborhood
Irvine, California

Project Land Use	CalEEMod® Land Use Sub-Type	Vehicle Miles Traveled ¹ VMT/day	Maximum Daily Emissions ^{1,2,3}					
			VOC	NOx	CO	SO ₂	PM ₁₀	PM _{2.5}
			lbs/day					
Office (GP)	Office Park	230,317	54.8	48.1	348.0	1.4	24.1	10.0
Research and Development	Research & Development	47,940	11.9	43.6	76.9	0.4	5.9	2.5
Child Care Center	Day-Care Center	2,010	0.6	0.3	3.6	0.01	0.2	0.1
Elementary/Middle School	Elementary School	26,416	6.2	2.9	39.4	0.2	2.7	1.1
High School	High School	28,370	6.3	3.0	41.1	0.2	2.9	1.2
City Park	City Park	19,011	4.7	3.6	29.1	0.1	2.0	0.8
Retail	Strip Mall	18,778	5.7	31.0	35.2	0.2	2.5	1.1
Medical Office	Medical Office Building	26,168	7.0	28.5	44.6	0.2	3.2	1.4
Hospital	Hospital	17,554	4.2	14.6	27.4	0.1	2.2	0.9
Single Family Detached	Single Family Housing	125,885	29.8	13.5	187.5	0.7	12.9	5.4
Multi-Family (Low-rise Apartments)	Apartments Low Rise	80,841	19.1	8.7	120.4	0.5	8.3	3.4
Multi-Family (Condos)	Condo/Townhouse	424,081	100.3	45.6	631.8	2.4	43.5	18.1
Fast Food	Fast Food Restaurant w/ Drive Thru	4,043	1.6	10.9	10.0	0.04	0.5	0.2
Warehouse/Industrial (GP)	Unrefrigerated Warehouse - No Rail	42,120	12.5	89.7	76.3	0.5	6.5	2.7
Total³		1,063,448	257	336	1,624	6.8	114	48

Notes:

¹ VMT and emissions estimated using CalEEMod® version 2016.3.2 methodologies. The fleet mix has been adjusted for each land use consistent with data from ITE and validation of the SCAG traffic model. Emissions associated with transportation include running, idling, diurnal, resting loss, running loss, and starting emissions.

² The Project assumes a 25% reduction in traffic based on project design features.

³ Because maximum daily emissions for each land use do not occur on the same day, the totals shown here do not equal the sum of the contributions from each land use.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

CO - carbon monoxide

ITE - Institute of Transportation Engineers

lbs - pounds

NO_x - nitrogen oxides

PM_{2.5} - particulate matter <2.5 microns

PM₁₀ - particulate matter <10 microns

SCAG - Southern California Association of Governments

SO₂ - sulfur dioxide

VMT - vehicle miles traveled

VOC - volatile organic compounds

Table 6. Greenhouse Gas Emissions Associated with Operational Mobile Sources

Heritage Fields Great Parks Neighborhood

Irvine, California

Project Land Use	CalEEMod® Land Use Sub-Type	Vehicle Miles Traveled ¹	CO ₂ e Emissions Associated with Traffic ^{1,2}
		VTM / yr	MT / yr
Office (GP)	Office Park	62,399,264	16,538
Research and Development	Research & Development	13,389,687	5,086
Child Care Center	Day-Care Center	539,587	140
Elementary/Middle School	Elementary School	6,868,151	1,709
High School	High School	8,118,190	2,008
City Park	City Park	2,126,597	561
Retail	Strip Mall	6,258,611	2,740
Medical Office	Medical Office Building	7,199,571	2,797
Hospital	Hospital	5,882,299	2,213
Single Family Detached	Single Family Housing	43,682,000	10,877
Multi-Family (Low-rise Apartments)	Apartments Low Rise	27,112,933	6,751
Multi-Family (Condos)	Condo/Townhouse	150,152,325	37,389
Fast Food	Fast Food Restaurant w/ Drive Thru	1,090,463	521
Warehouse/Industrial (GP)	Unrefrigerated Warehouse - No Rail	15,331,615	9,484
Total		350,151,293	98,815

Notes:

¹ VMT and emissions estimated using CalEEMod® version 2016.3.2 methodologies. The fleet mix has been adjusted for each land use consistent with data from ITE and validation of the SCAG traffic model. Emissions associated with transportation include running, idling, and startup emissions.

² The Project assumes a 25% reduction in traffic based on project design features.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

CO₂e - carbon dioxide equivalents

ITE - Institute of Transportation Engineers

MT - metric tons

SCAG - Southern California Association of Governments

VMT - vehicle miles traveled

yr - year

Table 7. Summary of Maximum Daily Criteria Air Pollutant Emissions using CalEEMod® 2016.3.2

Heritage Fields Great Park Neighborhoods

Irvine, California

Project Analyzed ¹	Emissions Category	Maximum Daily Emissions					
		VOC	NO _x	CO	SO ₂	PM ₁₀ Total	PM _{2.5} Total
		lb / day					
Proposed Project	Area	448	141	1,032	0.9	16	16
	Energy ²	10	84	43	0.5	7	7
	Mobile ³	257	336	1,624	7	114	48
	Total	714	561	2,699	8	137	70
SCAQMD Significance Threshold		55	55	550	150	150	55
Baseline (Approved) Project ⁴		677	655	2,545	8	134	68
Change from Baseline (Approved) Project		37	-95	154	0.10	3	2
New Significant Impact or Substantial Change?		No	No	No	No	No	No

Notes:

¹ The CalEEMod® version 2016.3.2 analysis is based on an assumed operational year of 2030 consistent with the Baseline (Approved) Project analysis. CalEEMod® output files are provided in Appendix A.

² The CalEEMod® analysis for the Baseline (Approved) Project and the Proposed Project conservatively assumes that the project would comply with 2013 Title 24 building energy standards. In reality several land uses in the project would meet the 2016 Title 24 standards (or later) as they would be constructed after 2016. The overall energy emissions for the Baseline (Approved) Project and the Proposed Project are likely lower than shown as some land uses will achieve higher energy efficiency standards than assumed in this analysis.

³ Data obtained from Table 5.

⁴ As shown in Table 7 of the Air Quality and Greenhouse Gas Technical Evaluation for the Additive City of Hope Outpatient Cancer Center and Inpatient Hospital at FivePoint Gateway Campus dated November 20, 2019.

Abbreviations:

CalEEMod® - California Emissions Estimator Model	PM ₁₀ - particulate matter <10 microns
CO - carbon monoxide	SCAQMD - South Coast Air Quality Management District
lb - pound	SO ₂ - sulfur dioxide
NO _x - nitrogen oxides	VOC - volatile organic compounds
PM _{2.5} - particulate matter <2.5 microns	

Table 8. Summary of Annual Greenhouse Gas Emissions using CalEEMod® 2016.3.2

Heritage Fields Great Park Neighborhoods

Irvine, California

Sources	CO ₂ e Emissions (MT/year)	
	Baseline (Approved) Project ¹	Proposed Project ²
Area Source	1,989	2,090
Energy Use	36,046	32,252
Mobile Source ³	97,312	98,815
Solid Waste	6,170	7,578
Water Use ⁴	6,926	4,680
Total	148,444	145,415
Service Population ⁵	37,890	40,249
Emissions per Service Population	3.92	3.61
Construction Amortized ⁶	3,168	3,384
Vegetation Amortized ⁷	-952	-952
Total	150,659	147,847
Emissions per Service Population	4.0	3.7

Notes:

¹ As shown in Table 8 of the Air Quality and Greenhouse Gas Technical Evaluation for the Additive City of Hope Outpatient Cancer Center and Inpatient Hospital at FivePoint Gateway Campus dated November 20, 2019.

² Emissions estimated using CalEEMod® version 2016.3.2. Model outputs provided in Appendix A.

³ Data obtained from Table 6.

⁴ We have conservatively used CalEEMod® default water usage data and applied the following mitigation measures: a 20% reduction is included for indoor water usage based on regulatory requirements and a 60% reduction is for outdoor water due to recycled water usage.

⁵ Service population includes residents, workers, and commuting higher education students associated with a project. The service population for the Proposed Project does not include workers associated with the Fast Food and Warehouse/Industrial (GP) Land Uses.

⁶ One-time emissions were amortized over a 30-year period. Construction emissions for the Proposed Project were scaled by the increase in building square footage for the Proposed Project as compared to the SSEIR.

⁷ A net sequestration of carbon results in a decrease (or negative) CO₂e. The number of trees for the Project was assumed to be the same as that in the Baseline (Approved) Project.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

CO₂e - carbon dioxide equivalents

MT - metric tons

Table 9. Summary of Maximum Daily Criteria Air Pollutant Emissions using CalEEMod® 2022.1.1

Heritage Fields Great Park Neighborhoods

Irvine, California

Project Analyzed ¹	Emissions Category	Maximum Daily Emissions					
		VOC	NO _x	CO	SO ₂	PM ₁₀ Total	PM _{2.5} Total
		lb / day					
Baseline (Approved) Project	Area	521	132	881	0.83	10.7	10.5
	Energy	5.9	103	58	0.64	8.1	8.1
	Mobile ²	576	220	2,305	7.0	49	17
	Total	1103	455	3,244	8	68	36
Proposed Project	Area	556	138	952	0.87	11.2	11.0
	Energy	6.3	110	61	0.69	8.7	8.7
	Mobile ²	585	252	2,362	7.4	53	19
	Total	1148	500	3,374	9	73	39
SCAQMD Significance Threshold		55	55	550	150	150	55
Change from Baseline (Approved) Project		45	45	130	0.5	5.3	2.7
New Significant Impact or Substantial Change?		No	No	No	No	No	No

Notes:

¹ The CalEEMod® analysis is based on an assumed operational year of 2030 consistent with the Baseline (Approved) Project analysis. CalEEMod® version 2022.1.1 output files are provided in Appendix B.

² Mobile emissions incorporate a 25% reduction in traffic based on project design features.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

CO - carbon monoxide

lb - pound

NO_x - nitrogen oxidesPM_{2.5} - particulate matter <2.5 micronsPM₁₀ - particulate matter <10 microns

SCAQMD - South Coast Air Quality Management District

SO₂ - sulfur dioxide

VOC - volatile organic compounds

Table 10. Summary of Annual Greenhouse Gas Emissions using CalEEMod® 2022.1.1

Heritage Fields Great Park Neighborhoods

Irvine, California

Sources	CO₂e Emissions (MT/year)	
	Baseline (Approved) Project¹	Proposed Project¹
Area Source	2,077	2,174
Energy Use	36,479	37,858
Mobile Source ²	104,764	112,528
Solid Waste	4,347	5,335
Water Use	4,291	3,231
Refrigerants	89	23
Total	152,047	161,149
Service Population ³	37,890	40,249
Emissions per Service Population	4.0	4.0
Construction Amortized ⁴	3,168	3,384
Vegetation Amortized ⁴	-952	-952
Total	154,263	163,580
Emissions per Service Population	4.1	4.1

Notes:¹ Emissions estimated using CalEEMod® version 2022.1.1. Model outputs provided in Appendix B.² Mobile emissions incorporate a 25% reduction in traffic based on project design features.³ Service population includes residents, workers, and commuting higher education students associated with a project. The service population for the Proposed Project does not include workers associated with the Fast Food and Warehouse/Industrial (GP) Land Uses.⁴ Construction emissions and carbon sequestration from vegetation were referenced from Table 8.Abbreviations:

CalEEMod® - California Emissions Estimator Model

CO₂e - carbon dioxide equivalents

MT - metric tons

APPENDIX A
CALEEMOD® 2016.3.2 MODEL RUN
FOR THE PROPOSED PROJECT

Heritage Fields GPN Proposed Project - Orange County, Summer

Heritage Fields GPN Proposed Project

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hospital	164.00	1000sqft	3.76	164,000.00	0
Medical Office Building	190.00	1000sqft	4.36	190,000.00	0
Office Park	2,636.20	1000sqft	60.52	2,636,200.00	0
Research & Development	660.89	1000sqft	15.17	660,890.00	0
Day-Care Center	16.00	1000sqft	0.37	16,000.00	0
Elementary School	3,000.00	Student	5.76	250,810.11	0
High School	2,600.00	Student	7.92	344,918.54	0
Unrefrigerated Warehouse-No Rail	758.32	1000sqft	17.41	758,320.00	0
City Park	74.20	Acre	74.20	3,232,152.00	0
Fast Food Restaurant with Drive Thru	3.70	1000sqft	0.08	3,700.00	0
Apartments Low Rise	1,478.00	Dwelling Unit	92.38	1,478,000.00	4227
Condo/Townhouse	8,424.00	Dwelling Unit	526.50	8,424,000.00	24093
Single Family Housing	1,954.00	Dwelling Unit	634.42	3,517,200.00	5588
Strip Mall	87.54	1000sqft	2.01	87,538.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8	Operational Year		2030	
Utility Company	Southern California Edison				

Heritage Fields GPN Proposed Project - Orange County, Summer

CO2 Intensity
(lb/MWhr) 248.54CH4 Intensity
(lb/MWhr) 0.029N2O Intensity
(lb/MWhr) 0.006**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Includes 50% RPS. Assuming arbitrary construction start date.

Land Use - Land use size based on Project-specific information.

Construction Phase - Retained construction default assumptions - not applicable for this analysis.

Vehicle Trips - Weekday trip rates calculated from the data are provided by Urban Crossroads. Weekend trip rates are calculated by multiplying the weekday daily trip rates by the ratio of the default CalEEMod® version 2016.3.2 weekend to weekday daily trips; Assuming CalEEMod defaults for trip lengths and distribution. Mobile emissions are calculated externally.

Energy Use - Based on Title 24 2013.

Water And Wastewater - Includes 20% reduction for indoor water use. Retained default assumptions for outdoor water usage.

Woodstoves - Assuming no fireplaces in apartments. Assuming one NG fireplace per condo/townhouse and single family home.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	NumDays	155,000.00	0.00
tblConstructionPhase	NumDays	10,000.00	0.00
tblConstructionPhase	NumDays	15,500.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	NumDays	6,000.00	0.00
tblEnergyUse	LightingElect	2.68	2.75
tblEnergyUse	LightingElect	2.68	2.75
tblEnergyUse	LightingElect	7.66	7.87
tblEnergyUse	LightingElect	2.68	2.75
tblEnergyUse	LightingElect	4.50	4.61
tblEnergyUse	LightingElect	4.34	4.46
tblEnergyUse	LightingElect	4.40	4.51
tblEnergyUse	LightingElect	2.99	3.08

Heritage Fields GPN Proposed Project - Orange County, Summer

tblEnergyUse	LightingElect	5.71	5.85
tblEnergyUse	LightingElect	1.96	2.01
tblEnergyUse	NT24E	3,172.76	3,418.36
tblEnergyUse	NT24E	3,795.01	4,109.59
tblEnergyUse	NT24E	6,155.97	6,680.41
tblEnergyUse	NT24NG	180.76	181.00
tblEnergyUse	NT24NG	0.05	0.00
tblEnergyUse	T24E	177.01	208.74
tblEnergyUse	T24E	172.41	195.26
tblEnergyUse	T24E	1.89	1.98
tblEnergyUse	T24E	1.89	1.98
tblEnergyUse	T24E	8.71	9.13
tblEnergyUse	T24E	1.89	1.98
tblEnergyUse	T24E	7.01	7.35
tblEnergyUse	T24E	4.71	4.94
tblEnergyUse	T24E	5.39	5.65
tblEnergyUse	T24E	1.63	1.71
tblEnergyUse	T24E	253.73	287.34
tblEnergyUse	T24E	2.93	3.07
tblEnergyUse	T24E	0.59	0.62
tblEnergyUse	T24NG	7,243.59	10,453.00
tblEnergyUse	T24NG	12,129.63	15,354.00
tblEnergyUse	T24NG	10.81	10.87
tblEnergyUse	T24NG	10.81	10.87
tblEnergyUse	T24NG	78.56	79.00
tblEnergyUse	T24NG	10.81	10.87
tblEnergyUse	T24NG	51.14	51.40

Heritage Fields GPN Proposed Project - Orange County, Summer

tblEnergyUse	T24NG	8.59	8.63
tblEnergyUse	T24NG	10.64	10.70
tblEnergyUse	T24NG	14.04	14.11
tblEnergyUse	T24NG	20,288.91	25,682.00
tblEnergyUse	T24NG	0.95	0.96
tblEnergyUse	T24NG	3.88	4.00
tblFireplaces	NumberGas	1,256.30	0.00
tblFireplaces	NumberGas	7,160.40	5,946.00
tblFireplaces	NumberGas	1,660.90	1,860.00
tblFireplaces	NumberNoFireplace	147.80	1,478.00
tblFireplaces	NumberNoFireplace	842.40	2,478.00
tblFireplaces	NumberNoFireplace	195.40	94.00
tblFireplaces	NumberWood	73.90	0.00
tblFireplaces	NumberWood	421.20	0.00
tblFireplaces	NumberWood	97.70	0.00
tblGrading	AcresOfGrading	0.00	38,750.00
tblLandUse	LandUseSquareFeet	87,540.00	87,538.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	248.54
tblVehicleTrips	ST_TR	7.16	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	ST_TR	6.21	0.00
tblVehicleTrips	ST_TR	722.03	0.00
tblVehicleTrips	ST_TR	0.61	0.00
tblVehicleTrips	ST_TR	10.18	0.00
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	ST_TR	1.64	0.00

Heritage Fields GPN Proposed Project - Orange County, Summer

tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	6.07	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	SU_TR	5.83	0.00
tblVehicleTrips	SU_TR	542.72	0.00
tblVehicleTrips	SU_TR	0.25	0.00
tblVehicleTrips	SU_TR	8.91	0.00
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	SU_TR	0.76	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	6.59	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblVehicleTrips	WD_TR	74.06	0.00
tblVehicleTrips	WD_TR	1.29	0.00
tblVehicleTrips	WD_TR	496.12	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblVehicleTrips	WD_TR	13.22	0.00
tblVehicleTrips	WD_TR	36.13	0.00
tblVehicleTrips	WD_TR	11.42	0.00

Heritage Fields GPN Proposed Project - Orange County, Summer

tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblVehicleTrips	WD_TR	44.32	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	IndoorWaterUseRate	96,297,649.87	77,038,090.00
tblWater	IndoorWaterUseRate	548,857,511.83	439,085,837.00
tblWater	IndoorWaterUseRate	686,233.08	548,992.00
tblWater	IndoorWaterUseRate	7,272,720.00	5,817,600.00
tblWater	IndoorWaterUseRate	1,123,074.74	898,461.00
tblWater	IndoorWaterUseRate	11,452,896.00	9,162,400.00
tblWater	IndoorWaterUseRate	20,578,808.16	16,463,107.00
tblWater	IndoorWaterUseRate	23,841,302.14	19,073,112.00
tblWater	IndoorWaterUseRate	468,541,706.46	374,833,897.00
tblWater	IndoorWaterUseRate	324,955,612.77	259,964,518.00
tblWater	IndoorWaterUseRate	127,310,966.06	101,848,733.00
tblWater	IndoorWaterUseRate	6,484,308.53	5,187,362.00
tblWater	IndoorWaterUseRate	175,361,500.00	140,289,200.00
tblWoodstoves	NumberCatalytic	73.90	0.00
tblWoodstoves	NumberCatalytic	421.20	0.00
tblWoodstoves	NumberCatalytic	97.70	0.00
tblWoodstoves	NumberNoncatalytic	73.90	0.00
tblWoodstoves	NumberNoncatalytic	421.20	0.00
tblWoodstoves	NumberNoncatalytic	97.70	0.00

2.0 Emissions Summary

Heritage Fields GPN Proposed Project - Orange County, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061
Energy	9.6754	83.7620	43.1130	0.5278		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0230	1.9351	106,176.9814
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	457.1829	224.5053	1,074.7996	1.4060	0.0000	22.5821	22.5821	0.0000	22.5821	22.5821	0.0000	272,616.7478	272,616.7478	6.8751	4.9656	274,268.3875

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061
Energy	9.6754	83.7620	43.1130	0.5278		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0230	1.9351	106,176.9814
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	457.1829	224.5053	1,074.7996	1.4060	0.0000	22.5821	22.5821	0.0000	22.5821	22.5821	0.0000	272,616.7478	272,616.7478	6.8751	4.9656	274,268.3875

Heritage Fields GPN Proposed Project - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2028	12/31/2027	5	0	
2	Site Preparation	Site Preparation	1/10/2028	1/9/2028	5	0	
3	Grading	Grading	1/17/2028	1/16/2028	5	0	
4	Building Construction	Building Construction	1/24/2028	1/23/2028	5	0	
5	Paving	Paving	1/31/2028	1/30/2028	5	0	
6	Architectural Coating	Architectural Coating	2/7/2028	2/6/2028	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38750

Acres of Paving: 0

Residential Indoor: 27,173,880; Residential Outdoor: 9,057,960; Non-Residential Indoor: 7,668,565; Non-Residential Outdoor: 2,556,188;
Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Heritage Fields GPN Proposed Project - Orange County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Heritage Fields GPN Proposed Project - Orange County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	10,964.00	2,635.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2,193.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.3 Site Preparation - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.3 Site Preparation - 2028

Mitigated Construction Off-Site

[illegible]

3.4 Grading - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.4 Grading - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.4 Grading - 2028

Mitigated Construction Off-Site

[illegible]

3.5 Building Construction - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.5 Building Construction - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.5 Building Construction - 2028

Mitigated Construction Off-Site

[illegible]

3.6 Paving - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.6 Paving - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.6 Paving - 2028

Mitigated Construction Off-Site

[illegible]

3.7 Architectural Coating - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.7 Architectural Coating - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Summer

3.7 Architectural Coating - 2028**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Heritage Fields GPN Proposed Project - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Condo/Townhouse	0.00	0.00	0.00		
Day-Care Center	0.00	0.00	0.00		
Elementary School	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
High School	0.00	0.00	0.00		
Hospital	0.00	0.00	0.00		
Medical Office Building	0.00	0.00	0.00		
Office Park	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Heritage Fields GPN Proposed Project - Orange County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Day-Care Center	16.60	8.40	6.90	12.70	82.30	5.00	28	58	14
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
High School	16.60	8.40	6.90	77.80	17.20	5.00	75	19	6
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Research & Development	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Heritage Fields GPN Proposed Project - Orange County, Summer

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
City Park	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Condo/Townhouse	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Day-Care Center	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Elementary School	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Fast Food Restaurant with Drive Thru	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
High School	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Hospital	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Medical Office Building	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Office Park	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Research & Development	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Single Family Housing	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Strip Mall	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Unrefrigerated Warehouse-No Rail	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Heritage Fields GPN Proposed Project - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	9.6754	83.7620	43.1130	0.5278		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0230	1.9351	106,176.9814
NaturalGas Unmitigated	9.6754	83.7620	43.1130	0.5278		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0230	1.9351	106,176.9814

5.2 Energy by Land Use - NaturalGas

Unmitigated

Heritage Fields GPN Proposed Project - Orange County, Summer

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	64663.5	0.6974	5.9592	2.5358	0.0380		0.4818	0.4818		0.4818	0.4818		7,607.4720	7,607.4720	0.1458	0.1395	7,652.6794
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	481668	5.1945	44.3890	18.8890	0.2833		3.5889	3.5889		3.5889	3.5889		56,666.8429	56,666.8429	1.0861	1.0389	57,003.5856
Day-Care Center	521.644	5.6300e-003	0.0511	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003		61.3699	61.3699	1.1800e-003	1.1300e-003	61.7346
Elementary School	8177.1	0.0882	0.8017	0.6734	4.8100e-003		0.0609	0.0609		0.0609	0.0609		962.0114	962.0114	0.0184	0.0176	967.7281
Fast Food Restaurant with Drive Thru	2635.62	0.0284	0.2584	0.2171	1.5500e-003		0.0196	0.0196		0.0196	0.0196		310.0725	310.0725	5.9400e-003	5.6800e-003	311.9151
High School	11245.3	0.1213	1.1025	0.9261	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.9752	1,322.9752	0.0254	0.0243	1,330.8370
Hospital	27152.1	0.2928	2.6620	2.2361	0.0160		0.2023	0.2023		0.2023	0.2023		3,194.3658	3,194.3658	0.0612	0.0586	3,213.3484
Medical Office Building	4778.63	0.0515	0.4685	0.3935	2.8100e-003		0.0356	0.0356		0.0356	0.0356		562.1918	562.1918	0.0108	0.0103	565.5326
Office Park	82552.8	0.8903	8.0934	6.7985	0.0486		0.6151	0.6151		0.6151	0.6151		9,712.0922	9,712.0922	0.1862	0.1781	9,769.8063
Research & Development	37969.5	0.4095	3.7225	3.1269	0.0223		0.2829	0.2829		0.2829	0.2829		4,466.9987	4,466.9987	0.0856	0.0819	4,493.5438
Single Family Housing	167016	1.8012	15.3917	6.5497	0.0982		1.2444	1.2444		1.2444	1.2444		19,648.9579	19,648.9579	0.3766	0.3602	19,765.7219
Strip Mall	482.059	5.2000e-003	0.0473	0.0397	2.8000e-004		3.5900e-003	3.5900e-003		3.5900e-003	3.5900e-003		56.7128	56.7128	1.0900e-003	1.0400e-003	57.0498
Unrefrigerated Warehouse-No Rail	8310.36	0.0896	0.8147	0.6844	4.8900e-003		0.0619	0.0619		0.0619	0.0619		977.6890	977.6890	0.0187	0.0179	983.4989
Total		9.6754	83.7620	43.1130	0.5277		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0231	1.9351	106,176.9814

5.2 Energy by Land Use - NaturalGas

Mitigated

Heritage Fields GPN Proposed Project - Orange County, Summer

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	64.6635	0.6974	5.9592	2.5358	0.0380		0.4818	0.4818		0.4818	0.4818		7,607.4720	7,607.4720	0.1458	0.1395	7,652.6794
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	481.668	5.1945	44.3890	18.8890	0.2833		3.5889	3.5889		3.5889	3.5889		56,666.8429	56,666.8429	1.0861	1.0389	57,003.5856
Day-Care Center	0.521644	5.6300e-003	0.0511	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003		61.3699	61.3699	1.1800e-003	1.1300e-003	61.7346
Elementary School	8.1771	0.0882	0.8017	0.6734	4.8100e-003		0.0609	0.0609		0.0609	0.0609		962.0114	962.0114	0.0184	0.0176	967.7281
Fast Food Restaurant with Drive Thru	2.63562	0.0284	0.2584	0.2171	1.5500e-003		0.0196	0.0196		0.0196	0.0196		310.0725	310.0725	5.9400e-003	5.6800e-003	311.9151
High School	11.2453	0.1213	1.1025	0.9261	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.9752	1,322.9752	0.0254	0.0243	1,330.8370
Hospital	27.1521	0.2928	2.6620	2.2361	0.0160		0.2023	0.2023		0.2023	0.2023		3,194.3658	3,194.3658	0.0612	0.0586	3,213.3484
Medical Office Building	4.77863	0.0515	0.4685	0.3935	2.8100e-003		0.0356	0.0356		0.0356	0.0356		562.1918	562.1918	0.0108	0.0103	565.5326
Office Park	82.5528	0.8903	8.0934	6.7985	0.0486		0.6151	0.6151		0.6151	0.6151		9,712.0922	9,712.0922	0.1862	0.1781	9,769.8063
Research & Development	37.9695	0.4095	3.7225	3.1269	0.0223		0.2829	0.2829		0.2829	0.2829		4,466.9987	4,466.9987	0.0856	0.0819	4,493.5438
Single Family Housing	167.016	1.8012	15.3917	6.5497	0.0982		1.2444	1.2444		1.2444	1.2444		19,648.9579	19,648.9579	0.3766	0.3602	19,765.7219
Strip Mall	0.482059	5.2000e-003	0.0473	0.0397	2.8000e-004		3.5900e-003	3.5900e-003		3.5900e-003	3.5900e-003		56.7128	56.7128	1.0900e-003	1.0400e-003	57.0498
Unrefrigerated Warehouse-No Rail	8.31036	0.0896	0.8147	0.6844	4.8900e-003		0.0619	0.0619		0.0619	0.0619		977.6890	977.6890	0.0187	0.0179	983.4989
Total		9.6754	83.7620	43.1130	0.5277		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0231	1.9351	106,176.9814

6.0 Area Detail

6.1 Mitigation Measures Area

Heritage Fields GPN Proposed Project - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061
Unmitigated	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	35.9888					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	367.0917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.1528	129.4878	55.1012	0.8265		10.4692	10.4692		10.4692	10.4692	0.0000	165,303.5294	165,303.5294	3.1683	3.0306	166,285.8456
Landscaping	29.2742	11.2556	976.5854	0.0517		5.4281	5.4281		5.4281	5.4281		1,763.4664	1,763.4664	1.6838		1,805.5605
Total	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061

Heritage Fields GPN Proposed Project - Orange County, Summer

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	35.9888					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	367.0917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.1528	129.4878	55.1012	0.8265		10.4692	10.4692		10.4692	10.4692	0.0000	165,303.5294	165,303.5294	3.1683	3.0306	166,285.8456
Landscaping	29.2742	11.2556	976.5854	0.0517		5.4281	5.4281		5.4281	5.4281		1,763.4664	1,763.4664	1.6838		1,805.5605
Total	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Heritage Fields GPN Proposed Project - Orange County, Summer

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Heritage Fields GPN Proposed Project - Orange County, Winter

Heritage Fields GPN Proposed Project

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hospital	164.00	1000sqft	3.76	164,000.00	0
Medical Office Building	190.00	1000sqft	4.36	190,000.00	0
Office Park	2,636.20	1000sqft	60.52	2,636,200.00	0
Research & Development	660.89	1000sqft	15.17	660,890.00	0
Day-Care Center	16.00	1000sqft	0.37	16,000.00	0
Elementary School	3,000.00	Student	5.76	250,810.11	0
High School	2,600.00	Student	7.92	344,918.54	0
Unrefrigerated Warehouse-No Rail	758.32	1000sqft	17.41	758,320.00	0
City Park	74.20	Acre	74.20	3,232,152.00	0
Fast Food Restaurant with Drive Thru	3.70	1000sqft	0.08	3,700.00	0
Apartments Low Rise	1,478.00	Dwelling Unit	92.38	1,478,000.00	4227
Condo/Townhouse	8,424.00	Dwelling Unit	526.50	8,424,000.00	24093
Single Family Housing	1,954.00	Dwelling Unit	634.42	3,517,200.00	5588
Strip Mall	87.54	1000sqft	2.01	87,538.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8	Operational Year		2030	
Utility Company	Southern California Edison				

Heritage Fields GPN Proposed Project - Orange County, Winter

CO2 Intensity (lb/MWhr)	248.54	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - Includes 50% RPS. Assuming arbitrary construction start date.

Land Use - Land use size based on Project-specific information.

Construction Phase - Retained construction default assumptions - not applicable for this analysis.

Vehicle Trips - Weekday trip rates calculated from the data are provided by Urban Crossroads. Weekend trip rates are calculated by multiplying the weekday daily trip rates by the ratio of the default CalEEMod® version 2016.3.2 weekend to weekday daily trips; Assuming CalEEMod defaults for trip lengths and distribution. Mobile emissions are calculated externally.

Energy Use - Based on Title 24 2013.

Water And Wastewater - Includes 20% reduction for indoor water use. Retained default assumptions for outdoor water usage.

Woodstoves - Assuming no fireplaces in apartments. Assuming one NG fireplace per condo/townhouse and single family home.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	NumDays	155,000.00	0.00
tblConstructionPhase	NumDays	10,000.00	0.00
tblConstructionPhase	NumDays	15,500.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	NumDays	6,000.00	0.00
tblEnergyUse	LightingElect	2.68	2.75
tblEnergyUse	LightingElect	2.68	2.75
tblEnergyUse	LightingElect	7.66	7.87
tblEnergyUse	LightingElect	2.68	2.75
tblEnergyUse	LightingElect	4.50	4.61
tblEnergyUse	LightingElect	4.34	4.46
tblEnergyUse	LightingElect	4.40	4.51
tblEnergyUse	LightingElect	2.99	3.08

Heritage Fields GPN Proposed Project - Orange County, Winter

tblEnergyUse	LightingElect	5.71	5.85
tblEnergyUse	LightingElect	1.96	2.01
tblEnergyUse	NT24E	3,172.76	3,418.36
tblEnergyUse	NT24E	3,795.01	4,109.59
tblEnergyUse	NT24E	6,155.97	6,680.41
tblEnergyUse	NT24NG	180.76	181.00
tblEnergyUse	NT24NG	0.05	0.00
tblEnergyUse	T24E	177.01	208.74
tblEnergyUse	T24E	172.41	195.26
tblEnergyUse	T24E	1.89	1.98
tblEnergyUse	T24E	1.89	1.98
tblEnergyUse	T24E	8.71	9.13
tblEnergyUse	T24E	1.89	1.98
tblEnergyUse	T24E	7.01	7.35
tblEnergyUse	T24E	4.71	4.94
tblEnergyUse	T24E	5.39	5.65
tblEnergyUse	T24E	1.63	1.71
tblEnergyUse	T24E	253.73	287.34
tblEnergyUse	T24E	2.93	3.07
tblEnergyUse	T24E	0.59	0.62
tblEnergyUse	T24NG	7,243.59	10,453.00
tblEnergyUse	T24NG	12,129.63	15,354.00
tblEnergyUse	T24NG	10.81	10.87
tblEnergyUse	T24NG	10.81	10.87
tblEnergyUse	T24NG	78.56	79.00
tblEnergyUse	T24NG	10.81	10.87
tblEnergyUse	T24NG	51.14	51.40

Heritage Fields GPN Proposed Project - Orange County, Winter

tblEnergyUse	T24NG	8.59	8.63
tblEnergyUse	T24NG	10.64	10.70
tblEnergyUse	T24NG	14.04	14.11
tblEnergyUse	T24NG	20,288.91	25,682.00
tblEnergyUse	T24NG	0.95	0.96
tblEnergyUse	T24NG	3.88	4.00
tblFireplaces	NumberGas	1,256.30	0.00
tblFireplaces	NumberGas	7,160.40	5,946.00
tblFireplaces	NumberGas	1,660.90	1,860.00
tblFireplaces	NumberNoFireplace	147.80	1,478.00
tblFireplaces	NumberNoFireplace	842.40	2,478.00
tblFireplaces	NumberNoFireplace	195.40	94.00
tblFireplaces	NumberWood	73.90	0.00
tblFireplaces	NumberWood	421.20	0.00
tblFireplaces	NumberWood	97.70	0.00
tblGrading	AcresOfGrading	0.00	38,750.00
tblLandUse	LandUseSquareFeet	87,540.00	87,538.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	248.54
tblVehicleTrips	ST_TR	7.16	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	ST_TR	6.21	0.00
tblVehicleTrips	ST_TR	722.03	0.00
tblVehicleTrips	ST_TR	0.61	0.00
tblVehicleTrips	ST_TR	10.18	0.00
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	ST_TR	1.64	0.00

Heritage Fields GPN Proposed Project - Orange County, Winter

tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	6.07	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	SU_TR	5.83	0.00
tblVehicleTrips	SU_TR	542.72	0.00
tblVehicleTrips	SU_TR	0.25	0.00
tblVehicleTrips	SU_TR	8.91	0.00
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	SU_TR	0.76	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	6.59	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblVehicleTrips	WD_TR	74.06	0.00
tblVehicleTrips	WD_TR	1.29	0.00
tblVehicleTrips	WD_TR	496.12	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblVehicleTrips	WD_TR	13.22	0.00
tblVehicleTrips	WD_TR	36.13	0.00
tblVehicleTrips	WD_TR	11.42	0.00

Heritage Fields GPN Proposed Project - Orange County, Winter

tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblVehicleTrips	WD_TR	44.32	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	IndoorWaterUseRate	96,297,649.87	77,038,090.00
tblWater	IndoorWaterUseRate	548,857,511.83	439,085,837.00
tblWater	IndoorWaterUseRate	686,233.08	548,992.00
tblWater	IndoorWaterUseRate	7,272,720.00	5,817,600.00
tblWater	IndoorWaterUseRate	1,123,074.74	898,461.00
tblWater	IndoorWaterUseRate	11,452,896.00	9,162,400.00
tblWater	IndoorWaterUseRate	20,578,808.16	16,463,107.00
tblWater	IndoorWaterUseRate	23,841,302.14	19,073,112.00
tblWater	IndoorWaterUseRate	468,541,706.46	374,833,897.00
tblWater	IndoorWaterUseRate	324,955,612.77	259,964,518.00
tblWater	IndoorWaterUseRate	127,310,966.06	101,848,733.00
tblWater	IndoorWaterUseRate	6,484,308.53	5,187,362.00
tblWater	IndoorWaterUseRate	175,361,500.00	140,289,200.00
tblWoodstoves	NumberCatalytic	73.90	0.00
tblWoodstoves	NumberCatalytic	421.20	0.00
tblWoodstoves	NumberCatalytic	97.70	0.00
tblWoodstoves	NumberNoncatalytic	73.90	0.00
tblWoodstoves	NumberNoncatalytic	421.20	0.00
tblWoodstoves	NumberNoncatalytic	97.70	0.00

2.0 Emissions Summary

Heritage Fields GPN Proposed Project - Orange County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061
Energy	9.6754	83.7620	43.1130	0.5278		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0230	1.9351	106,176.9814
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	457.1829	224.5053	1,074.7996	1.4060	0.0000	22.5821	22.5821	0.0000	22.5821	22.5821	0.0000	272,616.7478	272,616.7478	6.8751	4.9656	274,268.3875

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061
Energy	9.6754	83.7620	43.1130	0.5278		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0230	1.9351	106,176.9814
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	457.1829	224.5053	1,074.7996	1.4060	0.0000	22.5821	22.5821	0.0000	22.5821	22.5821	0.0000	272,616.7478	272,616.7478	6.8751	4.9656	274,268.3875

Heritage Fields GPN Proposed Project - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2028	12/31/2027	5	0	
2	Site Preparation	Site Preparation	1/10/2028	1/9/2028	5	0	
3	Grading	Grading	1/17/2028	1/16/2028	5	0	
4	Building Construction	Building Construction	1/24/2028	1/23/2028	5	0	
5	Paving	Paving	1/31/2028	1/30/2028	5	0	
6	Architectural Coating	Architectural Coating	2/7/2028	2/6/2028	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38750

Acres of Paving: 0

Residential Indoor: 27,173,880; Residential Outdoor: 9,057,960; Non-Residential Indoor: 7,668,565; Non-Residential Outdoor: 2,556,188; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Heritage Fields GPN Proposed Project - Orange County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Heritage Fields GPN Proposed Project - Orange County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	10,964.00	2,635.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2,193.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.3 Site Preparation - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.3 Site Preparation - 2028

Mitigated Construction Off-Site

[illegible]

3.4 Grading - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.4 Grading - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.4 Grading - 2028

Mitigated Construction Off-Site

[illegible]

3.5 Building Construction - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.5 Building Construction - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.5 Building Construction - 2028

Mitigated Construction Off-Site

[illegible]

3.6 Paving - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.6 Paving - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.6 Paving - 2028

Mitigated Construction Off-Site

[illegible]

3.7 Architectural Coating - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.7 Architectural Coating - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Winter

3.7 Architectural Coating - 2028**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Heritage Fields GPN Proposed Project - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Condo/Townhouse	0.00	0.00	0.00		
Day-Care Center	0.00	0.00	0.00		
Elementary School	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
High School	0.00	0.00	0.00		
Hospital	0.00	0.00	0.00		
Medical Office Building	0.00	0.00	0.00		
Office Park	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Heritage Fields GPN Proposed Project - Orange County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Day-Care Center	16.60	8.40	6.90	12.70	82.30	5.00	28	58	14
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
High School	16.60	8.40	6.90	77.80	17.20	5.00	75	19	6
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Research & Development	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Heritage Fields GPN Proposed Project - Orange County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
City Park	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Condo/Townhouse	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Day-Care Center	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Elementary School	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Fast Food Restaurant with Drive Thru	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
High School	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Hospital	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Medical Office Building	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Office Park	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Research & Development	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Single Family Housing	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Strip Mall	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Unrefrigerated Warehouse-No Rail	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Heritage Fields GPN Proposed Project - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	9.6754	83.7620	43.1130	0.5278		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0230	1.9351	106,176.9814
NaturalGas Unmitigated	9.6754	83.7620	43.1130	0.5278		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0230	1.9351	106,176.9814

5.2 Energy by Land Use - NaturalGas

Unmitigated

Heritage Fields GPN Proposed Project - Orange County, Winter

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	64663.5	0.6974	5.9592	2.5358	0.0380		0.4818	0.4818		0.4818	0.4818		7,607.4720	7,607.4720	0.1458	0.1395	7,652.6794
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	481668	5.1945	44.3890	18.8890	0.2833		3.5889	3.5889		3.5889	3.5889		56,666.8429	56,666.8429	1.0861	1.0389	57,003.5856
Day-Care Center	521.644	5.6300e-003	0.0511	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003		61.3699	61.3699	1.1800e-003	1.1300e-003	61.7346
Elementary School	8177.1	0.0882	0.8017	0.6734	4.8100e-003		0.0609	0.0609		0.0609	0.0609		962.0114	962.0114	0.0184	0.0176	967.7281
Fast Food Restaurant with Drive Thru	2635.62	0.0284	0.2584	0.2171	1.5500e-003		0.0196	0.0196		0.0196	0.0196		310.0725	310.0725	5.9400e-003	5.6800e-003	311.9151
High School	11245.3	0.1213	1.1025	0.9261	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.9752	1,322.9752	0.0254	0.0243	1,330.8370
Hospital	27152.1	0.2928	2.6620	2.2361	0.0160		0.2023	0.2023		0.2023	0.2023		3,194.3658	3,194.3658	0.0612	0.0586	3,213.3484
Medical Office Building	4778.63	0.0515	0.4685	0.3935	2.8100e-003		0.0356	0.0356		0.0356	0.0356		562.1918	562.1918	0.0108	0.0103	565.5326
Office Park	82552.8	0.8903	8.0934	6.7985	0.0486		0.6151	0.6151		0.6151	0.6151		9,712.0922	9,712.0922	0.1862	0.1781	9,769.8063
Research & Development	37969.5	0.4095	3.7225	3.1269	0.0223		0.2829	0.2829		0.2829	0.2829		4,466.9987	4,466.9987	0.0856	0.0819	4,493.5438
Single Family Housing	167016	1.8012	15.3917	6.5497	0.0982		1.2444	1.2444		1.2444	1.2444		19,648.9579	19,648.9579	0.3766	0.3602	19,765.7219
Strip Mall	482.059	5.2000e-003	0.0473	0.0397	2.8000e-004		3.5900e-003	3.5900e-003		3.5900e-003	3.5900e-003		56.7128	56.7128	1.0900e-003	1.0400e-003	57.0498
Unrefrigerated Warehouse-No Rail	8310.36	0.0896	0.8147	0.6844	4.8900e-003		0.0619	0.0619		0.0619	0.0619		977.6890	977.6890	0.0187	0.0179	983.4989
Total		9.6754	83.7620	43.1130	0.5277		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0231	1.9351	106,176.9814

5.2 Energy by Land Use - NaturalGas

Mitigated

Heritage Fields GPN Proposed Project - Orange County, Winter

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	64.6635	0.6974	5.9592	2.5358	0.0380		0.4818	0.4818		0.4818	0.4818		7,607.4720	7,607.4720	0.1458	0.1395	7,652.6794
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	481.668	5.1945	44.3890	18.8890	0.2833		3.5889	3.5889		3.5889	3.5889		56,666.8429	56,666.8429	1.0861	1.0389	57,003.5856
Day-Care Center	0.521644	5.6300e-003	0.0511	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003		61.3699	61.3699	1.1800e-003	1.1300e-003	61.7346
Elementary School	8.1771	0.0882	0.8017	0.6734	4.8100e-003		0.0609	0.0609		0.0609	0.0609		962.0114	962.0114	0.0184	0.0176	967.7281
Fast Food Restaurant with Drive Thru	2.63562	0.0284	0.2584	0.2171	1.5500e-003		0.0196	0.0196		0.0196	0.0196		310.0725	310.0725	5.9400e-003	5.6800e-003	311.9151
High School	11.2453	0.1213	1.1025	0.9261	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.9752	1,322.9752	0.0254	0.0243	1,330.8370
Hospital	27.1521	0.2928	2.6620	2.2361	0.0160		0.2023	0.2023		0.2023	0.2023		3,194.3658	3,194.3658	0.0612	0.0586	3,213.3484
Medical Office Building	4.77863	0.0515	0.4685	0.3935	2.8100e-003		0.0356	0.0356		0.0356	0.0356		562.1918	562.1918	0.0108	0.0103	565.5326
Office Park	82.5528	0.8903	8.0934	6.7985	0.0486		0.6151	0.6151		0.6151	0.6151		9,712.0922	9,712.0922	0.1862	0.1781	9,769.8063
Research & Development	37.9695	0.4095	3.7225	3.1269	0.0223		0.2829	0.2829		0.2829	0.2829		4,466.9987	4,466.9987	0.0856	0.0819	4,493.5438
Single Family Housing	167.016	1.8012	15.3917	6.5497	0.0982		1.2444	1.2444		1.2444	1.2444		19,648.9579	19,648.9579	0.3766	0.3602	19,765.7219
Strip Mall	0.482059	5.2000e-003	0.0473	0.0397	2.8000e-004		3.5900e-003	3.5900e-003		3.5900e-003	3.5900e-003		56.7128	56.7128	1.0900e-003	1.0400e-003	57.0498
Unrefrigerated Warehouse-No Rail	8.31036	0.0896	0.8147	0.6844	4.8900e-003		0.0619	0.0619		0.0619	0.0619		977.6890	977.6890	0.0187	0.0179	983.4989
Total		9.6754	83.7620	43.1130	0.5277		6.6848	6.6848		6.6848	6.6848		105,549.7520	105,549.7520	2.0231	1.9351	106,176.9814

6.0 Area Detail

6.1 Mitigation Measures Area

Heritage Fields GPN Proposed Project - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061
Unmitigated	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	35.9888					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	367.0917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.1528	129.4878	55.1012	0.8265		10.4692	10.4692		10.4692	10.4692	0.0000	165,303.5294	165,303.5294	3.1683	3.0306	166,285.8456
Landscaping	29.2742	11.2556	976.5854	0.0517		5.4281	5.4281		5.4281	5.4281		1,763.4664	1,763.4664	1.6838		1,805.5605
Total	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061

Heritage Fields GPN Proposed Project - Orange County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	35.9888					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	367.0917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.1528	129.4878	55.1012	0.8265		10.4692	10.4692		10.4692	10.4692	0.0000	165,303.5294	165,303.5294	3.1683	3.0306	166,285.8456
Landscaping	29.2742	11.2556	976.5854	0.0517		5.4281	5.4281		5.4281	5.4281		1,763.4664	1,763.4664	1.6838		1,805.5605
Total	447.5075	140.7434	1,031.6866	0.8783		15.8973	15.8973		15.8973	15.8973	0.0000	167,066.9958	167,066.9958	4.8521	3.0306	168,091.4061

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Heritage Fields GPN Proposed Project - Orange County, Winter

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Heritage Fields GPN Proposed Project - Orange County, Annual

Heritage Fields GPN Proposed Project

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Hospital	164.00	1000sqft	3.76	164,000.00	0
Medical Office Building	190.00	1000sqft	4.36	190,000.00	0
Office Park	2,636.20	1000sqft	60.52	2,636,200.00	0
Research & Development	660.89	1000sqft	15.17	660,890.00	0
Day-Care Center	16.00	1000sqft	0.37	16,000.00	0
Elementary School	3,000.00	Student	5.76	250,810.11	0
High School	2,600.00	Student	7.92	344,918.54	0
Unrefrigerated Warehouse-No Rail	758.32	1000sqft	17.41	758,320.00	0
City Park	74.20	Acre	74.20	3,232,152.00	0
Fast Food Restaurant with Drive Thru	3.70	1000sqft	0.08	3,700.00	0
Apartments Low Rise	1,478.00	Dwelling Unit	92.38	1,478,000.00	4227
Condo/Townhouse	8,424.00	Dwelling Unit	526.50	8,424,000.00	24093
Single Family Housing	1,954.00	Dwelling Unit	634.42	3,517,200.00	5588
Strip Mall	87.54	1000sqft	2.01	87,538.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8	Operational Year		2030	
Utility Company	Southern California Edison				

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CO2 Intensity (lb/MWahr)	248.54	CH4 Intensity (lb/MWahr)	0.029	N2O Intensity (lb/MWahr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - Includes 50% RPS. Assuming arbitrary construction start date.

Land Use - Land use size based on Project-specific information.

Construction Phase - Retained construction default assumptions - not applicable for this analysis.

Vehicle Trips - Weekday trip rates calculated from the data are provided by Urban Crossroads. Weekend trip rates are calculated by multiplying the weekday daily trip rates by the ratio of the default CalEEMod® version 2016.3.2 weekend to weekday daily trips; Assuming CalEEMod defaults for trip lengths and distribution. Mobile emissions are calculated externally.

Energy Use - Based on Title 24 2013.

Water And Wastewater - Includes 20% reduction for indoor water use. Retained default assumptions for outdoor water usage.

Woodstoves - Assuming no fireplaces in apartments. Assuming one NG fireplace per condo/townhouse and single family home.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	NumDays	155,000.00	0.00
tblConstructionPhase	NumDays	10,000.00	0.00
tblConstructionPhase	NumDays	15,500.00	0.00
tblConstructionPhase	NumDays	11,000.00	0.00
tblConstructionPhase	NumDays	6,000.00	0.00
tblEnergyUse	LightingElect	2.68	2.75
tblEnergyUse	LightingElect	2.68	2.75
tblEnergyUse	LightingElect	7.66	7.87
tblEnergyUse	LightingElect	2.68	2.75
tblEnergyUse	LightingElect	4.50	4.61
tblEnergyUse	LightingElect	4.34	4.46
tblEnergyUse	LightingElect	4.40	4.51
tblEnergyUse	LightingElect	2.99	3.08

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tblEnergyUse	LightingElect	5.71	5.85
tblEnergyUse	LightingElect	1.96	2.01
tblEnergyUse	NT24E	3,172.76	3,418.36
tblEnergyUse	NT24E	3,795.01	4,109.59
tblEnergyUse	NT24E	6,155.97	6,680.41
tblEnergyUse	NT24NG	180.76	181.00
tblEnergyUse	NT24NG	0.05	0.00
tblEnergyUse	T24E	177.01	208.74
tblEnergyUse	T24E	172.41	195.26
tblEnergyUse	T24E	1.89	1.98
tblEnergyUse	T24E	1.89	1.98
tblEnergyUse	T24E	8.71	9.13
tblEnergyUse	T24E	1.89	1.98
tblEnergyUse	T24E	7.01	7.35
tblEnergyUse	T24E	4.71	4.94
tblEnergyUse	T24E	5.39	5.65
tblEnergyUse	T24E	1.63	1.71
tblEnergyUse	T24E	253.73	287.34
tblEnergyUse	T24E	2.93	3.07
tblEnergyUse	T24E	0.59	0.62
tblEnergyUse	T24NG	7,243.59	10,453.00
tblEnergyUse	T24NG	12,129.63	15,354.00
tblEnergyUse	T24NG	10.81	10.87
tblEnergyUse	T24NG	10.81	10.87
tblEnergyUse	T24NG	78.56	79.00
tblEnergyUse	T24NG	10.81	10.87
tblEnergyUse	T24NG	51.14	51.40

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tblEnergyUse	T24NG	8.59	8.63
tblEnergyUse	T24NG	10.64	10.70
tblEnergyUse	T24NG	14.04	14.11
tblEnergyUse	T24NG	20,288.91	25,682.00
tblEnergyUse	T24NG	0.95	0.96
tblEnergyUse	T24NG	3.88	4.00
tblFireplaces	NumberGas	1,256.30	0.00
tblFireplaces	NumberGas	7,160.40	5,946.00
tblFireplaces	NumberGas	1,660.90	1,860.00
tblFireplaces	NumberNoFireplace	147.80	1,478.00
tblFireplaces	NumberNoFireplace	842.40	2,478.00
tblFireplaces	NumberNoFireplace	195.40	94.00
tblFireplaces	NumberWood	73.90	0.00
tblFireplaces	NumberWood	421.20	0.00
tblFireplaces	NumberWood	97.70	0.00
tblGrading	AcresOfGrading	0.00	38,750.00
tblLandUse	LandUseSquareFeet	87,540.00	87,538.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	248.54
tblVehicleTrips	ST_TR	7.16	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	5.67	0.00
tblVehicleTrips	ST_TR	6.21	0.00
tblVehicleTrips	ST_TR	722.03	0.00
tblVehicleTrips	ST_TR	0.61	0.00
tblVehicleTrips	ST_TR	10.18	0.00
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	ST_TR	1.64	0.00

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tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	6.07	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	4.84	0.00
tblVehicleTrips	SU_TR	5.83	0.00
tblVehicleTrips	SU_TR	542.72	0.00
tblVehicleTrips	SU_TR	0.25	0.00
tblVehicleTrips	SU_TR	8.91	0.00
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	SU_TR	0.76	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	6.59	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	5.81	0.00
tblVehicleTrips	WD_TR	74.06	0.00
tblVehicleTrips	WD_TR	1.29	0.00
tblVehicleTrips	WD_TR	496.12	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblVehicleTrips	WD_TR	13.22	0.00
tblVehicleTrips	WD_TR	36.13	0.00
tblVehicleTrips	WD_TR	11.42	0.00

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tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblVehicleTrips	WD_TR	44.32	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	IndoorWaterUseRate	96,297,649.87	77,038,090.00
tblWater	IndoorWaterUseRate	548,857,511.83	439,085,837.00
tblWater	IndoorWaterUseRate	686,233.08	548,992.00
tblWater	IndoorWaterUseRate	7,272,720.00	5,817,600.00
tblWater	IndoorWaterUseRate	1,123,074.74	898,461.00
tblWater	IndoorWaterUseRate	11,452,896.00	9,162,400.00
tblWater	IndoorWaterUseRate	20,578,808.16	16,463,107.00
tblWater	IndoorWaterUseRate	23,841,302.14	19,073,112.00
tblWater	IndoorWaterUseRate	468,541,706.46	374,833,897.00
tblWater	IndoorWaterUseRate	324,955,612.77	259,964,518.00
tblWater	IndoorWaterUseRate	127,310,966.06	101,848,733.00
tblWater	IndoorWaterUseRate	6,484,308.53	5,187,362.00
tblWater	IndoorWaterUseRate	175,361,500.00	140,289,200.00
tblWoodstoves	NumberCatalytic	73.90	0.00
tblWoodstoves	NumberCatalytic	421.20	0.00
tblWoodstoves	NumberCatalytic	97.70	0.00
tblWoodstoves	NumberNoncatalytic	73.90	0.00
tblWoodstoves	NumberNoncatalytic	421.20	0.00
tblWoodstoves	NumberNoncatalytic	97.70	0.00

2.0 Emissions Summary

Heritage Fields GPN Proposed Project - Orange County, Annual

2.1 Overall Construction

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	77.4109	3.0256	122.7619	0.0168		0.8094	0.8094		0.8094	0.8094	0.0000	2,074.484 2	2,074.484 2	0.2269	0.0344	2,090.396 9
Energy	1.7658	15.2866	7.8681	0.0963		1.2200	1.2200		1.2200	1.2200	0.0000	32,000.93 72	32,000.93 72	2.0299	0.6711	32,251.65 51
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	3,058.592 7	0.0000	3,058.592 7	180.7577	0.0000	7,577.534 0
Water						0.0000	0.0000		0.0000	0.0000	460.0851	3,287.360 9	3,747.446 0	47.6387	1.1952	5,294.571 0
Total	79.1766	18.3121	130.6301	0.1131	0.0000	2.0294	2.0294	0.0000	2.0294	2.0294	3,518.677 9	37,362.78 23	40,881.46 02	230.6531	1.9006	47,214.15 70

Heritage Fields GPN Proposed Project - Orange County, Annual

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	77.4109	3.0256	122.7619	0.0168		0.8094	0.8094		0.8094	0.8094	0.0000	2,074.484 2	2,074.484 2	0.2269	0.0344	2,090.396 9
Energy	1.7658	15.2866	7.8681	0.0963		1.2200	1.2200		1.2200	1.2200	0.0000	32,000.93 72	32,000.93 72	2.0299	0.6711	32,251.65 51
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	3,058.592 7	0.0000	3,058.592 7	180.7577	0.0000	7,577.534 0
Water						0.0000	0.0000		0.0000	0.0000	460.0851	3,287.360 9	3,747.446 0	47.6387	1.1952	5,294.571 0
Total	79.1766	18.3121	130.6301	0.1131	0.0000	2.0294	2.0294	0.0000	2.0294	2.0294	3,518.677 9	37,362.78 23	40,881.46 02	230.6531	1.9006	47,214.15 70

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Heritage Fields GPN Proposed Project - Orange County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2028	12/31/2027	5	0	
2	Site Preparation	Site Preparation	1/10/2028	1/9/2028	5	0	
3	Grading	Grading	1/17/2028	1/16/2028	5	0	
4	Building Construction	Building Construction	1/24/2028	1/23/2028	5	0	
5	Paving	Paving	1/31/2028	1/30/2028	5	0	
6	Architectural Coating	Architectural Coating	2/7/2028	2/6/2028	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38750

Acres of Paving: 0

Residential Indoor: 27,173,880; Residential Outdoor: 9,057,960; Non-Residential Indoor: 7,668,565; Non-Residential Outdoor: 2,556,188;
Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Heritage Fields GPN Proposed Project - Orange County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Heritage Fields GPN Proposed Project - Orange County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	10,964.00	2,635.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2,193.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.3 Site Preparation - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.3 Site Preparation - 2028

Mitigated Construction Off-Site

[illegible]

3.4 Grading - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.4 Grading - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.4 Grading - 2028

Mitigated Construction Off-Site

[illegible]

3.5 Building Construction - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.5 Building Construction - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.5 Building Construction - 2028

Mitigated Construction Off-Site

[illegible]

3.6 Paving - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.6 Paving - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.6 Paving - 2028

Mitigated Construction Off-Site

[illegible]

3.7 Architectural Coating - 2028

Unmitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.7 Architectural Coating - 2028

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Heritage Fields GPN Proposed Project - Orange County, Annual

3.7 Architectural Coating - 2028**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Heritage Fields GPN Proposed Project - Orange County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Condo/Townhouse	0.00	0.00	0.00		
Day-Care Center	0.00	0.00	0.00		
Elementary School	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
High School	0.00	0.00	0.00		
Hospital	0.00	0.00	0.00		
Medical Office Building	0.00	0.00	0.00		
Office Park	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Heritage Fields GPN Proposed Project - Orange County, Annual

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Day-Care Center	16.60	8.40	6.90	12.70	82.30	5.00	28	58	14
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
High School	16.60	8.40	6.90	77.80	17.20	5.00	75	19	6
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Research & Development	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Heritage Fields GPN Proposed Project - Orange County, Annual

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
City Park	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Condo/Townhouse	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Day-Care Center	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Elementary School	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Fast Food Restaurant with Drive Thru	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
High School	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Hospital	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Medical Office Building	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Office Park	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Research & Development	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Single Family Housing	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Strip Mall	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777
Unrefrigerated Warehouse-No Rail	0.570129	0.042389	0.209362	0.103383	0.012827	0.005771	0.026890	0.019547	0.001873	0.001437	0.004989	0.000625	0.000777

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Heritage Fields GPN Proposed Project - Orange County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14,525.99 20	14,525.99 20	1.6949	0.3507	14,672.86 50
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14,525.99 20	14,525.99 20	1.6949	0.3507	14,672.86 50
NaturalGas Mitigated	1.7658	15.2866	7.8681	0.0963		1.2200	1.2200		1.2200	1.2200	0.0000	17,474.94 52	17,474.94 52	0.3349	0.3204	17,578.79 01
NaturalGas Unmitigated	1.7658	15.2866	7.8681	0.0963		1.2200	1.2200		1.2200	1.2200	0.0000	17,474.94 52	17,474.94 52	0.3349	0.3204	17,578.79 01

5.2 Energy by Land Use - NaturalGas**Unmitigated**

Heritage Fields GPN Proposed Project - Orange County, Annual

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.36022e+007	0.1273	1.0876	0.4628	6.9400e-003		0.0879	0.0879		0.0879	0.0879	0.0000	1,259.5023	1,259.5023	0.0241	0.0231	1,266.9869
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.75809e+008	0.9480	8.1010	3.4472	0.0517		0.6550	0.6550		0.6550	0.6550	0.0000	9,381.8314	9,381.8314	0.1798	0.1720	9,437.5829
Day-Care Center	190400	1.0300e-003	9.3300e-003	7.8400e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	10.1605	10.1605	1.9000e-004	1.9000e-004	10.2209
Elementary School	2.98464e+006	0.0161	0.1463	0.1229	8.8000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	159.2718	159.2718	3.0500e-003	2.9200e-003	160.2183
Fast Food Restaurant with Drive Thru	962000	5.1900e-003	0.0472	0.0396	2.8000e-004		3.5800e-003	3.5800e-003		3.5800e-003	3.5800e-003	0.0000	51.3360	51.3360	9.8000e-004	9.4000e-004	51.6411
High School	4.10453e+006	0.0221	0.2012	0.1690	1.2100e-003		0.0153	0.0153		0.0153	0.0153	0.0000	219.0334	219.0334	4.2000e-003	4.0200e-003	220.3350
Hospital	9.91052e+006	0.0534	0.4858	0.4081	2.9100e-003		0.0369	0.0369		0.0369	0.0369	0.0000	528.8631	528.8631	0.0101	9.7000e-003	532.0059
Medical Office Building	1.7442e+006	9.4100e-003	0.0855	0.0718	5.1000e-004		6.5000e-003	6.5000e-003		6.5000e-003	6.5000e-003	0.0000	93.0772	93.0772	1.7800e-003	1.7100e-003	93.6303
Office Park	3.01318e+007	0.1625	1.4771	1.2407	8.8600e-003		0.1123	0.1123		0.1123	0.1123	0.0000	1,607.9458	1,607.9458	0.0308	0.0295	1,617.5010
Research & Development	1.38589e+007	0.0747	0.6794	0.5707	4.0800e-003		0.0516	0.0516		0.0516	0.0516	0.0000	739.5617	739.5617	0.0142	0.0136	743.9566
Single Family Housing	6.09609e+007	0.3287	2.8090	1.1953	0.0179		0.2271	0.2271		0.2271	0.2271	0.0000	3,253.1054	3,253.1054	0.0624	0.0596	3,272.4369
Strip Mall	175951	9.5000e-004	8.6300e-003	7.2500e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004	0.0000	9.3894	9.3894	1.8000e-004	1.7000e-004	9.4452
Unrefrigerated Warehouse-No Rail	3.03328e+006	0.0164	0.1487	0.1249	8.9000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	161.8674	161.8674	3.1000e-003	2.9700e-003	162.8293
Total		1.7658	15.2866	7.8681	0.0963		1.2200	1.2200		1.2200	1.2200	0.0000	17,474.9452	17,474.9452	0.3349	0.3204	17,578.7901

5.2 Energy by Land Use - NaturalGas

Mitigated

Heritage Fields GPN Proposed Project - Orange County, Annual

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.36022e+007	0.1273	1.0876	0.4628	6.9400e-003		0.0879	0.0879		0.0879	0.0879	0.0000	1,259.5023	1,259.5023	0.0241	0.0231	1,266.9869
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.75809e+008	0.9480	8.1010	3.4472	0.0517		0.6550	0.6550		0.6550	0.6550	0.0000	9,381.8314	9,381.8314	0.1798	0.1720	9,437.5829
Day-Care Center	190400	1.0300e-003	9.3300e-003	7.8400e-003	6.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	10.1605	10.1605	1.9000e-004	1.9000e-004	10.2209
Elementary School	2.98464e+006	0.0161	0.1463	0.1229	8.8000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	159.2718	159.2718	3.0500e-003	2.9200e-003	160.2183
Fast Food Restaurant with Drive Thru	962000	5.1900e-003	0.0472	0.0396	2.8000e-004		3.5800e-003	3.5800e-003		3.5800e-003	3.5800e-003	0.0000	51.3360	51.3360	9.8000e-004	9.4000e-004	51.6411
High School	4.10453e+006	0.0221	0.2012	0.1690	1.2100e-003		0.0153	0.0153		0.0153	0.0153	0.0000	219.0334	219.0334	4.2000e-003	4.0200e-003	220.3350
Hospital	9.91052e+006	0.0534	0.4858	0.4081	2.9100e-003		0.0369	0.0369		0.0369	0.0369	0.0000	528.8631	528.8631	0.0101	9.7000e-003	532.0059
Medical Office Building	1.7442e+006	9.4100e-003	0.0855	0.0718	5.1000e-004		6.5000e-003	6.5000e-003		6.5000e-003	6.5000e-003	0.0000	93.0772	93.0772	1.7800e-003	1.7100e-003	93.6303
Office Park	3.01318e+007	0.1625	1.4771	1.2407	8.8600e-003		0.1123	0.1123		0.1123	0.1123	0.0000	1,607.9458	1,607.9458	0.0308	0.0295	1,617.5010
Research & Development	1.38589e+007	0.0747	0.6794	0.5707	4.0800e-003		0.0516	0.0516		0.0516	0.0516	0.0000	739.5617	739.5617	0.0142	0.0136	743.9566
Single Family Housing	6.09609e+007	0.3287	2.8090	1.1953	0.0179		0.2271	0.2271		0.2271	0.2271	0.0000	3,253.1054	3,253.1054	0.0624	0.0596	3,272.4369
Strip Mall	175951	9.5000e-004	8.6300e-003	7.2500e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004	0.0000	9.3894	9.3894	1.8000e-004	1.7000e-004	9.4452
Unrefrigerated Warehouse-No Rail	3.03328e+006	0.0164	0.1487	0.1249	8.9000e-004		0.0113	0.0113		0.0113	0.0113	0.0000	161.8674	161.8674	3.1000e-003	2.9700e-003	162.8293
Total		1.7658	15.2866	7.8681	0.0963		1.2200	1.2200		1.2200	1.2200	0.0000	17,474.9452	17,474.9452	0.3349	0.3204	17,578.7901

5.3 Energy by Land Use - Electricity

Unmitigated

Heritage Fields GPN Proposed Project - Orange County, Annual

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	6.55857e+006	739.3855	0.0863	0.0179	746.8615
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	4.46973e+007	5,038.9906	0.5880	0.1217	5,089.9401
Day-Care Center	99840	11.2556	1.3100e-003	2.7000e-004	11.3694
Elementary School	1.56506e+006	176.4378	0.0206	4.2600e-003	178.2218
Fast Food Restaurant with Drive Thru	137307	15.4794	1.8100e-003	3.7000e-004	15.6359
High School	2.15229e+006	242.6404	0.0283	5.8600e-003	245.0938
Hospital	2.67156e+006	301.1806	0.0351	7.2700e-003	304.2258
Medical Office Building	2.7246e+006	307.1601	0.0358	7.4200e-003	310.2658
Office Park	4.15465e+007	4,683.7813	0.5465	0.1131	4,731.1392
Research & Development	5.69687e+006	642.2417	0.0749	0.0155	648.7354
Single Family Housing	1.67587e+007	1,889.3014	0.2205	0.0456	1,908.4042
Strip Mall	1.02595e+006	115.6608	0.0135	2.7900e-003	116.8303
Unrefrigerated Warehouse-No Rail	3.21528e+006	362.4770	0.0423	8.7500e-003	366.1420
Total		14,525.9920	1.6949	0.3507	14,672.8650

5.3 Energy by Land Use - Electricity

Heritage Fields GPN Proposed Project - Orange County, Annual

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	6.55857e+006	739.3855	0.0863	0.0179	746.8615
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	4.46973e+007	5,038.9906	0.5880	0.1217	5,089.9401
Day-Care Center	99840	11.2556	1.3100e-003	2.7000e-004	11.3694
Elementary School	1.56506e+006	176.4378	0.0206	4.2600e-003	178.2218
Fast Food Restaurant with Drive Thru	137307	15.4794	1.8100e-003	3.7000e-004	15.6359
High School	2.15229e+006	242.6404	0.0283	5.8600e-003	245.0938
Hospital	2.67156e+006	301.1806	0.0351	7.2700e-003	304.2258
Medical Office Building	2.7246e+006	307.1601	0.0358	7.4200e-003	310.2658
Office Park	4.15465e+007	4,683.7813	0.5465	0.1131	4,731.1392
Research & Development	5.69687e+006	642.2417	0.0749	0.0155	648.7354
Single Family Housing	1.67587e+007	1,889.3014	0.2205	0.0456	1,908.4042
Strip Mall	1.02595e+006	115.6608	0.0135	2.7900e-003	116.8303
Unrefrigerated Warehouse-No Rail	3.21528e+006	362.4770	0.0423	8.7500e-003	366.1420
Total		14,525.9920	1.6949	0.3507	14,672.8650

Heritage Fields GPN Proposed Project - Orange County, Annual

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	77.4109	3.0256	122.7619	0.0168		0.8094	0.8094		0.8094	0.8094	0.0000	2,074.484 2	2,074.484 2	0.2269	0.0344	2,090.396 9
Unmitigated	77.4109	3.0256	122.7619	0.0168		0.8094	0.8094		0.8094	0.8094	0.0000	2,074.484 2	2,074.484 2	0.2269	0.0344	2,090.396 9

Heritage Fields GPN Proposed Project - Orange County, Annual

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.5680					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	66.9942					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1894	1.6186	0.6888	0.0103		0.1309	0.1309		0.1309	0.1309	0.0000	1,874.5105	1,874.5105	0.0359	0.0344	1,885.6498
Landscaping	3.6593	1.4070	122.0732	6.4700e-003		0.6785	0.6785		0.6785	0.6785	0.0000	199.9737	199.9737	0.1909	0.0000	204.7471
Total	77.4109	3.0256	122.7619	0.0168		0.8094	0.8094		0.8094	0.8094	0.0000	2,074.4842	2,074.4842	0.2269	0.0344	2,090.3969

Heritage Fields GPN Proposed Project - Orange County, Annual

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.5680					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	66.9942					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1894	1.6186	0.6888	0.0103		0.1309	0.1309		0.1309	0.1309	0.0000	1,874.5105	1,874.5105	0.0359	0.0344	1,885.6498
Landscaping	3.6593	1.4070	122.0732	6.4700e-003		0.6785	0.6785		0.6785	0.6785	0.0000	199.9737	199.9737	0.1909	0.0000	204.7471
Total	77.4109	3.0256	122.7619	0.0168		0.8094	0.8094		0.8094	0.8094	0.0000	2,074.4842	2,074.4842	0.2269	0.0344	2,090.3969

7.0 Water Detail**7.1 Mitigation Measures Water**

Heritage Fields GPN Proposed Project - Orange County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3,747.446 0	47.6387	1.1952	5,294.571 0
Unmitigated	3,747.446 0	47.6387	1.1952	5,294.571 0

7.2 Water by Land Use**Unmitigated**

Heritage Fields GPN Proposed Project - Orange County, Annual

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	77.0381 / 60.7094	213.5656	2.5324	0.0638	295.8985
City Park	0 / 88.4079	110.7305	0.0129	2.6700e-003	111.8501
Condo/Townhouse	439.086 / 346.019	1,217.2375	14.4334	0.3639	1,686.5015
Day-Care Center	0.548992 / 1.7646	3.1902	0.0182	5.0000e-004	3.7938
Elementary School	5.8176 / 18.7013	33.8088	0.1933	5.2500e-003	40.2050
Fast Food Restaurant with Drive Thru	0.898461 / 0.0716856	1.6937	0.0294	7.3000e-004	2.6459
High School	9.1624 / 29.4503	53.2430	0.3044	8.2600e-003	63.3166
Hospital	16.4631 / 3.91977	34.2992	0.5398	0.0134	51.7792
Medical Office Building	19.0731 / 4.5412	39.7369	0.6254	0.0155	59.9881
Office Park	374.834 / 287.171	1,028.8287	12.3201	0.3104	1,429.3207
Research & Development	259.965 / 0	464.0854	8.5155	0.2092	739.3227
Single Family Housing	101.849 / 80.2613	282.3459	3.3479	0.0844	391.1947
Strip Mall	5.18736 / 3.97425	14.2382	0.1705	4.3000e-003	19.7806
Unrefrigerated Warehouse-No Rail	140.289 / 0	250.4425	4.5954	0.1129	398.9737
Total		3,747.4461	47.6387	1.1952	5,294.5710

7.2 Water by Land Use

Mitigated

Heritage Fields GPN Proposed Project - Orange County, Annual

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	77.0381 / 60.7094	213.5656	2.5324	0.0638	295.8985
City Park	0 / 88.4079	110.7305	0.0129	2.6700e-003	111.8501
Condo/Townhouse	439.086 / 346.019	1,217.2375	14.4334	0.3639	1,686.5015
Day-Care Center	0.548992 / 1.7646	3.1902	0.0182	5.0000e-004	3.7938
Elementary School	5.8176 / 18.7013	33.8088	0.1933	5.2500e-003	40.2050
Fast Food Restaurant with Drive Thru	0.898461 / 0.0716856	1.6937	0.0294	7.3000e-004	2.6459
High School	9.1624 / 29.4503	53.2430	0.3044	8.2600e-003	63.3166
Hospital	16.4631 / 3.91977	34.2992	0.5398	0.0134	51.7792
Medical Office Building	19.0731 / 4.5412	39.7369	0.6254	0.0155	59.9881
Office Park	374.834 / 287.171	1,028.8287	12.3201	0.3104	1,429.3207
Research & Development	259.965 / 0	464.0854	8.5155	0.2092	739.3227
Single Family Housing	101.849 / 80.2613	282.3459	3.3479	0.0844	391.1947
Strip Mall	5.18736 / 3.97425	14.2382	0.1705	4.3000e-003	19.7806
Unrefrigerated Warehouse-No Rail	140.289 / 0	250.4425	4.5954	0.1129	398.9737
Total		3,747.4461	47.6387	1.1952	5,294.5710

8.0 Waste Detail

Heritage Fields GPN Proposed Project - Orange County, Annual

8.1 Mitigation Measures Waste**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3,058.592 7	180.7577	0.0000	7,577.534 0
Unmitigated	3,058.592 7	180.7577	0.0000	7,577.534 0

8.2 Waste by Land Use**Unmitigated**

Heritage Fields GPN Proposed Project - Orange County, Annual

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	679.88	138.0095	8.1561	0.0000	341.9127
City Park	6.38	1.2951	0.0765	0.0000	3.2085
Condo/Townhouse	3875.04	786.5981	46.4866	0.0000	1,948.7635
Day-Care Center	20.8	4.2222	0.2495	0.0000	10.4604
Elementary School	547.5	111.1376	6.5680	0.0000	275.3386
Fast Food Restaurant with Drive Thru	42.62	8.6515	0.5113	0.0000	21.4337
High School	474.5	96.3192	5.6923	0.0000	238.6268
Hospital	1771.2	359.5376	21.2481	0.0000	890.7392
Medical Office Building	2052	416.5375	24.6167	0.0000	1,031.9539
Office Park	2451.67	497.6669	29.4113	0.0000	1,232.9486
Research & Development	50.22	10.1942	0.6025	0.0000	25.2557
Single Family Housing	2291.08	465.0685	27.4848	0.0000	1,152.1876
Strip Mall	91.92	18.6589	1.1027	0.0000	46.2267
Unrefrigerated Warehouse-No Rail	712.82	144.6960	8.5513	0.0000	358.4783
Total		3,058.5927	180.7577	0.0000	7,577.5340

8.2 Waste by Land Use**Mitigated**

Heritage Fields GPN Proposed Project - Orange County, Annual

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	679.88	138.0095	8.1561	0.0000	341.9127
City Park	6.38	1.2951	0.0765	0.0000	3.2085
Condo/Townhouse	3875.04	786.5981	46.4866	0.0000	1,948.7635
Day-Care Center	20.8	4.2222	0.2495	0.0000	10.4604
Elementary School	547.5	111.1376	6.5680	0.0000	275.3386
Fast Food Restaurant with Drive Thru	42.62	8.6515	0.5113	0.0000	21.4337
High School	474.5	96.3192	5.6923	0.0000	238.6268
Hospital	1771.2	359.5376	21.2481	0.0000	890.7392
Medical Office Building	2052	416.5375	24.6167	0.0000	1,031.9539
Office Park	2451.67	497.6669	29.4113	0.0000	1,232.9486
Research & Development	50.22	10.1942	0.6025	0.0000	25.2557
Single Family Housing	2291.08	465.0685	27.4848	0.0000	1,152.1876
Strip Mall	91.92	18.6589	1.1027	0.0000	46.2267
Unrefrigerated Warehouse-No Rail	712.82	144.6960	8.5513	0.0000	358.4783
Total		3,058.5927	180.7577	0.0000	7,577.5340

9.0 Operational Offroad

Heritage Fields GPN Proposed Project - Orange County, Annual

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

APPENDIX B EMISSIONS MODEL SENSITIVITY ANALYSIS CALCULATIONS

List of Attachments

- Appendix B-1: CalEEMod® 2022.1.1 Model Run for the Baseline (Approved)
- Project Appendix B-2: CalEEMod® 2022.1.1 Model Run for the Proposed Project
- Appendix B-3: Emissions Model Sensitivity Analysis Calculation Tables

APPENDIX B-1
CALEEMOD® 2022.1.1 MODEL RUN FOR THE BASELINE (APPROVED) PROJECT

Heritage Fields GPN Baseline (Approved) Project Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Heritage Fields GPN Baseline (Approved) Project
Operational Year	2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	6.00
Location	33.65244324286482, -117.72941598708472
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6811
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	1,009	1000sqft	23.2	1,009,000	1,481,000	—	—	—
Research & Development	2,689	1000sqft	61.7	2,689,000	26,000	—	—	—

Day-Care Center	22.0	1000sqft	0.51	22,000	11,000	—	—	—
Elementary School	3,000	Student	5.76	250,810	255,000	255,000	—	—
High School	2,600	Student	7.92	344,919	281,000	281,000	—	—
City Park	74.2	Acre	74.2	0.00	485,000	485,000	—	—
Hotel	161	Room	5.37	233,772	52,000	—	—	—
Strip Mall	305	1000sqft	7.00	305,000	158,000	—	—	—
Medical Office Building	190	1000sqft	4.36	190,000	66,000	—	—	—
Hospital	60.0	1000sqft	1.38	60,000	22,000	—	—	—
Health Club	125	1000sqft	2.87	125,000	85,000	—	—	—
Single Family Housing	1,954	Dwelling Unit	634	3,810,300	1,344,000	—	5,823	—
Apartments Low Rise	1,478	Dwelling Unit	92.4	1,566,680	804,807	—	4,404	—
Condo/Townhouse	7,124	Dwelling Unit	445	7,551,440	3,879,193	—	21,230	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	546	527	234	939	1.47	18.9	0.00	18.9	18.7	0.00	18.7	11,305	389,027	400,332	1,168	11.4	539	433,469
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	451	437	227	111	1.43	18.2	0.00	18.2	18.2	0.00	18.2	11,305	386,491	397,796	1,167	11.4	539	430,924
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	502	492	116	629	0.72	9.29	0.00	9.29	9.18	0.00	9.18	11,305	241,498	252,803	1,165	11.2	539	285,786
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	91.7	89.8	21.2	115	0.13	1.70	0.00	1.70	1.68	0.00	1.68	1,872	39,983	41,854	193	1.85	89.2	47,315

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	534	521	132	881	0.83	10.7	—	10.7	10.5	—	10.5	0.00	160,056	160,056	3.07	0.32	—	160,227
Energy	11.8	5.89	103	58.1	0.64	8.14	—	8.14	8.14	—	8.14	—	219,241	219,241	23.4	1.71	—	220,337
Water	—	—	—	—	—	—	—	—	—	—	—	3,799	9,731	13,530	391	9.41	—	26,107
Waste	—	—	—	—	—	—	—	—	—	—	—	7,505	0.00	7,505	750	0.00	—	26,259
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	539	539
Total	546	527	234	939	1.47	18.9	0.00	18.9	18.7	0.00	18.7	11,305	389,027	400,332	1,168	11.4	539	433,469
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	439	432	124	52.8	0.79	10.0	—	10.0	10.0	—	10.0	0.00	157,519	157,519	2.97	0.30	—	157,682
Energy	11.8	5.89	103	58.1	0.64	8.14	—	8.14	8.14	—	8.14	—	219,241	219,241	23.4	1.71	—	220,337
Water	—	—	—	—	—	—	—	—	—	—	—	3,799	9,731	13,530	391	9.41	—	26,107
Waste	—	—	—	—	—	—	—	—	—	—	—	7,505	0.00	7,505	750	0.00	—	26,259
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	539	539

Total	451	437	227	111	1.43	18.2	0.00	18.2	18.2	0.00	18.2	11,305	386,491	397,796	1,167	11.4	539	430,924
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	491	486	13.6	571	0.08	1.15	—	1.15	1.04	—	1.04	0.00	12,526	12,526	0.28	0.03	—	12,544
Energy	11.8	5.89	103	58.1	0.64	8.14	—	8.14	8.14	—	8.14	—	219,241	219,241	23.4	1.71	—	220,337
Water	—	—	—	—	—	—	—	—	—	—	—	3,799	9,731	13,530	391	9.41	—	26,107
Waste	—	—	—	—	—	—	—	—	—	—	—	7,505	0.00	7,505	750	0.00	—	26,259
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	539	539
Total	502	492	116	629	0.72	9.29	0.00	9.29	9.18	0.00	9.18	11,305	241,498	252,803	1,165	11.2	539	285,786
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	89.5	88.7	2.49	104	0.01	0.21	—	0.21	0.19	—	0.19	0.00	2,074	2,074	0.05	0.01	—	2,077
Energy	2.15	1.08	18.8	10.6	0.12	1.49	—	1.49	1.49	—	1.49	—	36,298	36,298	3.88	0.28	—	36,479
Water	—	—	—	—	—	—	—	—	—	—	—	629	1,611	2,240	64.7	1.56	—	4,322
Waste	—	—	—	—	—	—	—	—	—	—	—	1,243	0.00	1,243	124	0.00	—	4,347
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	89.2	89.2
Total	91.7	89.8	21.2	115	0.13	1.70	0.00	1.70	1.68	0.00	1.68	1,872	39,983	41,854	193	1.85	89.2	47,315

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Research & Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Day-Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
High School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Health Club	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Research & Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Day-Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
High School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Health Club	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Research & Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Day-Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
High School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Health Club	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	12,244	12,244	1.63	0.20	—	12,343
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	32,629	32,629	4.33	0.53	—	32,894
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	93.7	93.7	0.01	< 0.005	—	94.5
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	1,068	1,068	0.14	0.02	—	1,077
High School	—	—	—	—	—	—	—	—	—	—	—	—	1,469	1,469	0.20	0.02	—	1,481
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	2,228	2,228	0.30	0.04	—	2,246
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,040	2,040	0.27	0.03	—	2,056
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2,306	2,306	0.31	0.04	—	2,324
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,194	1,194	0.16	0.02	—	1,204

Health Club	—	—	—	—	—	—	—	—	—	—	—	—	816	816	0.11	0.01	—	823
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	9,174	9,174	1.22	0.15	—	9,249
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,860	3,860	0.51	0.06	—	3,891
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	22,276	22,276	2.96	0.36	—	22,457
Total	—	—	—	—	—	—	—	—	—	—	—	—	91,398	91,398	12.1	1.47	—	92,140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	12,244	12,244	1.63	0.20	—	12,343
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	32,629	32,629	4.33	0.53	—	32,894
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	93.7	93.7	0.01	< 0.005	—	94.5
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	1,068	1,068	0.14	0.02	—	1,077
High School	—	—	—	—	—	—	—	—	—	—	—	—	1,469	1,469	0.20	0.02	—	1,481
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	2,228	2,228	0.30	0.04	—	2,246
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	2,040	2,040	0.27	0.03	—	2,056
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2,306	2,306	0.31	0.04	—	2,324

Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,194	1,194	0.16	0.02	—	1,204
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	816	816	0.11	0.01	—	823
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	9,174	9,174	1.22	0.15	—	9,249
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,860	3,860	0.51	0.06	—	3,891
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	22,276	22,276	2.96	0.36	—	22,457
Total	—	—	—	—	—	—	—	—	—	—	—	—	91,398	91,398	12.1	1.47	—	92,140
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	2,027	2,027	0.27	0.03	—	2,044
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	5,402	5,402	0.72	0.09	—	5,446
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	177	177	0.02	< 0.005	—	178
High School	—	—	—	—	—	—	—	—	—	—	—	—	243	243	0.03	< 0.005	—	245
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	369	369	0.05	0.01	—	372
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	338	338	0.04	0.01	—	340
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	382	382	0.05	0.01	—	385

Hospital	—	—	—	—	—	—	—	—	—	—	—	—	198	198	0.03	< 0.005	—	199
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	135	135	0.02	< 0.005	—	136
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,519	1,519	0.20	0.02	—	1,531
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	639	639	0.08	0.01	—	644
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	3,688	3,688	0.49	0.06	—	3,718
Total	—	—	—	—	—	—	—	—	—	—	—	—	15,132	15,132	2.01	0.24	—	15,255

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.76	0.38	6.87	5.77	0.04	0.52	—	0.52	0.52	—	0.52	—	8,196	8,196	0.73	0.02	—	8,219
Research & Development	2.01	1.01	18.3	15.4	0.11	1.39	—	1.39	1.39	—	1.39	—	21,843	21,843	1.93	0.04	—	21,904
Day-Care Center	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	148	148	0.01	< 0.005	—	148
Elementary School	0.16	0.08	1.41	1.19	0.01	0.11	—	0.11	0.11	—	0.11	—	1,686	1,686	0.15	< 0.005	—	1,691
High School	0.21	0.11	1.94	1.63	0.01	0.15	—	0.15	0.15	—	0.15	—	2,319	2,319	0.21	< 0.005	—	2,326

City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.20	0.10	1.81	1.52	0.01	0.14	—	0.14	0.14	—	0.14	—	2,163	2,163	0.19	< 0.005	—	2,169
Strip Mall	0.05	0.03	0.49	0.41	< 0.005	0.04	—	0.04	0.04	—	0.04	—	585	585	0.05	< 0.005	—	587
Medical Office Building	0.14	0.07	1.29	1.09	0.01	0.10	—	0.10	0.10	—	0.10	—	1,543	1,543	0.14	< 0.005	—	1,548
Hospital	0.10	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	—	1,049	1,049	0.09	< 0.005	—	1,052
Health Club	0.16	0.08	1.44	1.21	0.01	0.11	—	0.11	0.11	—	0.11	—	1,715	1,715	0.15	< 0.005	—	1,719
Single Family Housing	2.21	1.11	18.9	8.05	0.12	1.53	—	1.53	1.53	—	1.53	—	24,007	24,007	2.12	0.05	—	24,073
Apartments Low Rise	0.71	0.36	6.08	2.59	0.04	0.49	—	0.49	0.49	—	0.49	—	7,724	7,724	0.68	0.01	—	7,745
Condo/Townhouse	5.06	2.53	43.2	18.4	0.28	3.49	—	3.49	3.49	—	3.49	—	54,865	54,865	4.86	0.10	—	55,017
Total	11.8	5.89	103	58.1	0.64	8.14	—	8.14	8.14	—	8.14	—	127,843	127,843	11.3	0.24	—	128,198
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.76	0.38	6.87	5.77	0.04	0.52	—	0.52	0.52	—	0.52	—	8,196	8,196	0.73	0.02	—	8,219
Research & Development	2.01	1.01	18.3	15.4	0.11	1.39	—	1.39	1.39	—	1.39	—	21,843	21,843	1.93	0.04	—	21,904
Day-Care Center	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	148	148	0.01	< 0.005	—	148
Elementary School	0.16	0.08	1.41	1.19	0.01	0.11	—	0.11	0.11	—	0.11	—	1,686	1,686	0.15	< 0.005	—	1,691

Heritage Fields GPN Baseline (Approved) Project Detailed Report, 7/29/2025

High School	0.21	0.11	1.94	1.63	0.01	0.15	—	0.15	0.15	—	0.15	—	2,319	2,319	0.21	< 0.005	—	2,326
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.20	0.10	1.81	1.52	0.01	0.14	—	0.14	0.14	—	0.14	—	2,163	2,163	0.19	< 0.005	—	2,169
Strip Mall	0.05	0.03	0.49	0.41	< 0.005	0.04	—	0.04	0.04	—	0.04	—	585	585	0.05	< 0.005	—	587
Medical Office Building	0.14	0.07	1.29	1.09	0.01	0.10	—	0.10	0.10	—	0.10	—	1,543	1,543	0.14	< 0.005	—	1,548
Hospital	0.10	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	—	1,049	1,049	0.09	< 0.005	—	1,052
Health Club	0.16	0.08	1.44	1.21	0.01	0.11	—	0.11	0.11	—	0.11	—	1,715	1,715	0.15	< 0.005	—	1,719
Single Family Housing	2.21	1.11	18.9	8.05	0.12	1.53	—	1.53	1.53	—	1.53	—	24,007	24,007	2.12	0.05	—	24,073
Apartments Low Rise	0.71	0.36	6.08	2.59	0.04	0.49	—	0.49	0.49	—	0.49	—	7,724	7,724	0.68	0.01	—	7,745
Condo/Townhouse	5.06	2.53	43.2	18.4	0.28	3.49	—	3.49	3.49	—	3.49	—	54,865	54,865	4.86	0.10	—	55,017
Total	11.8	5.89	103	58.1	0.64	8.14	—	8.14	8.14	—	8.14	—	127,843	127,843	11.3	0.24	—	128,198
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.14	0.07	1.25	1.05	0.01	0.10	—	0.10	0.10	—	0.10	—	1,357	1,357	0.12	< 0.005	—	1,361
Research & Development	0.37	0.18	3.34	2.81	0.02	0.25	—	0.25	0.25	—	0.25	—	3,616	3,616	0.32	0.01	—	3,626
Day-Care Center	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.5	24.5	< 0.005	< 0.005	—	24.6
Elementary School	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	279	279	0.02	< 0.005	—	280

High School	0.04	0.02	0.35	0.30	< 0.005	0.03	—	0.03	0.03	—	0.03	—	384	384	0.03	< 0.005	—	385
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.04	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	—	358	358	0.03	< 0.005	—	359
Strip Mall	0.01	< 0.005	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	96.9	96.9	0.01	< 0.005	—	97.2
Medical Office Building	0.03	0.01	0.24	0.20	< 0.005	0.02	—	0.02	0.02	—	0.02	—	256	256	0.02	< 0.005	—	256
Hospital	0.02	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	174	174	0.02	< 0.005	—	174
Health Club	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	284	284	0.03	< 0.005	—	285
Single Family Housing	0.40	0.20	3.45	1.47	0.02	0.28	—	0.28	0.28	—	0.28	—	3,975	3,975	0.35	0.01	—	3,986
Apartments Low Rise	0.13	0.06	1.11	0.47	0.01	0.09	—	0.09	0.09	—	0.09	—	1,279	1,279	0.11	< 0.005	—	1,282
Condo/Townhouse	0.92	0.46	7.89	3.36	0.05	0.64	—	0.64	0.64	—	0.64	—	9,083	9,083	0.80	0.02	—	9,109
Total	2.15	1.08	18.8	10.6	0.12	1.49	—	1.49	1.49	—	1.49	—	21,166	21,166	1.87	0.04	—	21,225

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	14.5	7.26	124	52.8	0.79	10.0	—	10.0	10.0	—	10.0	0.00	157,519	157,519	2.97	0.30	—	157,682

Consumer	389	389	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.5	35.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	95.2	89.2	7.51	828	0.04	0.68	—	0.68	0.51	—	0.51	—	2,536	2,536	0.11	0.02	—	2,545
Total	534	521	132	881	0.83	10.7	—	10.7	10.5	—	10.5	0.00	160,056	160,056	3.07	0.32	—	160,227
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	14.5	7.26	124	52.8	0.79	10.0	—	10.0	10.0	—	10.0	0.00	157,519	157,519	2.97	0.30	—	157,682
Consumer Products	389	389	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	35.5	35.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	439	432	124	52.8	0.79	10.0	—	10.0	10.0	—	10.0	0.00	157,519	157,519	2.97	0.30	—	157,682
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.18	0.09	1.55	0.66	0.01	0.13	—	0.13	0.13	—	0.13	0.00	1,786	1,786	0.03	< 0.005	—	1,788
Consumer Products	71.0	71.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.47	6.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	11.9	11.1	0.94	104	< 0.005	0.08	—	0.08	0.06	—	0.06	—	288	288	0.01	< 0.005	—	289
Total	89.5	88.7	2.49	104	0.01	0.21	—	0.21	0.19	—	0.19	0.00	2,074	2,074	0.05	0.01	—	2,077

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	344	901	1,244	35.4	0.85	—	2,382
Research & Development	—	—	—	—	—	—	—	—	—	—	—	2,534	6,130	8,663	261	6.27	—	17,047
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	1.81	4.89	6.70	0.19	< 0.005	—	12.7
Elementary School	—	—	—	—	—	—	—	—	—	—	—	13.9	60.3	74.2	1.44	0.03	—	121
High School	—	—	—	—	—	—	—	—	—	—	—	21.9	82.3	104	2.26	0.05	—	177
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	50.5	50.5	0.01	< 0.005	—	50.9
Hotel	—	—	—	—	—	—	—	—	—	—	—	7.83	21.4	29.2	0.81	0.02	—	55.1
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	43.3	112	155	4.45	0.11	—	299

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	45.7	114	159	4.70	0.11	—	310
Hospital	—	—	—	—	—	—	—	—	—	—	—	14.4	35.9	50.4	1.48	0.04	—	98.1
Health Club	—	—	—	—	—	—	—	—	—	—	—	14.2	38.2	52.4	1.46	0.04	—	99.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	141	417	557	14.5	0.35	—	1,023
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	106	303	409	10.9	0.26	—	762
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	512	1,461	1,973	52.7	1.27	—	3,670
Total	—	—	—	—	—	—	—	—	—	—	—	3,799	9,731	13,530	391	9.41	—	26,107
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	344	901	1,244	35.4	0.85	—	2,382
Research & Development	—	—	—	—	—	—	—	—	—	—	—	2,534	6,130	8,663	261	6.27	—	17,047
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	1.81	4.89	6.70	0.19	< 0.005	—	12.7
Elementary School	—	—	—	—	—	—	—	—	—	—	—	13.9	60.3	74.2	1.44	0.03	—	121
High School	—	—	—	—	—	—	—	—	—	—	—	21.9	82.3	104	2.26	0.05	—	177
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	50.5	50.5	0.01	< 0.005	—	50.9
Hotel	—	—	—	—	—	—	—	—	—	—	—	7.83	21.4	29.2	0.81	0.02	—	55.1

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	43.3	112	155	4.45	0.11	—	299
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	45.7	114	159	4.70	0.11	—	310
Hospital	—	—	—	—	—	—	—	—	—	—	—	14.4	35.9	50.4	1.48	0.04	—	98.1
Health Club	—	—	—	—	—	—	—	—	—	—	—	14.2	38.2	52.4	1.46	0.04	—	99.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	141	417	557	14.5	0.35	—	1,023
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	106	303	409	10.9	0.26	—	762
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	512	1,461	1,973	52.7	1.27	—	3,670
Total	—	—	—	—	—	—	—	—	—	—	—	3,799	9,731	13,530	391	9.41	—	26,107
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	56.9	149	206	5.85	0.14	—	394
Research & Development	—	—	—	—	—	—	—	—	—	—	—	419	1,015	1,434	43.1	1.04	—	2,822
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	0.30	0.81	1.11	0.03	< 0.005	—	2.10
Elementary School	—	—	—	—	—	—	—	—	—	—	—	2.31	9.98	12.3	0.24	0.01	—	20.0
High School	—	—	—	—	—	—	—	—	—	—	—	3.63	13.6	17.3	0.37	0.01	—	29.3
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	8.36	8.36	< 0.005	< 0.005	—	8.42
Hotel	—	—	—	—	—	—	—	—	—	—	—	1.30	3.54	4.83	0.13	< 0.005	—	9.12

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	7.17	18.6	25.7	0.74	0.02	—	49.5
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	7.56	18.8	26.4	0.78	0.02	—	51.4
Hospital	—	—	—	—	—	—	—	—	—	—	—	2.39	5.95	8.34	0.25	0.01	—	16.2
Health Club	—	—	—	—	—	—	—	—	—	—	—	2.35	6.33	8.68	0.24	0.01	—	16.4
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.3	69.0	92.3	2.39	0.06	—	169
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	17.6	50.2	67.8	1.81	0.04	—	126
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	84.8	242	327	8.73	0.21	—	608
Total	—	—	—	—	—	—	—	—	—	—	—	629	1,611	2,240	64.7	1.56	—	4,322

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	506	0.00	506	50.5	0.00	—	1,769
Research & Development	—	—	—	—	—	—	—	—	—	—	—	110	0.00	110	11.0	0.00	—	385

Day-Car e	—	—	—	—	—	—	—	—	—	—	—	15.4	0.00	15.4	1.54	0.00	—	53.9
Element ary School	—	—	—	—	—	—	—	—	—	—	—	295	0.00	295	29.5	0.00	—	1,032
High School	—	—	—	—	—	—	—	—	—	—	—	256	0.00	256	25.6	0.00	—	895
City Park	—	—	—	—	—	—	—	—	—	—	—	3.44	0.00	3.44	0.34	0.00	—	12.0
Hotel	—	—	—	—	—	—	—	—	—	—	—	47.5	0.00	47.5	4.75	0.00	—	166
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	173	0.00	173	17.3	0.00	—	604
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	1,106	0.00	1,106	111	0.00	—	3,869
Hospital	—	—	—	—	—	—	—	—	—	—	—	349	0.00	349	34.9	0.00	—	1,222
Health Club	—	—	—	—	—	—	—	—	—	—	—	384	0.00	384	38.4	0.00	—	1,343
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	833	0.00	833	83.2	0.00	—	2,913
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	589	0.00	589	58.9	0.00	—	2,061
Condo/T ownhou se	—	—	—	—	—	—	—	—	—	—	—	2,839	0.00	2,839	284	0.00	—	9,933
Total	—	—	—	—	—	—	—	—	—	—	—	7,505	0.00	7,505	750	0.00	—	26,259
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	506	0.00	506	50.5	0.00	—	1,769

Research & Development	—	—	—	—	—	—	—	—	—	—	—	110	0.00	110	11.0	0.00	—	385
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	15.4	0.00	15.4	1.54	0.00	—	53.9
Elementary School	—	—	—	—	—	—	—	—	—	—	—	295	0.00	295	29.5	0.00	—	1,032
High School	—	—	—	—	—	—	—	—	—	—	—	256	0.00	256	25.6	0.00	—	895
City Park	—	—	—	—	—	—	—	—	—	—	—	3.44	0.00	3.44	0.34	0.00	—	12.0
Hotel	—	—	—	—	—	—	—	—	—	—	—	47.5	0.00	47.5	4.75	0.00	—	166
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	173	0.00	173	17.3	0.00	—	604
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	1,106	0.00	1,106	111	0.00	—	3,869
Hospital	—	—	—	—	—	—	—	—	—	—	—	349	0.00	349	34.9	0.00	—	1,222
Health Club	—	—	—	—	—	—	—	—	—	—	—	384	0.00	384	38.4	0.00	—	1,343
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	833	0.00	833	83.2	0.00	—	2,913
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	589	0.00	589	58.9	0.00	—	2,061
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	2,839	0.00	2,839	284	0.00	—	9,933
Total	—	—	—	—	—	—	—	—	—	—	—	7,505	0.00	7,505	750	0.00	—	26,259
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	83.7	0.00	83.7	8.37	0.00	—	293

Research & Development	—	—	—	—	—	—	—	—	—	—	—	18.2	0.00	18.2	1.82	0.00	—	63.8
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	2.55	0.00	2.55	0.26	0.00	—	8.93
Elementary School	—	—	—	—	—	—	—	—	—	—	—	48.9	0.00	48.9	4.88	0.00	—	171
High School	—	—	—	—	—	—	—	—	—	—	—	42.3	0.00	42.3	4.23	0.00	—	148
City Park	—	—	—	—	—	—	—	—	—	—	—	0.57	0.00	0.57	0.06	0.00	—	1.99
Hotel	—	—	—	—	—	—	—	—	—	—	—	7.87	0.00	7.87	0.79	0.00	—	27.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	28.6	0.00	28.6	2.86	0.00	—	100.0
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Hospital	—	—	—	—	—	—	—	—	—	—	—	57.8	0.00	57.8	5.78	0.00	—	202
Health Club	—	—	—	—	—	—	—	—	—	—	—	63.6	0.00	63.6	6.35	0.00	—	222
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	138	0.00	138	13.8	0.00	—	482
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	97.5	0.00	97.5	9.75	0.00	—	341
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	470	0.00	470	47.0	0.00	—	1,645
Total	—	—	—	—	—	—	—	—	—	—	—	1,243	0.00	1,243	124	0.00	—	4,347

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.45	2.45
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	68.7	68.7
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.97	0.97
High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.33	1.33
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	365	365
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.85	4.85
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.60	0.60
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.3	27.3

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.2	11.2
Condo/T ownhou se	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	54.1	54.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	539	539
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.45	2.45
Researc h & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	68.7	68.7
Day-Car e Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Element ary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.97	0.97
High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.33	1.33
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	365	365
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.85	4.85
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.60	0.60

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.3	27.3
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.2	11.2
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	54.1	54.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	539	539
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.41	0.41
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.4	11.4
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60.5	60.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.80	0.80
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Health Club	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.10	0.10

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.52	4.52
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.86	1.86
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.95	8.95
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	89.2	89.2

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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)

Equipm Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Office Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Research & Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Day-Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High School	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
Hotel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Health Club	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	1860
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	94
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1478
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0

Gas Fireplaces	5621
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1503
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
26180050.5	8,726,684	7,844,252	2,614,751	—

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Office Park	17,980,669	249	0.0330	0.0040	25,574,586
Research & Development	47,918,750	249	0.0330	0.0040	68,156,651
Day-Care Center	137,596	249	0.0330	0.0040	461,558
Elementary School	1,568,652	249	0.0330	0.0040	5,261,966

High School	2,157,243	249	0.0330	0.0040	7,236,363
City Park	0.00	249	0.0330	0.0040	0.00
Hotel	3,271,336	249	0.0330	0.0040	6,749,395
Strip Mall	2,995,517	249	0.0330	0.0040	1,826,018
Medical Office Building	3,385,854	249	0.0330	0.0040	4,815,829
Hospital	1,754,128	249	0.0330	0.0040	3,272,364
Health Club	1,199,092	249	0.0330	0.0040	5,350,243
Single Family Housing	13,473,114	249	0.0330	0.0040	74,907,266
Apartments Low Rise	5,668,197	249	0.0330	0.0040	24,099,788
Condo/Townhouse	32,714,580	249	0.0330	0.0040	171,192,274

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Office Park	179,333,352	19,194,312
Research & Development	1,322,165,024	336,970
Day-Care Center	943,570	142,564
Elementary School	7,272,720	7,344,211
High School	11,452,896	8,093,033
City Park	0.00	13,968,401
Hotel	4,084,050	673,939
Strip Mall	22,592,119	2,047,739
Medical Office Building	23,841,302	855,385
Hospital	7,528,832	285,128
Health Club	7,392,893	1,101,632
Single Family Housing	73,325,120	21,289,572
Apartments Low Rise	55,462,911	12,748,509

Condo/Townhouse	267,332,731	61,448,183
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5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Office Park	938	—
Research & Development	204	—
Day-Care Center	28.6	—
Elementary School	548	—
High School	475	—
City Park	6.38	—
Hotel	88.1	—
Strip Mall	320	—
Medical Office Building	2,052	—
Hospital	648	—
Health Club	712	—
Single Family Housing	1,545	—
Apartments Low Rise	1,093	—
Condo/Townhouse	5,268	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00

Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Day-Care Center	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Day-Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Day-Care Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Day-Care Center	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Elementary School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Elementary School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Elementary School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Elementary School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
High School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
High School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
High School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
High School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Health Club	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Health Club	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

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

Equipment Type	Fuel Type
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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. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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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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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
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Temperature and Extreme Heat	9.57	annual days of extreme heat
Extreme Precipitation	3.70	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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	64.7
AQ-PM	53.3
AQ-DPM	55.2
Drinking Water	47.3
Lead Risk Housing	—
Pesticides	96.3
Toxic Releases	64.2

Traffic	70.5
Effect Indicators	—
CleanUp Sites	73.7
Groundwater	82.9
Haz Waste Facilities/Generators	71.1
Impaired Water Bodies	51.2
Solid Waste	80.3
Sensitive Population	—
Asthma	3.12
Cardio-vascular	2.75
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	25.9
Housing	—
Linguistic	64.8
Poverty	14.5
Unemployment	48.3

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—

Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	99.5
Asthma ER Admissions	97.3
High Blood Pressure	99.5
Cancer (excluding skin)	99.4
Asthma	97.7
Coronary Heart Disease	99.3
Chronic Obstructive Pulmonary Disease	99.4

Diagnosed Diabetes	99.2
Life Expectancy at Birth	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	98.8
Mental Health Not Good	71.0
Chronic Kidney Disease	99.2
Obesity	81.6
Pedestrian Injuries	0.0
Physical Health Not Good	97.7
Stroke	99.6
Health Risk Behaviors	—
Binge Drinking	0.1
Current Smoker	47.6
No Leisure Time for Physical Activity	80.7
Climate Change Exposures	—
Wildfire Risk	2.9
SLR Inundation Area	0.0
Children	19.0
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	38.3
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—

Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	32.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land use size and landscaped area based on Project-specific information.
Operations: Vehicle Data	Mobile emissions are calculated externally.
Operations: Hearths	Fireplace and wood stove counts based on Project-specific information.
Characteristics: Utility Information	CO2 pollutant intensity factor based on Renewable Portfolio Standard renewables percentages and electricity intensity factors from Southern California Edison.

APPENDIX B-2
CALEEMOD® 2022.1.1 MODEL RUN FOR THE PROPOSED PROJECT

Heritage Fields GPN Proposed Project Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Heritage Fields GPN Proposed Project
Operational Year	2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	6.00
Location	33.65244324286482, -117.72941598708472
County	Orange
City	Irvine
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6811
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	2,636	1000sqft	60.5	2,636,200	729,000	—	—	—
Research & Development	661	1000sqft	15.2	660,890	46,000	—	—	—

Day-Care Center	16.0	1000sqft	0.37	16,000	11,000	—	—	—
Elementary School	3,000	Student	5.76	250,810	255,000	255,000	—	—
High School	2,600	Student	7.92	344,919	281,000	281,000	—	—
City Park	74.2	Acre	74.2	0.00	485,000	485,000	—	—
Strip Mall	87.5	1000sqft	2.01	87,538	61,000	—	—	—
Medical Office Building	190	1000sqft	4.36	190,000	66,000	—	—	—
Hospital	164	1000sqft	3.76	164,000	22,000	—	—	—
Single Family Housing	1,954	Dwelling Unit	634	3,810,300	1,344,000	—	5,823	—
Apartments Low Rise	1,478	Dwelling Unit	92.4	1,566,680	804,825	—	4,404	—
Condo/Townhouse	8,424	Dwelling Unit	527	8,929,440	4,587,175	—	25,104	—
Fast Food Restaurant with Drive Thru	3.70	1000sqft	0.08	3,700	11,000	—	—	—
Unrefrigerated Warehouse-No Rail	758	1000sqft	17.4	758,320	248,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	582	562	248	1,013	1.56	19.9	0.00	19.9	19.7	0.00	19.7	12,056	402,057	414,113	1,241	9.10	140	447,981

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	481	467	239	116	1.51	19.2	0.00	19.2	19.2	0.00	19.2	12,056	399,345	411,400	1,241	9.08	140	445,259
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	536	525	124	679	0.77	9.92	0.00	9.92	9.80	0.00	9.80	12,056	248,098	260,154	1,238	8.81	140	293,861
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	97.9	95.8	22.7	124	0.14	1.81	0.00	1.81	1.79	0.00	1.79	1,996	41,075	43,071	205	1.46	23.1	48,652

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	570	556	138	952	0.87	11.2	—	11.2	11.0	—	11.0	0.00	167,075	167,075	3.21	0.33	—	167,254
Energy	12.6	6.31	110	60.8	0.69	8.72	—	8.72	8.72	—	8.72	—	227,550	227,550	24.2	1.72	—	228,666
Water	—	—	—	—	—	—	—	—	—	—	—	2,846	7,432	10,278	293	7.05	—	19,700
Waste	—	—	—	—	—	—	—	—	—	—	—	9,210	0.00	9,210	920	0.00	—	32,222
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	140	140
Total	582	562	248	1,013	1.56	19.9	0.00	19.9	19.7	0.00	19.7	12,056	402,057	414,113	1,241	9.10	140	447,981
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	469	461	129	55.1	0.83	10.5	—	10.5	10.5	—	10.5	0.00	164,362	164,362	3.09	0.31	—	164,532
Energy	12.6	6.31	110	60.8	0.69	8.72	—	8.72	8.72	—	8.72	—	227,550	227,550	24.2	1.72	—	228,666

Water	—	—	—	—	—	—	—	—	—	—	—	2,846	7,432	10,278	293	7.05	—	19,700
Waste	—	—	—	—	—	—	—	—	—	—	—	9,210	0.00	9,210	920	0.00	—	32,222
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	140	140
Total	481	467	239	116	1.51	19.2	0.00	19.2	19.2	0.00	19.2	12,056	399,345	411,400	1,241	9.08	140	445,259
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	524	519	14.5	618	0.09	1.20	—	1.20	1.08	—	1.08	0.00	13,116	13,116	0.29	0.04	—	13,134
Energy	12.6	6.31	110	60.8	0.69	8.72	—	8.72	8.72	—	8.72	—	227,550	227,550	24.2	1.72	—	228,666
Water	—	—	—	—	—	—	—	—	—	—	—	2,846	7,432	10,278	293	7.05	—	19,700
Waste	—	—	—	—	—	—	—	—	—	—	—	9,210	0.00	9,210	920	0.00	—	32,222
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	140	140
Total	536	525	124	679	0.77	9.92	0.00	9.92	9.80	0.00	9.80	12,056	248,098	260,154	1,238	8.81	140	293,861
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	95.6	94.7	2.64	113	0.02	0.22	—	0.22	0.20	—	0.20	0.00	2,171	2,171	0.05	0.01	—	2,174
Energy	2.30	1.15	20.1	11.1	0.13	1.59	—	1.59	1.59	—	1.59	—	37,674	37,674	4.00	0.28	—	37,858
Water	—	—	—	—	—	—	—	—	—	—	—	471	1,230	1,702	48.5	1.17	—	3,262
Waste	—	—	—	—	—	—	—	—	—	—	—	1,525	0.00	1,525	152	0.00	—	5,335
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.1	23.1
Total	97.9	95.8	22.7	124	0.14	1.81	0.00	1.81	1.79	0.00	1.79	1,996	41,075	43,071	205	1.46	23.1	48,652

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Research & Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Day-Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
High School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Fast Food Restaurant with Drive Thru	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Research & Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Day-Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
High School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Research & Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Day-Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
High School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	31,989	31,989	4.25	0.51	—	32,248
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	8,019	8,019	1.06	0.13	—	8,085
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	68.1	68.1	0.01	< 0.005	—	68.7
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	1,068	1,068	0.14	0.02	—	1,077
High School	—	—	—	—	—	—	—	—	—	—	—	—	1,469	1,469	0.20	0.02	—	1,481
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	585	585	0.08	0.01	—	590
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2,306	2,306	0.31	0.04	—	2,324
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	3,265	3,265	0.43	0.05	—	3,291
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	9,174	9,174	1.22	0.15	—	9,249
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,860	3,860	0.51	0.06	—	3,891
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	26,341	26,341	3.50	0.42	—	26,555

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	87.2	87.2	0.01	< 0.005	—	88.0
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	2,417	2,417	0.32	0.04	—	2,436
Total	—	—	—	—	—	—	—	—	—	—	—	—	90,649	90,649	12.0	1.46	—	91,384
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	31,989	31,989	4.25	0.51	—	32,248
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	8,019	8,019	1.06	0.13	—	8,085
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	68.1	68.1	0.01	< 0.005	—	68.7
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	1,068	1,068	0.14	0.02	—	1,077
High School	—	—	—	—	—	—	—	—	—	—	—	—	1,469	1,469	0.20	0.02	—	1,481
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	585	585	0.08	0.01	—	590
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	2,306	2,306	0.31	0.04	—	2,324
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	3,265	3,265	0.43	0.05	—	3,291

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	9,174	9,174	1.22	0.15	—	9,249
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	3,860	3,860	0.51	0.06	—	3,891
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	26,341	26,341	3.50	0.42	—	26,555
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	87.2	87.2	0.01	< 0.005	—	88.0
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	2,417	2,417	0.32	0.04	—	2,436
Total	—	—	—	—	—	—	—	—	—	—	—	—	90,649	90,649	12.0	1.46	—	91,384
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,296	5,296	0.70	0.09	—	5,339
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	1,328	1,328	0.18	0.02	—	1,338
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	177	177	0.02	< 0.005	—	178
High School	—	—	—	—	—	—	—	—	—	—	—	—	243	243	0.03	< 0.005	—	245
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9	0.01	< 0.005	—	97.7
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	382	382	0.05	0.01	—	385
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	541	541	0.07	0.01	—	545
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,519	1,519	0.20	0.02	—	1,531
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	639	639	0.08	0.01	—	644
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	4,361	4,361	0.58	0.07	—	4,397
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	14.4	14.4	< 0.005	< 0.005	—	14.6
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	400	400	0.05	0.01	—	403
Total	—	—	—	—	—	—	—	—	—	—	—	—	15,008	15,008	1.99	0.24	—	15,130

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	1.97	0.99	17.9	15.1	0.11	1.36	—	1.36	1.36	—	1.36	—	21,414	21,414	1.90	0.04	—	21,474
Research & Development	0.49	0.25	4.50	3.78	0.03	0.34	—	0.34	0.34	—	0.34	—	5,369	5,369	0.48	0.01	—	5,383
Day-Care Center	0.01	< 0.005	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	0.01	< 0.005	—	108
Elementary School	0.16	0.08	1.41	1.19	0.01	0.11	—	0.11	0.11	—	0.11	—	1,686	1,686	0.15	< 0.005	—	1,691
High School	0.21	0.11	1.94	1.63	0.01	0.15	—	0.15	0.15	—	0.15	—	2,319	2,319	0.21	< 0.005	—	2,326
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	168	168	0.01	< 0.005	—	168
Medical Office Building	0.14	0.07	1.29	1.09	0.01	0.10	—	0.10	0.10	—	0.10	—	1,543	1,543	0.14	< 0.005	—	1,548
Hospital	0.26	0.13	2.40	2.02	0.01	0.18	—	0.18	0.18	—	0.18	—	2,867	2,867	0.25	0.01	—	2,875
Single Family Housing	2.21	1.11	18.9	8.05	0.12	1.53	—	1.53	1.53	—	1.53	—	24,007	24,007	2.12	0.05	—	24,073
Apartments Low Rise	0.71	0.36	6.08	2.59	0.04	0.49	—	0.49	0.49	—	0.49	—	7,724	7,724	0.68	0.01	—	7,745
Condo/Townhouse	5.98	2.99	51.1	21.7	0.33	4.13	—	4.13	4.13	—	4.13	—	64,876	64,876	5.74	0.12	—	65,056
Fast Food Restaurant with Drive Thru	0.01	0.01	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	137	137	0.01	< 0.005	—	137

Unrefrig Warehouse-No Rail	0.43	0.22	3.93	3.30	0.02	0.30	—	0.30	0.30	—	0.30	—	4,685	4,685	0.41	0.01	—	4,698
Total	12.6	6.31	110	60.8	0.69	8.72	—	8.72	8.72	—	8.72	—	136,902	136,902	12.1	0.26	—	137,281
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	1.97	0.99	17.9	15.1	0.11	1.36	—	1.36	1.36	—	1.36	—	21,414	21,414	1.90	0.04	—	21,474
Research & Development	0.49	0.25	4.50	3.78	0.03	0.34	—	0.34	0.34	—	0.34	—	5,369	5,369	0.48	0.01	—	5,383
Day-Care Center	0.01	< 0.005	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	0.01	< 0.005	—	108
Elementary School	0.16	0.08	1.41	1.19	0.01	0.11	—	0.11	0.11	—	0.11	—	1,686	1,686	0.15	< 0.005	—	1,691
High School	0.21	0.11	1.94	1.63	0.01	0.15	—	0.15	0.15	—	0.15	—	2,319	2,319	0.21	< 0.005	—	2,326
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	168	168	0.01	< 0.005	—	168
Medical Office Building	0.14	0.07	1.29	1.09	0.01	0.10	—	0.10	0.10	—	0.10	—	1,543	1,543	0.14	< 0.005	—	1,548
Hospital	0.26	0.13	2.40	2.02	0.01	0.18	—	0.18	0.18	—	0.18	—	2,867	2,867	0.25	0.01	—	2,875
Single Family Housing	2.21	1.11	18.9	8.05	0.12	1.53	—	1.53	1.53	—	1.53	—	24,007	24,007	2.12	0.05	—	24,073
Apartments Low Rise	0.71	0.36	6.08	2.59	0.04	0.49	—	0.49	0.49	—	0.49	—	7,724	7,724	0.68	0.01	—	7,745

Condo/Townhouse	5.98	2.99	51.1	21.7	0.33	4.13	—	4.13	4.13	—	4.13	—	64,876	64,876	5.74	0.12	—	65,056
Fast Food Restaurant with Drive Thru	0.01	0.01	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	137	137	0.01	< 0.005	—	137
Unrefrigerated Warehouse-No Rail	0.43	0.22	3.93	3.30	0.02	0.30	—	0.30	0.30	—	0.30	—	4,685	4,685	0.41	0.01	—	4,698
Total	12.6	6.31	110	60.8	0.69	8.72	—	8.72	8.72	—	8.72	—	136,902	136,902	12.1	0.26	—	137,281
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.36	0.18	3.28	2.75	0.02	0.25	—	0.25	0.25	—	0.25	—	3,545	3,545	0.31	0.01	—	3,555
Research & Development	0.09	0.05	0.82	0.69	< 0.005	0.06	—	0.06	0.06	—	0.06	—	889	889	0.08	< 0.005	—	891
Day-Care Center	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8	17.8	< 0.005	< 0.005	—	17.9
Elementary School	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	279	279	0.02	< 0.005	—	280
High School	0.04	0.02	0.35	0.30	< 0.005	0.03	—	0.03	0.03	—	0.03	—	384	384	0.03	< 0.005	—	385
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Strip Mall	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.8	27.8	< 0.005	< 0.005	—	27.9
Medical Office Building	0.03	0.01	0.24	0.20	< 0.005	0.02	—	0.02	0.02	—	0.02	—	256	256	0.02	< 0.005	—	256

Hospital	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	475	475	0.04	< 0.005	—	476
Single Family Housing	0.40	0.20	3.45	1.47	0.02	0.28	—	0.28	0.28	—	0.28	—	3,975	3,975	0.35	0.01	—	3,986
Apartments Low Rise	0.13	0.06	1.11	0.47	0.01	0.09	—	0.09	0.09	—	0.09	—	1,279	1,279	0.11	< 0.005	—	1,282
Condo/Townhouse	1.09	0.55	9.33	3.97	0.06	0.75	—	0.75	0.75	—	0.75	—	10,741	10,741	0.95	0.02	—	10,771
Fast Food Restaurant with Drive Thru	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.6	22.6	< 0.005	< 0.005	—	22.7
Unrefrigerated Warehouse-No Rail	0.08	0.04	0.72	0.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	776	776	0.07	< 0.005	—	778
Total	2.30	1.15	20.1	11.1	0.13	1.59	—	1.59	1.59	—	1.59	—	22,666	22,666	2.01	0.04	—	22,729

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	15.2	7.58	129	55.1	0.83	10.5	—	10.5	10.5	—	10.5	0.00	164,362	164,362	3.09	0.31	—	164,532
Consumer Products	416	416	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	37.5	37.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	101	94.7	8.15	897	0.04	0.70	—	0.70	0.53	—	0.53	—	2,713	2,713	0.11	0.02	—	2,722
Total	570	556	138	952	0.87	11.2	—	11.2	11.0	—	11.0	0.00	167,075	167,075	3.21	0.33	—	167,254
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	15.2	7.58	129	55.1	0.83	10.5	—	10.5	10.5	—	10.5	0.00	164,362	164,362	3.09	0.31	—	164,532
Consumer Products	416	416	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	37.5	37.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	469	461	129	55.1	0.83	10.5	—	10.5	10.5	—	10.5	0.00	164,362	164,362	3.09	0.31	—	164,532
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.19	0.09	1.62	0.69	0.01	0.13	—	0.13	0.13	—	0.13	0.00	1,864	1,864	0.04	< 0.005	—	1,866
Consumer Products	75.9	75.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	6.85	6.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	12.6	11.8	1.02	112	0.01	0.09	—	0.09	0.07	—	0.07	—	308	308	0.01	< 0.005	—	309
Total	95.6	94.7	2.64	113	0.02	0.22	—	0.22	0.20	—	0.20	0.00	2,171	2,171	0.05	0.01	—	2,174

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	898	2,206	3,104	92.4	2.22	—	6,075
Research & Development	—	—	—	—	—	—	—	—	—	—	—	623	1,508	2,131	64.1	1.54	—	4,192
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	1.31	3.70	5.01	0.14	< 0.005	—	9.37
Elementary School	—	—	—	—	—	—	—	—	—	—	—	13.9	60.3	74.2	1.44	0.03	—	121
High School	—	—	—	—	—	—	—	—	—	—	—	21.9	82.3	104	2.26	0.05	—	177
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	50.5	50.5	0.01	< 0.005	—	50.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	12.4	32.9	45.3	1.28	0.03	—	86.5
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	45.7	114	159	4.70	0.11	—	310
Hospital	—	—	—	—	—	—	—	—	—	—	—	39.4	96.4	136	4.06	0.10	—	266
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	141	417	557	14.5	0.35	—	1,023

Apartments	—	—	—	—	—	—	—	—	—	—	—	106	303	409	10.9	0.26	—	762
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	606	1,728	2,334	62.3	1.50	—	4,340
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.15	5.72	7.87	0.22	0.01	—	15.0
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	336	824	1,161	34.6	0.83	—	2,273
Total	—	—	—	—	—	—	—	—	—	—	—	2,846	7,432	10,278	293	7.05	—	19,700
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	898	2,206	3,104	92.4	2.22	—	6,075
Research & Development	—	—	—	—	—	—	—	—	—	—	—	623	1,508	2,131	64.1	1.54	—	4,192
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	1.31	3.70	5.01	0.14	< 0.005	—	9.37
Elementary School	—	—	—	—	—	—	—	—	—	—	—	13.9	60.3	74.2	1.44	0.03	—	121
High School	—	—	—	—	—	—	—	—	—	—	—	21.9	82.3	104	2.26	0.05	—	177
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	50.5	50.5	0.01	< 0.005	—	50.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	12.4	32.9	45.3	1.28	0.03	—	86.5

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	45.7	114	159	4.70	0.11	—	310
Hospital	—	—	—	—	—	—	—	—	—	—	—	39.4	96.4	136	4.06	0.10	—	266
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	141	417	557	14.5	0.35	—	1,023
Apartme nts Low Rise	—	—	—	—	—	—	—	—	—	—	—	106	303	409	10.9	0.26	—	762
Condo/T ownhou se	—	—	—	—	—	—	—	—	—	—	—	606	1,728	2,334	62.3	1.50	—	4,340
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.15	5.72	7.87	0.22	0.01	—	15.0
Unrefrig erated Wareho use-No Rail	—	—	—	—	—	—	—	—	—	—	—	336	824	1,161	34.6	0.83	—	2,273
Total	—	—	—	—	—	—	—	—	—	—	—	2,846	7,432	10,278	293	7.05	—	19,700
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	149	365	514	15.3	0.37	—	1,006
Researc h & Development	—	—	—	—	—	—	—	—	—	—	—	103	250	353	10.6	0.26	—	694
Day-Car e Center	—	—	—	—	—	—	—	—	—	—	—	0.22	0.61	0.83	0.02	< 0.005	—	1.55
Element ary School	—	—	—	—	—	—	—	—	—	—	—	2.31	9.98	12.3	0.24	0.01	—	20.0

High School	—	—	—	—	—	—	—	—	—	—	—	3.63	13.6	17.3	0.37	0.01	—	29.3
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	8.36	8.36	< 0.005	< 0.005	—	8.42
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.06	5.45	7.51	0.21	0.01	—	14.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	7.56	18.8	26.4	0.78	0.02	—	51.4
Hospital	—	—	—	—	—	—	—	—	—	—	—	6.53	16.0	22.5	0.67	0.02	—	44.1
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.3	69.0	92.3	2.39	0.06	—	169
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	17.6	50.2	67.8	1.81	0.04	—	126
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	100	286	386	10.3	0.25	—	719
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.36	0.95	1.30	0.04	< 0.005	—	2.48
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	55.6	137	192	5.72	0.14	—	376
Total	—	—	—	—	—	—	—	—	—	—	—	471	1,230	1,702	48.5	1.17	—	3,262

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	1,321	0.00	1,321	132	0.00	—	4,623
Research & Development	—	—	—	—	—	—	—	—	—	—	—	27.1	0.00	27.1	2.71	0.00	—	94.7
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	11.2	0.00	11.2	1.12	0.00	—	39.2
Elementary School	—	—	—	—	—	—	—	—	—	—	—	295	0.00	295	29.5	0.00	—	1,032
High School	—	—	—	—	—	—	—	—	—	—	—	256	0.00	256	25.6	0.00	—	895
City Park	—	—	—	—	—	—	—	—	—	—	—	3.44	0.00	3.44	0.34	0.00	—	12.0
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	49.5	0.00	49.5	4.95	0.00	—	173
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	1,106	0.00	1,106	111	0.00	—	3,869
Hospital	—	—	—	—	—	—	—	—	—	—	—	955	0.00	955	95.4	0.00	—	3,340
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	833	0.00	833	83.2	0.00	—	2,913
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	589	0.00	589	58.9	0.00	—	2,061
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3,357	0.00	3,357	336	0.00	—	11,746

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	23.0	0.00	23.0	2.30	0.00	—	80.4
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	384	0.00	384	38.4	0.00	—	1,344
Total	—	—	—	—	—	—	—	—	—	—	—	9,210	0.00	9,210	920	0.00	—	32,222
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	1,321	0.00	1,321	132	0.00	—	4,623
Research & Development	—	—	—	—	—	—	—	—	—	—	—	27.1	0.00	27.1	2.71	0.00	—	94.7
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	11.2	0.00	11.2	1.12	0.00	—	39.2
Elementary School	—	—	—	—	—	—	—	—	—	—	—	295	0.00	295	29.5	0.00	—	1,032
High School	—	—	—	—	—	—	—	—	—	—	—	256	0.00	256	25.6	0.00	—	895
City Park	—	—	—	—	—	—	—	—	—	—	—	3.44	0.00	3.44	0.34	0.00	—	12.0
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	49.5	0.00	49.5	4.95	0.00	—	173
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	1,106	0.00	1,106	111	0.00	—	3,869
Hospital	—	—	—	—	—	—	—	—	—	—	—	955	0.00	955	95.4	0.00	—	3,340

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	833	0.00	833	83.2	0.00	—	2,913
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	589	0.00	589	58.9	0.00	—	2,061
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3,357	0.00	3,357	336	0.00	—	11,746
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	23.0	0.00	23.0	2.30	0.00	—	80.4
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	384	0.00	384	38.4	0.00	—	1,344
Total	—	—	—	—	—	—	—	—	—	—	—	9,210	0.00	9,210	920	0.00	—	32,222
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	219	0.00	219	21.9	0.00	—	765
Research & Development	—	—	—	—	—	—	—	—	—	—	—	4.48	0.00	4.48	0.45	0.00	—	15.7
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	1.86	0.00	1.86	0.19	0.00	—	6.49
Elementary School	—	—	—	—	—	—	—	—	—	—	—	48.9	0.00	48.9	4.88	0.00	—	171
High School	—	—	—	—	—	—	—	—	—	—	—	42.3	0.00	42.3	4.23	0.00	—	148
City Park	—	—	—	—	—	—	—	—	—	—	—	0.57	0.00	0.57	0.06	0.00	—	1.99

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	8.20	0.00	8.20	0.82	0.00	—	28.7
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	183	0.00	183	18.3	0.00	—	641
Hospital	—	—	—	—	—	—	—	—	—	—	—	158	0.00	158	15.8	0.00	—	553
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	138	0.00	138	13.8	0.00	—	482
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	97.5	0.00	97.5	9.75	0.00	—	341
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	556	0.00	556	55.6	0.00	—	1,945
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	3.80	0.00	3.80	0.38	0.00	—	13.3
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	63.6	0.00	63.6	6.36	0.00	—	223
Total	—	—	—	—	—	—	—	—	—	—	—	1,525	0.00	1,525	152	0.00	—	5,335

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.41	6.41
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.97	0.97
High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.33	1.33
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.85	4.85
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.3	27.3
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.2	11.2
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64.0	64.0

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.78	5.78
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	140	140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.41	6.41
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.97	0.97
High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.33	1.33
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.55	0.55
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.85	4.85
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.3	27.3

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.2	11.2
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	64.0	64.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.78	5.78
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	140	140
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.80	2.80
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
High School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22	0.22
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.80	0.80
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.52	4.52
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.86	1.86
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.6	10.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.96	0.96
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.1	23.1

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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)

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Office Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Research & Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Day-Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High School	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
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medical Office Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hospital	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	1860
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	94
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	1478
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	5946
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	2478
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
28970500.5	9,656,834	7,668,566	2,556,189	—

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Office Park	46,977,839	249	0.0330	0.0040	66,818,357
Research & Development	11,777,249	249	0.0330	0.0040	16,751,227
Day-Care Center	100,070	249	0.0330	0.0040	335,678
Elementary School	1,568,652	249	0.0330	0.0040	5,261,966
High School	2,157,243	249	0.0330	0.0040	7,236,363
City Park	0.00	249	0.0330	0.0040	0.00
Strip Mall	859,743	249	0.0330	0.0040	524,085
Medical Office Building	3,385,854	249	0.0330	0.0040	4,815,829
Hospital	4,794,615	249	0.0330	0.0040	8,944,462
Single Family Housing	13,473,114	249	0.0330	0.0040	74,907,266
Apartments Low Rise	5,668,197	249	0.0330	0.0040	24,099,788
Condo/Townhouse	38,684,394	249	0.0330	0.0040	202,431,740
Fast Food Restaurant with Drive Thru	128,132	249	0.0330	0.0040	425,987
Unrefrigerated Warehouse-No Rail	3,549,213	249	0.0330	0.0040	14,617,487

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Office Park	468,541,706	9,448,112
Research & Development	324,955,613	596,177
Day-Care Center	686,233	142,564
Elementary School	7,272,720	7,344,211

High School	11,452,896	8,093,033
City Park	0.00	13,968,401
Strip Mall	6,484,160	790,583
Medical Office Building	23,841,302	855,385
Hospital	20,578,808	285,128
Single Family Housing	73,325,120	21,289,572
Apartments Low Rise	55,462,911	12,748,794
Condo/Townhouse	316,116,076	72,662,940
Fast Food Restaurant with Drive Thru	1,123,075	142,564
Unrefrigerated Warehouse-No Rail	175,361,500	3,214,172

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Office Park	2,452	—
Research & Development	50.2	—
Day-Care Center	20.8	—
Elementary School	548	—
High School	475	—
City Park	6.38	—
Strip Mall	91.9	—
Medical Office Building	2,052	—
Hospital	1,771	—
Single Family Housing	1,545	—
Apartments Low Rise	1,093	—
Condo/Townhouse	6,229	—
Fast Food Restaurant with Drive Thru	42.6	—

Unrefrigerated Warehouse-No Rail	713	—
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5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Served
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Day-Care Center	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Day-Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Day-Care Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Day-Care Center	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Elementary School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Elementary School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Elementary School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00

Elementary School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
High School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
High School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
High School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
High School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00

Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

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

Equipment Type	Fuel Type
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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. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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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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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	9.57	annual days of extreme heat
Extreme Precipitation	3.70	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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	64.7

AQ-PM	53.3
AQ-DPM	55.2
Drinking Water	47.3
Lead Risk Housing	—
Pesticides	96.3
Toxic Releases	64.2
Traffic	70.5
Effect Indicators	—
CleanUp Sites	73.7
Groundwater	82.9
Haz Waste Facilities/Generators	71.1
Impaired Water Bodies	51.2
Solid Waste	80.3
Sensitive Population	—
Asthma	3.12
Cardio-vascular	2.75
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	25.9
Housing	—
Linguistic	64.8
Poverty	14.5
Unemployment	48.3

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	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	99.5

Asthma ER Admissions	97.3
High Blood Pressure	99.5
Cancer (excluding skin)	99.4
Asthma	97.7
Coronary Heart Disease	99.3
Chronic Obstructive Pulmonary Disease	99.4
Diagnosed Diabetes	99.2
Life Expectancy at Birth	0.0
Cognitively Disabled	99.8
Physically Disabled	99.8
Heart Attack ER Admissions	98.8
Mental Health Not Good	71.0
Chronic Kidney Disease	99.2
Obesity	81.6
Pedestrian Injuries	0.0
Physical Health Not Good	97.7
Stroke	99.6
Health Risk Behaviors	—
Binge Drinking	0.1
Current Smoker	47.6
No Leisure Time for Physical Activity	80.7
Climate Change Exposures	—
Wildfire Risk	2.9
SLR Inundation Area	0.0
Children	19.0
Elderly	99.8
English Speaking	0.0
Foreign-born	0.0

Outdoor Workers	98.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	38.3
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	32.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	CO2 pollutant intensity factor based on Renewable Portfolio Standard renewables percentages and electricity intensity factors from Southern California Edison.
Land Use	Land use size and landscaped area based on Project-specific information.
Operations: Vehicle Data	Mobile emissions are calculated externally.
Operations: Hearths	Fireplace and wood stove counts based on Project-specific information.

APPENDIX B-3
EMISSIONS MODEL SENSITIVITY ANALYSIS CALCULATION TABLES

Table B-1. Greenhouse Gas Emissions Reductions from Recycled Water for the Baseline (Approved) and Proposed Project

Heritage Fields Great Park Neighborhoods
Irvine, California

Category		Baseline (Approved) Project (recycled water)		Baseline (Approved) Project (No recycled water)		Proposed Project (recycled water)		Proposed Project (No recycled water)	
Total Outdoor Water Use ¹ (gal/yr)		149,529,578		149,529,578		151,581,636		151,581,636	
Outdoor Water Source		Recycled Water	Potable Water	Recycled Water	Potable Water	Recycled Water	Potable Water	Recycled Water	Potable Water
Percentage by Source ¹		60.0%	40.0%	0%	100%	60.0%	40.0%	0%	100%
Water Use by Source (gal/yr)		89,717,747	59,811,831	0	149,529,578	90,948,982	60,632,654	0	151,581,636
Electricity Intensity Factors ² (kWh/Mgal)	Supply	--	3,044	--	3044	--	3044	--	3044
	Treat	725	725	725	725	725	725	725	725
	Distribute	1,537	1,537	1537	1537	1537	1537	1537	1537
Annual Energy Use by Source ³ (kWh/yr)		202,942	317,362	0	793,404	205,727	321,717	0	804,292
Total Annual Energy Use (kWh/yr)		520,303		793,404		527,443		804,292	
GHG Intensity Factors ⁴	(lb CO ₂ /MWh)	248.54		248.54		248.54		248.54	
	(lb CH ₄ /MWh)	0.033		0.033		0.033		0.033	
	(lb N ₂ O/MWh)	0.004		0.004		0.004		0.004	
GHG Emissions ⁵	(MT CO ₂ /yr)	58.66		89.44		59.46		90.67	
	(MT CH ₄ /yr)	0.01		0.01		0.01		0.01	
	(MT N ₂ O/yr)	0.001		0.001		0.001		0.001	
Global Warming Potentials ⁶	CO ₂	1		1		1		1	
	CH ₄	25		25		25		25	
	N ₂ O	298		298		298		298	
Total GHG Emissions (MT CO ₂ e/yr)		59.1		90.2		59.9		91.4	
GHG Reduction due to Recycled Water ⁷ (MT CO ₂ e/yr)		31.0				31.5			

Notes:

- ¹ Outdoor water usage based on CalEEMod[®] version 2022.1.1 output. The analysis assumes a 60% reduction in outdoor water usage due recycled water use required by project design feature PDF 4-5 defined in the SSEIR.
- ² CalEEMod[®] default assumptions in version 2022.1.1 are used for average embodied energy for the supply and conveyance, treatment and distribution of water, as well as treatment of wastewater, for Southern California.
- ³ Annual energy use is estimated as a product of water use and the sum of the electricity intensity factors to supply, treat and distribute the water.
- ⁴ GHG intensity factors represent 60% projected RPS for 2030, per SB 100, and are derived from the 2023 SCE Sustainability Report, page 95. Available at: https://download.edison.com/406/files/20245/eix-2023-sustainability-report.pdf?Signature=%2BMasDK63PNn8pvqURGH8IIY4%2FK4%3D&Expires=1751346758&AWSAccessKeyId=AKIATACLJRQCT2IBV7MN&versionId=xtFaY0bJYnXT90468zJhc4oar_ZyN5Wo&response-content-disposition=attachment. Accessed: June 2025.
- ⁵ GHG emissions were estimated as a product of annual energy use and intensity factor for each GHG.
- ⁶ Global warming potentials are the AR4 global warming potentials. Source: IPCC Fourth Assessment Report: Climate Change 2007. Available at: <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf>. Accessed: May 2025.
- ⁷ GHG reduction from using recycled water for outdoor use was estimated as the difference between GHG emissions from using 100% potable water minus GHG emissions from using 60% recycled water for outdoor water usage.

Abbreviations:

AR4 - Fourth Assessment Report	GHG - greenhouse gases	MT - metric ton	SCE - Southern California Edison
CalEEMod [®] - California Emissions Estimator Model	IPCC - Intergovernmental Panel on Climate Change	MWh - megawatt-hour	SSEIR - Second Supplemental Environmental Impact Report
CH ₄ - methane	kWh - kilowatt-hour	N ₂ O - nitrous oxide	yr - year
CO ₂ - carbon dioxide	lb - pound	RPS - Renewable Portfolio Standard	
CO ₂ e - carbon dioxide equivalents	Mgal - million gallons	SB - Senate Bill	
gal - gallon			

Table B-2. Mobile Source Trip Rates
Heritage Fields Great Park Neighborhoods
Irvine, California

Project Land Use	CalEEMod® Land Use Sub-Type	Project Trip Rates ¹ (trips/size/day)		
		Weekday	Saturday	Sunday
Office (GP)	Office Park	12.55	1.86	0.86
Research and Development	Research & Development	10.42	1.76	1.03
Child Care Center	Day-Care Center	41.93	5.48	5.14
Elementary/Middle School	Elementary School	1.24	0.00	0.00
High School	High School	1.24	0.35	0.15
City Park	City Park	3.59	9.02	10.08
Hotel	Hotel	8.29	8.12	5.90
Retail	Strip Mall	54.72	51.90	25.22
Medical Office ²	Medical Office Building	25.77	6.35	1.05
Hospital ²	Hospital	13.40	9.65	8.46
Health Club	Health Club	30.31	19.21	24.60
Single Family Detached	Single Family Housing	8.79	8.88	7.96
Multi-Family	Apartments Low Rise	7.15	7.95	6.13
	Condo/Townhouse	7.15	7.95	6.13
Fast Food	Fast Food Restaurant w/ Drive Thru	346.23	452.96	347.43
Warehouse/Industrial (GP)	Unrefrigerated Warehouse - No Rail	6.29	6.29	6.29

Notes:

¹ Weekday trip rates calculated from the data are provided by Urban Crossroads. Weekend trip rates are calculated by multiplying the weekday daily trip rates by the ratio of the default CalEEMod® version 2022.1.1 weekend to weekday daily trips.

² Because of the unique nature of the City of Hope, a distinct trip rate has been developed to accurately model the facility derived from actual experience with the existing uses at the current City of Hope campus. However, for conservative study purposes, this evaluation assumes the more intense medical office and hospital trip rates utilized in the Urban Crossroads Traffic Evaluation.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

TSF = Thousand Square Feet

Table B-3. Criteria Air Pollutant Emissions Associated with Operational Mobile Sources for the Baseline (Approved) Project
Heritage Fields Great Park Neighborhoods
Irvine, California

Project Land Use	CalEEMod® Land Use Sub-Type	Vehicle Miles Traveled ¹ VMT/day	Maximum Daily Emissions ^{1,2,3}					
			VOC	NOx	CO	SO ₂	PM ₁₀	PM _{2.5}
			lbs/day					
Office (GP)	Office Park	75,788	44.3	17.1	176.7	0.5	3.7	1.3
Research and Development	Research & Development	167,653	98.1	37.8	391.0	1.2	8.1	2.9
Child Care Center	Day-Care Center	2,694	2.1	0.9	8.3	0.02	0.1	0.0
Elementary/Middle School	Elementary School	18,001	11.4	4.5	45.1	0.1	0.9	0.3
High School	High School	17,948	10.8	4.2	42.8	0.1	0.9	0.3
City Park	City Park	3,811	2.4	0.9	9.4	0.0	0.2	0.1
Hotel	Hotel	6,288	4.0	1.6	15.9	0.0	0.3	0.1
Retail	Strip Mall	64,304	45.1	18.1	176.0	0.5	3.1	1.1
Medical Office	Medical Office Building	23,088	14.8	5.8	58.4	0.2	1.1	0.4
Hospital	Hospital	4,445	2.7	1.0	10.6	0.0	0.2	0.1
Health Club	Health Club	16,343	10.9	4.3	42.7	0.1	0.8	0.3
Single Family Detached	Single Family Housing	136,395	73.0	27.4	294.4	0.9	6.6	2.3
Multi-Family (Low-rise Apartments)	Apartments Low Rise	92,342	49.4	18.6	199.3	0.6	4.4	1.6
Multi-Family (Condos)	Condo/Townhouse	445,093	238.1	89.5	960.6	3.1	21.4	7.6
Total³		1,016,171	576	220	2,305	7.0	49	17

Notes:

¹ VMT and emissions estimated using CalEEMod® 2022.1.1 methodologies. CalEEMod 2022.1.1 does not provide the breakdown of trip types by primary, diverted, and passby. Therefore, trip type breakdown was obtained from CalEEMod 2016.3.2. Emissions associated with transportation include running, idling, diurnal, resting loss, running loss, hotsoak, and starting emissions.

² The Project assumes a 25% reduction in traffic based on project design features.

³ Because maximum daily emissions for each land use do not occur on the same day, the totals shown here do not equal the sum of the contributions from each land use.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

CO - carbon monoxide

ITE - Institute of Transportation Engineers

lbs - pounds

NO_x - nitrogen oxides

PM_{2.5} - particulate matter <2.5 microns

PM₁₀ - particulate matter <10 microns

SCAG - Southern California Association of Governments

SO₂ - sulfur dioxide

VMT - vehicle miles traveled

VOC - volatile organic compounds

Table B-4. Criteria Air Pollutant Emissions Associated with Operational Mobile Sources for the Proposed Project

Heritage Fields Great Park Neighborhoods
Irvine, California

Project Land Use	CalEEMod® Land Use Sub-Type	Vehicle Miles Traveled ¹	Maximum Daily Emissions ^{1,2,3}					
			VOC	NOx	CO	SO ₂	PM ₁₀	PM _{2.5}
		VMT/day	lbs/day					
Office (GP)	Office Park	197,948	115.8	44.6	461.6	1.4	9.5	3.4
Research and Development	Research & Development	41,203	24.1	9.3	96.1	0.3	2.0	0.7
Child Care Center	Day-Care Center	1,996	1.6	0.7	6.1	0.01	0.1	0.0
Elementary/Middle School	Elementary School	18,001	11.4	4.5	45.1	0.1	0.9	0.3
High School	High School	17,948	10.8	4.2	42.8	0.1	0.9	0.3
City Park	City Park	3,811	2.4	0.9	9.4	0.0	0.2	0.1
Retail	Strip Mall	18,429	12.9	5.2	50.4	0.1	0.9	0.3
Medical Office	Medical Office Building	23,088	14.8	5.8	58.4	0.2	1.1	0.4
Hospital	Hospital	12,151	7.3	2.8	29.1	0.1	0.6	0.2
Single Family Detached	Single Family Housing	136,395	73.0	27.4	294.4	0.9	6.6	2.3
Multi-Family (Low-rise Apartments)	Apartments Low Rise	92,342	49.4	18.6	199.3	0.6	4.4	1.6
Multi-Family (Condos)	Condo/Townhouse	526,314	281.5	105.8	1,135.9	3.6	25.3	9.0
Fast Food	Fast Food Restaurant w/ Drive Thru	4,066	3.6	1.5	14.1	0.03	0.2	0.1
Warehouse/Industrial (GP)	Unrefrigerated Warehouse - No Rail	31,034	13.2	34.1	66.1	0.4	3.7	1.5
Total³		1,057,563	585	252	2,362	7.4	53	19

Notes:

¹ VMT and emissions estimated using CalEEMod® 2022.1.1 methodologies. The fleet mix for the warehouse land use was updated consistent with data from ITE and validation of the SCAG traffic model to account for the higher percentage of truck traffic. CalEEMod 2022.1.1 does not provide the breakdown of trip types by primary, diverted, and passby. Therefore, trip type breakdown was obtained from CalEEMod 2016.3.2. Emissions associated with transportation include running, idling, diurnal, resting loss, running loss, and starting emissions.

² The Project assumes a 25% reduction in traffic based on project design features.

³ Because maximum daily emissions for each land use do not occur on the same day, the totals shown here do not equal the sum of the contributions from each land use.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

CO - carbon monoxide

ITE - Institute of Transportation Engineers

lbs - pounds

NO_x - nitrogen oxides

PM_{2.5} - particulate matter <2.5 microns

PM₁₀ - particulate matter <10 microns

SCAG - Southern California Association of Governments

SO₂ - sulfur dioxide

VMT - vehicle miles traveled

VOC - volatile organic compounds

Table B-5. Greenhouse Gas Emissions Associated with Operational Mobile Sources for the Baseline (Approved) Project
Heritage Fields Great Park Neighborhoods
Irvine, California

Project Land Use	CalEEMod® Land Use Sub-Type	Vehicle Miles Traveled ¹	CO ₂ e Emissions Associated with Traffic ^{1,2}
		VMt/yr	MT/yr
Office (GP)	Office Park	20,559,282	6,392
Research and Development	Research & Development	45,920,288	14,278
Child Care Center	Day-Care Center	735,980	238
Elementary/Middle School	Elementary School	4,680,320	1,469
High School	High School	5,047,980	1,574
City Park	City Park	728,518	228
Hotel	Hotel	2,187,819	687
Retail	Strip Mall	21,432,184	6,808
Medical Office	Medical Office Building	6,347,642	1,994
Hospital	Hospital	1,468,237	458
Health Club	Health Club	5,477,764	1,729
Single Family Detached	Single Family Housing	48,539,915	14,952
Multi-Family (Low-rise Apartments)	Apartments Low Rise	30,096,830	9,271
Multi-Family (Condos)	Condo/Townhouse	145,067,534	44,686
Total		338,290,293	104,764

Notes:

¹ VMT and emissions estimated using CalEEMod® 2022.1.1 methodologies. CalEEMod 2022.1.1 does not provide the breakdown of trip types by primary, diverted, and passby. Therefore, trip type breakdown was obtained from CalEEMod 2016.3.2. Emissions associated with transportation include running, idling, diurnal, resting loss, running loss, hotsoak, and starting emissions.

² The Project assumes a 25% reduction in traffic based on project design features.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

CO₂e - carbon dioxide equivalents

ITE - Institute of Transportation Engineers

MT - metric tons

SCAG - Southern California Association of Governments

VMT - vehicle miles traveled

yr - year

Table B-6. Greenhouse Gas Emissions Associated with Operational Mobile Sources for the Proposed Project

Heritage Fields Great Park Neighborhoods
Irvine, California

Project Land Use	CalEEMod® Land Use Sub-Type	Vehicle Miles Traveled ¹	CO ₂ e Emissions Associated with Traffic ^{1,2}
		VMТ/yr	MT/yr
Office (GP)	Office Park	53,698,022	16,696
Research and Development	Research & Development	11,285,434	3,509
Child Care Center	Day-Care Center	545,170	176
Elementary/Middle School	Elementary School	4,680,320	1,469
High School	High School	5,047,980	1,574
City Park	City Park	728,518	228
Retail	Strip Mall	6,142,387	1,951
Medical Office	Medical Office Building	6,347,642	1,994
Hospital	Hospital	4,013,180	1,252
Single Family Detached	Single Family Housing	48,539,915	14,952
Multi-Family (Low-rise Apartments)	Apartments Low Rise	30,096,830	9,271
Multi-Family (Condos)	Condo/Townhouse	171,539,712	52,840
Fast Food	Fast Food Restaurant w/ Drive Thru	1,181,802	388
Warehouse/Industrial (GP)	Unrefrigerated Warehouse - No Rail	11,296,258	6,228
Total		355,143,170	112,528

Notes:

¹ VMT and emissions estimated using CalEEMod® 2022.1.1 methodologies. The fleet mix for the warehouse land use was updated consistent with data from ITE and validation of the SCAG traffic model to account for the higher percentage of truck traffic. CalEEMod 2022.1.1 does not provide the breakdown of trip types by primary, diverted, and passby. Therefore, trip type breakdown was obtained from CalEEMod 2016.3.2. Emissions associated with transportation include running, idling, diurnal, resting loss, running loss, and starting emissions.

² The Project assumes a 25% reduction in traffic based on project design features.

Abbreviations:

CalEEMod® - California Emissions Estimator Model

CO₂e - carbon dioxide equivalents

ITE - Institute of Transportation Engineers

MT - metric tons

SCAG - Southern California Association of Governments

VMT - vehicle miles traveled

yr - year

