Appendix V –
Greenhouse Gas Mitigation Assessment

Greenhouse Gas Mitigation Assessment for Esperanza Hills, County of Orange

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1.0 BACKGROUND AND PURPOSE

The Proposed Project, known as Esperanza Hills, is located in unincorporated Orange County and within the Sphere of Influence of Yorba. The project proposes 340 single-family homes on a total area of roughly 469 acres. An EIR was prepared in November 2013 and was challenged in court. In a minute entry decision dated June 24, 2016, in Orange County Superior Court Case No. 30-2015-00797300-CU-TT-CXC, Judge Claster found that: "the EIR impermissibly defers mitigation of greenhouse gas (GHG) impacts and also arbitrarily limits the extent to which mitigation measures must be considered …" The Court found that "the EIR is flawed insofar as it arbitrarily limits mitigation requirements to an additional 5% reduction in GHG emissions, fails to mandate analysis of all mitigation measures beyond the 5% level, and does not require the adoption of all mitigation measures. Such a failure conflicts with Guidelines 15126.4(a)(1) which requires consideration of all feasible mitigation measures."

The Court further found that: "Although the EIR states that no specific measures are proposed because of 'constant advances in emissions control strategies and technologies,' (AR C29B/007801), that reasoning does not excuse the adoption of current mitigation measures. As a result, the EIR impermissibly defers formulation of mitigation measures." Finally, the Court concluded that: "delaying mitigation until immediately prior to occupancy may have the effect of limiting available measures and cause the Planning Department to consider mitigation only in the context of a nearly-completed project."

To address the Court's concerns, Table 5-6-8 of the FEIR was revised to include the requirements that the County imposed on the project as part of the original FEIR and the adopted Specific Plan, together with more specific requirements imposed which the County has determined to be feasible today. These include, but are not limited to, installing high pressure sodium cutoff street lights with solar sensors, installing solar powered LED lighting for monument lights and main access lighting, requiring all homes to be constructed solar ready, providing circuits and capacity in garages of residential units for installation of electric vehicle charging stations, and providing electric connections on exterior walls to facilitate the use of electric lawn maintenance equipment. In addition, project specific measures were identified or analyzed in more detail. For instance, the energy efficient requirements and energy star requirements set forth in the Specific Plan and FEIR were quantified to require that they exceed Title 24 requirements by 15%, and specific measures on construction energy savings were quantified and detailed such as requiring insulation standards to exceed Title 24 by 15% and reducing building envelope leakage and HVAC distribution losses by 15%. The low water use required in the FEIR and Specific Plan were quantified and refined, requiring smart irrigation systems combined with drip irrigation within the lots and common areas, limiting turf in common areas and requiring high efficiency showerheads, toilets and faucets.

2.0 METHODOLOGY

2.1 CalEEMod

Emissions during the operation of the project were calculated using the California Emissions Estimator Model (CalEEMod). CalEEMod is a computer program developed by the South Coast Air Quality Management District (SCAQMD), in conjunction with the other California Air Districts, and the California Air Pollution Control Officers Association (CAPCOA). For on-road vehicular emissions, the CalEEMod model utilizes the EMFAC2011 emission rates that have been developed by the California Air Resources Board (CARB).

The current version of the model is 2013.2.2 with a copyright date of 2013. This version of the model includes updated and improved tools for evaluating mitigation measures. In August 2010, CAPCOA released the document "Quantifying Greenhouse Gas Mitigation Measures," which is the most comprehensive review of GHG mitigation measures and their potential effectiveness. The 2013 version of CalEEMod includes improved analysis techniques for GHG mitigation that are directly tied to the measures contained in the 2010 CAPCOA document.

2.2 Previous Modeling

Table 5-6-8 in the FEIR approved June 2, 2015 presented "a detailed breakdown of the general measures and levels of emissions reduction potential that CAPCOA considers feasible on a project level basis." Revised Table 5-6-8 contains the specific mitigation measures required by the County, the reference to the CAPCOA measure, and a notation as to whether or not the measure is given credit in the CalEEMod Model, as some of the required measures are not currently analyzed in the CalEEMod Model.

As with the original CalEEMod run performed by Giroux & Associates as part of the June 2, 2015 FEIR, the CalEEMod computer model was used to calculate the baseline quantities for a 340-unit subdivision land use project, calculating both construction and operational emissions without mitigation measures. The Esperanza Hills project has design features included and required, such as low water use and energy star construction and appliances, but those design features were not incorporated as part of the initial calculation because no criteria was specifically outlined in the original project design features. Revised Table 5-6-8 contains specific required mitigation measures and criteria which the project applicant must meet in order comply with the requirement to mitigate GHG emissions for the project, utilizing all feasible measures.

Table 5-6-8 GHG Emissions Reductions from Project Specific Measures

Category	CAPCOA	Location within Documents[1]	Emission Reduction
Accessibility Design Requirements			
Insert sidewalks on one side on all single-loaded streets	SDT-1	SP	3.52%
Insert sidewalks on both sides of all double-loaded streets	SDT-1	SP	
Insert sidewalks on at least one side of main access roads	SDT-1	SP	
Create on site parks within biking and walking distance of residences	SDT-1	SP/FEIR	
Install roundabouts on main access roads to reduce vehicle wait times and calm traffic	SDT-2	SP/FEIR	
Provide for equestrian access outside of residential building lot areas	SDT-1	SP/FEIR	
Provide for bike and pedestrian trails	SDT-1;	SP/FEIR	
Create on site multi-use parks for various activities	SDT-1	SP/FEIR	
Provide bike parking at park areas	SDT-2/SDT-7	New	
Provide multi-use trails in development with connections to municipal and Chino State Park trail systems from project (urban non-motorized open space zones)	LUT-7	SP/FEIR	NQ
Limit parking supply near parks	PDT-1	SP	0.18%
Plant shade trees, restore trees in Blue Mud Canyon	GP-4	SP/FEIR	0.0002%
Building Envelope Design Requirements[2]			
Greatly enhanced insulation (exceed Title 24 by 15%)	BE-1	FEIR	1.55%
Greatly enhanced window insulation (exceed Title 24 by 15%)	BE-1	FEIR	
Greatly enhanced door insulation (exceed Title 24 by 15%)	BE-1	FEIR	
Reduce envelope leakage by 15% from Title 24	BE-1	New	
Reduce HVAC distribution losses by 15% from Title 24	BE-1	New	
Require high efficiency water heater that exceeds Title 24 by 15%	BE-1	New	
All exterior rooms daylighted to at least 1000 lumens on sunny day	BE-1	New	
Use very high efficiency lights (LED) that exceed Title 24 by 15%	BE-1	New	
Provide natural gas to all residences for gas appliances	BE-1	New	
Require programmable thermostat timers	BE-2	New	NQ
Require very high efficiency HVAC (exceed Title 24 by 15%)	BE-4	New	0.38%
Use high efficiency Energy Star appliances	BE-4	FEIR	
Implementation of Renewable Energy			
All homes will be constructed solar ready (sturdy roof and electric hookups)	AE-2	New	NQ

(1) This column denotes the location where specific measures or project design features were already included within the proposed project. SP=Design feature contained within the Specific Plan, FEIR= Final Environmental Impact Report, New=New measure not previously included in FEIR or SP.

[2] References to Title 24 shall mean the requirements in place in 2016.

Table 5-6-8 GHG Emissions Reductions from Project Specific Measures (Continued)

Category	CAPCOA	Location within Documents[1]	Emission Reduction
Provide circuit and capacity in garages of residential units for installation of electric vehicle charging stations	VT-3	New	NQ
Water Use Reduction[3]			
High efficiency showerheads that reduce flow by 20%	WUW-1	FEIR	0.37%
High efficiency toilets that reduce flow by 20%	WUW-1	FEIR	
Low flow kitchen faucets that reduce flow by 18%	WUW-1	FEIR	
Low flow bathroom faucets that reduce flow by 32%	WUW-1	FEIR	
Require smart irrigation systems combined with drip irrigation in all common areas	WUW-3; WUW-4	New	0.75%
Require smart irrigation systems combined with drip irrigation in all residential lot landscaping within lot lines	WUW-4	New	
HOA will adopt water conservation strategy for common areas	WUW-2 /WUW-3	New	
Drought tolerant landscaping in all common areas within the residential tracts, limiting turf to no more than 20% of the entire park area	WUW-5	New	0.17%
Drought tolerant/fire resistant landscaping in common areas along trails where feasible	WUW-6	FEIR	NQ
Use locally sourced water supply per NEAPS	WSW-1 /WSW-3	FEIR	0.57%
Landscape Equipment			
Provide electrical outlets on exterior of all building walls so that electric landscape equipment is compatible with all built facilities	A-3	New	NQ
Infrastructure Design			
Install high pressure sodium cutoff streets with solar sensors	LE-1	New	1.06%
Install solar powered LED lighting for monument lights and main access lighting	LE-1	New	
Total GHG Emissions Reduction			**8.08% (4)**

Notes:

NQ – Measure has some emission reduction potential, but is not quantifiable with CalEEMod.

(1) This column denotes the location where specific measures or project design features were already included within the proposed project. SP=Design feature contained within the Specific Plan, FEIR= Final Environmental Impact Report, New=New measure not previously included in FEIR or SP.

(2) and (3) References to Title 24 shall mean the requirements in place in 2016.

(4) – Total GHG emission reduction is less than the sum of the individual measures because some measures have less reduction potential when other measures are implemented.

It should be noted that the original analysis contained in the FEIR was performed using CalEEMod Version 2011.1.1, and the total for operational emissions was 6,732 equivalent CO2 metric tons per year (MTCO2EQ/YR) as it was based on 378 units and not the approved 340 units. Since the vehicular emission rates have been updated in the newer release of CalEEMod used for this analysis, and the project approval was for 340 units, the total operational emissions are now projected to be 5,923.3 MTCO2EQ/YR. Additionally, water use reduction was not incorporated in the original CalEEMod run. For purposes herein, projected water use was determined from the Northeast Area Planning Study (NEAPS) included as Appendix R in the FEIR. Also, wood burning fireplaces were included in the previous modeling. The SCAQMD Rule 445 now prohibits wood burning fireplaces, and therefore, natural gas fireplaces were included as part of the baseline case.

2.3 Mitigation Measures Modeled

Each of the measures as identified in CalEEMod are discussed below with a brief summary of the measure and the assumptions used in the modeling.

Pedestrian access. Pedestrian access covers two of the CAPCOA mitigation measures (i.e., SDT-1, SDT-2, and SDT-7). SDT-1 would improve the pedestrian network throughout the project and connections to off-site areas. SDT-2 would implement traffic calming measures for the entire project site. These measures will be used throughout the project and connecting projects wherever possible. The CalEEMod mitigation option of "Improve Pedestrian Network" for project site and connecting off-site was checked. Additionally, "Provide Traffic Calming Measures" set at 100% for streets and intersections were selected.

Provide multi-use trails in development. This measure, identified in CAPCOA as LUT-7, would encourage walking instead of use of automobiles. However, the emission reductions for this measure cannot be quantified using CalEEMod.

Limit parking supply near parks. CAPCOA identifies this measure as PDT-1. Since parking the developer is only limiting parking near parks, it was estimated that only a 0.5% reduction in parking spaces would occur. Accordingly, the CalEEMod mitigation options for "Limit Parking Supply" was selected with this reduction.

Plant shade trees. The developer is committing to a restoration of program for Blue Mud Canyon. The trees that are planted will sequester GHG gases. The number and type of trees has not been determined, however, it is envisioned that at least 100 trees will be planted. CalEEMod was modeled with 100 new trees using the miscellaneous species category.

Exceed Title 24 by 15%. Title 24 mandates certain building features, including insulation, requirements. All of these measures fall under the CAPCOA Mitigation BE-1. For the

CalEEMod modeling, it was assumed that Title 24 energy conservation requirements would be exceeded by 15%.

Require programmable thermostat timers. Identified as measure BE-2 in the CAPCOA document, is not available for modeling in CalEEMod.

Energy Star appliances/low energy cooling. The use of Energy Star appliances reduces the energy consumption of refrigerators, clothes washers, dishwashers, and ceiling fans. CAPCOA's (Measure BE-4) recommendations for energy reduction are included in the CalEEMod and were used. Some use of the air conditioner would be replaced by the use of ceiling fans with this mitigation measure. The recommended defaults in CalEEMod were used; specifically, 30% reduction for clothes washer, 15% reduction for dish washer, 50% reduction for fans, and 15% reduction for refrigerator.

Construct homes solar ready. Building homes that are solar ready encourages homeowners to add solar panels in the future. This is CAPCOA Measure AE-2, and cannot be quantified with CalEEMod.

Provide circuit and capacity in garages for electric vehicle charging. Providing the proper circuitry in garages facilitates the use of electric vehicles by residents. This is included in CAPCOA Measure VT-3, but cannot be quantified using CalEEMod.

Low water flow fixtures. There are several low flow water fixtures that can be employed and are grouped in CAPCOA Measure WUW-1. Using low water flow fixtures in the house will reduce water consumption, reduce electric power generation, and consequently reduce GHG emissions. The CAPCOA/CalEEMod defaults for reductions in water usage with low flow fixtures were used for the modeling; specifically, 32% reduction for bathroom faucets, 18% reduction for kitchen faucets, 20% reductions for high efficiency toilets and showerheads.

Require smart and drip irrigation. This measure as proposed would require smart and drip irrigation and would adopt water conservation strategies for common areas. These measures are included in CAPCOA WUW-2, WUW-3, and WUW-4. For CalEEMod it was estimated that 6.1% reduction would occur using water-efficient irrigation systems, and that the maximum applied water allowance (MAWA) would be reduced to roughly 48,545 gallons per year. These values are based on the discussion in the CAPCOA document.

Turf reduction. Lawns and turf require the highest water consumption on a per foot basis. Reducing turf reduces the amount of water consumed. With 340 homes on large lots and sizable common areas, it is possible that 400 of the 469 project acres could ultimately be turf. In the CalEEMod mitigation measure WUW-5 was selected with a turf area of 400 acres and a modest potential reduction in turf of 9%, or 36 acres would not be developed as turf.

Drought tolerant/fire resistant landscaping. Much of the fire resistant landscaping that can be used is drought tolerant. This approach is described in CAPCOA Measure WUW-6, however, it cannot be quantified with CalEEMod.

Use locally sourced water. Considerable energy is used to transport water from its source to homes in Southern California. CAPCOA (Measure WSW-3) suggests that up to 75% savings can be achieved if locally sourced water is used. The project will use locally sourced water avoiding the huge energy costs associated with imported water. There is no option in CalEEMod for locally sourced water, however, reclaimed water avoids the energy consumption associated with imported water. Therefore, CalEEMod (Measure WSW-1) was used to model the benefits of locally sourced water (WSW-3). One hundred percent (100%) of the water use for the project is anticipated to be locally sourced.

Provide electrical outlets on exterior of building walls. This measures facilitates the use of electric landscape equipment and is included in CAPCOA Measure A-3. The benefits of this measure are not quantifiable with CalEEMod.

High efficiency lighting. A significant source of GHG emissions is due to the electric generation associated with street lighting. CAPCOA states that up to 40% of the energy can be saved using high-pressure sodium cutoff lights. Per the CAPCOA recommendation (LE-1), a 40% reduction was assumed in the analysis.

All above measures combined. A CalEEMod run was made with all of the measures listed above. The combined reduction is slightly less than if all of the reductions for the individual measures are added together, since there is some overlap between measures. For example, using Energy Star appliances does not have the same GHG reduction if the electricity for the home is already being supplied by solar panels.

3.0 RESULTS

The results of the CalEEMod analysis are presented in Table 1. The table presents the mitigation measure, the operational emissions with the measure, and the percent reduction compared to the base case.

Table 1 GHG Operational Emission Reductions

Measure	GHG Emissions (MTCO2EQ/YR)	Percent Reduction
Base Case (No Mitigation)	**5,923.3**	**---**
All Mitigation Measures Combined	**5,444.6**	**8.08%**

With all measures combined a 8.08% reduction is projected, resulting in operational GHG emissions of 5,444.6 MTCO2EQ/YR. This is a reduction 478.7 MTCO2EQ/YR over the base case.

Amortized construction emissions are commonly included in the total emission count. Giroux and Associates, in an updated analysis for the Response to Comments (April 14, 2016) projected that construction emissions amortized over a 30 year period would result in 114.0 MTCO2EQ/YR. This value was added to the operational emissions presented in Table 1 to give the total GHG emissions for the base case and mitigated case emissions presented in Table 2.

Table 2 Total GHG Emission Reductions

Measure	GHG Emissions (MTCO2EQ/YR)	Percent Reduction
Base Case (No Mitigation)	**6,037.3**	**---**
All Mitigation Measures Combined	**5,558.6**	**7.93%**

APPENDIX

Esperanza Hills - All Nat Gas Fireplaces - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	469.00	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Area Mitigation -

Woodstoves - Every home has a natural gas fireplace for baseline.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblLandUse	LotAcreage	110.39	469.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblWoodstoves	NumberCatalytic	17.00	0.00

tblWoodstoves	NumberNoncatalytic	17.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876

Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7275	0.0182	154.9005
Total													**5,792.3651**	**5.7048**	**0.0359**	**5,923.2915**

	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	N20	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**	**0.08**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													4,276.2671	0.1476	0.0000	4,279.3663
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,070,596

Total	3,253.80	3,427.20	2,981.80	11,070,596	11,070,596

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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													689.8018	0.0317	6.5600e-003	692.5014
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014

Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	133.9727	0.7275	0.0182	154.9005
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7275	0.0182	154.9005

Total		**133.9727**	**0.7275**	**0.0182**	**154.9005**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - MM SDT1 and 2 - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	110.39	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Mobile Land Use Mitigation -

Woodstoves - All natural gas fireplaces

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00

tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441

Mobile													4,067.8497	0.1407	0.0000	4,070.8052
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7275	0.0182	154.9005
Total													**5,583.9477**	**5.6980**	**0.0359**	**5,714.7304**

	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	N20	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**	**3.60**	**0.12**	**0.08**	**3.52**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

Provide Traffic Calming Measures

	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													4,067.8497	0.1407	0.0000	4,070.8052
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT

Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	10,517,066
Total	3,253.80	3,427.20	2,981.80	11,070,596	10,517,066

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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													689.8018	0.0317	6.5600e-003	692.5014
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014

Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	133.9727	0.7275	0.0182	154.9005
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7275	0.0182	154.9005

Total		**133.9727**	**0.7275**	**0.0182**	**154.9005**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - MM PDT1 - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	110.39	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Mobile Land Use Mitigation -

Woodstoves - All natural gas fireplaces.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00

tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441

Mobile													4,265.8462	0.1472	0.0000	4,268.9383
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7275	0.0182	154.9005
Total													**5,781.9442**	**5.7045**	**0.0359**	**5,912.8635**

	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	N20	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**	**0.18**	**0.01**	**0.08**	**0.18**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Limit Parking Supply

	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													4,265.8462	0.1472	0.0000	4,268.9383
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,042,919
Total	3,253.80	3,427.20	2,981.80	11,070,596	11,042,919

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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													689.8018	0.0317	6.5600e-003	692.5014
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	133.9727	0.7275	0.0182	154.9005
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7275	0.0182	154.9005

Total		**133.9727**	**0.7275**	**0.0182**	**154.9005**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - MM Sequestration - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	110.39	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Sequestration -

Mobile Land Use Mitigation -

Woodstoves - All fireplaces are natural gas.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblSequestration	NumberOfNewTrees	0.00	100.00

tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7275	0.0182	154.9005
Total													**5,792.3651**	**5.7048**	**0.0359**	**5,923.2915**

	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	N20	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**	**0.08**	**0.00**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	70.8000
Total	**70.8000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													4,276.2671	0.1476	0.0000	4,279.3663
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,070,596
Total	3,253.80	3,427.20	2,981.80	11,070,596	11,070,596

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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													689.8018	0.0317	6.5600e-003	692.5014
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					

Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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					
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Architectural Coating													0.0000	0.0000	0.0000	0.0000
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	133.9727	0.7275	0.0182	154.9005
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7275	0.0182	154.9005
Total		**133.9727**	**0.7275**	**0.0182**	**154.9005**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	70.8000	0.0000	0.0000	70.8000

10.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	100	70.8000	0.0000	0.0000	70.8000
Total		**70.8000**	**0.0000**	**0.0000**	**70.8000**

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - MM BE-1 Exceed Title 24 - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	110.39	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Woodstoves - All fireplaces are natural gas.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2021

tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,122.8269	0.0393	0.0148	1,128.2232
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7275	0.0182	154.9005
Total													**5,701.3367**	**5.7023**	**0.0345**	**5,831.7706**

	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	N20	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**	**1.57**	**0.05**	**4.04**	**1.55**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													4,276.2671	0.1476	0.0000	4,279.3663
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,070,596
Total	3,253.80	3,427.20	2,981.80	11,070,596	11,070,596

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install Energy Efficient Appliances

	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													661.5448	0.0304	6.2900e-003	664.1338
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													461.2821	8.8400e-003	8.4600e-003	464.0894
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	8.6441e+006													461.2821	8.8400e-003	8.4600e-003	464.0894
Total														**461.2821**	**8.8400e-003**	**8.4600e-003**	**464.0894**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.31174e+006	661.5448	0.0304	6.2900e-003	664.1338
Total		**661.5448**	**0.0304**	**6.2900e-003**	**664.1338**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	133.9727	0.7275	0.0182	154.9005
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7275	0.0182	154.9005
Total		**133.9727**	**0.7275**	**0.0182**	**154.9005**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - MM BE-4 Low Energy Cooling - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	110.39	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Woodstoves - All fireplaces are natural gas.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2021

tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,191.3049	0.0407	0.0160	1,197.1055
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7275	0.0182	154.9005
Total													**5,769.8148**	**5.7038**	**0.0357**	**5,900.6530**

	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	N20	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**	**0.39**	**0.02**	**0.70**	**0.38**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													4,276.2671	0.1476	0.0000	4,279.3663
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,070,596
Total	3,253.80	3,427.20	2,981.80	11,070,596	11,070,596

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	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													667.2515	0.0307	6.3500e-003	669.8628
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.33169e+006	667.2515	0.0307	6.3500e-003	669.8628
Total		**667.2515**	**0.0307**	**6.3500e-003**	**669.8628**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	133.9727	0.7275	0.0182	154.9005
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Single Family Housing	22.1524 / 13.9656	133.9727	0.7275	0.0182	154.9005
Total		**133.9727**	**0.7275**	**0.0182**	**154.9005**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - WUW1 Low Flow Fixtures - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	110.39	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Water Mitigation -

Woodstoves - All fireplaces are natural gas.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00

tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441

Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													116.0584	0.5824	0.0147	132.8354
Total													**5,774.4507**	**5.5597**	**0.0323**	**5,901.2264**

	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	N20	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**	**0.31**	**2.55**	**9.99**	**0.37**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													4,276.2671	0.1476	0.0000	4,279.3663
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,070,596
Total	3,253.80	3,427.20	2,981.80	11,070,596	11,070,596

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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													689.8018	0.0317	6.5600e-003	692.5014
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	116.0584	0.5824	0.0147	132.8354
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Single Family Housing	17.7219 / 13.9656	116.0584	0.5824	0.0147	132.8354
Total		**116.0584**	**0.5824**	**0.0147**	**132.8354**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - WUW3&4 Efficient Irrigation - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	110.39	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Water Mitigation -

Woodstoves - All fireplaces are natural gas.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663

Waste													80.8960	4.7808	0.0000	181.2931
Water													89.5716	0.7255	0.0178	110.3257
Total													**5,747.9640**	**5.7028**	**0.0355**	**5,878.7166**

	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	N20	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**	**0.77**	**0.04**	**1.25**	**0.75**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													4,276.2671	0.1476	0.0000	4,279.3663
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,070,596
Total	3,253.80	3,427.20	2,981.80	11,070,596	11,070,596

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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													689.8018	0.0317	6.5600e-003	692.5014
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+06													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	9.82039e+06													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+06	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

Use Water Efficient Landscaping

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	89.5716	0.7255	0.0178	110.3257
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 0	89.5716	0.7255	0.0178	110.3257
Total		**89.5716**	**0.7255**	**0.0178**	**110.3257**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - WUW5 Turf Reduction - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	110.39	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Woodstoves - All fireplaces are natural gas.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00

tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441

Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													124.0916	0.7271	0.0181	144.9807
Total													**5,782.4839**	**5.7043**	**0.0358**	**5,913.3717**

	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	N20	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**	**0.17**	**0.01**	**0.33**	**0.17**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													4,276.2671	0.1476	0.0000	4,279.3663
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,070,596
Total	3,253.80	3,427.20	2,981.80	11,070,596	11,070,596

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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													689.8018	0.0317	6.5600e-003	692.5014
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

Turf Reduction

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	124.0916	0.7271	0.0181	144.9807
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 10.8577	124.0916	0.7271	0.0181	144.9807

Total		**124.0916**	**0.7271**	**0.0181**	**144.9807**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - WSW1 Local Source (Reclaimed) Water - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	110.39	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Water Mitigation -

Woodstoves - All fireplaces are natural gas.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00

tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441

Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													105.7861	0.5438	0.0137	121.4420
Total													**5,764.1784**	**5.5210**	**0.0313**	**5,889.8330**

	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	N20	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**	**0.49**	**3.22**	**12.75**	**0.57**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													4,276.2671	0.1476	0.0000	4,279.3663
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,070,596
Total	3,253.80	3,427.20	2,981.80	11,070,596	11,070,596

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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													689.8018	0.0317	6.5600e-003	692.5014
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	105.7861	0.5438	0.0137	121.4420
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	16.5484 / 12.2271	105.7861	0.5438	0.0137	121.4420

Total		**105.7861**	**0.5438**	**0.0137**	**121.4420**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - LE1 Lighting - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	469.00	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Area Mitigation -

Energy Mitigation -

Woodstoves - All fireplaces are natural gas.

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00
tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblLandUse	LotAcreage	110.39	469.00
tblProjectCharacteristics	OperationalYear	2014	2021

tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,151.2413	0.0389	0.0156	1,156.8851
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7275	0.0182	154.9005
Total													**5,729.7511**	**5.7019**	**0.0353**	**5,860.4325**

	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	N20	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**	**1.08**	**0.05**	**1.75**	**1.06**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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													4,276.2671	0.1476	0.0000	4,279.3663
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	11,070,596
Total	3,253.80	3,427.20	2,981.80	11,070,596	11,070,596

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	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													627.1878	0.0288	5.9600e-003	629.6424
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													524.0534	0.0100	9.6100e-003	527.2427
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427
Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.19169e+006	627.1878	0.0288	5.9600e-003	629.6424
Total		**627.1878**	**0.0288**	**5.9600e-003**	**629.6424**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	133.9727	0.7275	0.0182	154.9005
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Single Family Housing	22.1524 / 13.9656	133.9727	0.7275	0.0182	154.9005
Total		**133.9727**	**0.7275**	**0.0182**	**154.9005**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	80.8960	4.7808	0.0000	181.2931
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

9.0 Operational Offroad

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

10.0 Vegetation

Construction data removed because it is not relevant to this analysis.

Esperanza Hills - Expanded Mitigation 071916 - Operational Only

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	340.00	Dwelling Unit	469.00	612,000.00	972

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage to match project description.

Woodstoves - All fireplaces are natural gas.

Sequestration -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation - Technically, reclaimed water will not be used, but rather locally gathered water will be used. Water will not be imported from Northern California and thus will avoid the high electrical usage normally associated with SoCal water usage.

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	289.00	340.00

tblFireplaces	NumberNoFireplace	34.00	0.00
tblFireplaces	NumberWood	17.00	0.00
tblLandUse	LotAcreage	110.39	469.00
tblProjectCharacteristics	OperationalYear	2014	2021
tblSequestration	NumberOfNewTrees	0.00	100.00
tblWoodstoves	NumberCatalytic	17.00	0.00
tblWoodstoves	NumberNoncatalytic	17.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,213.8552	0.0418	0.0162	1,219.7441
Mobile													4,276.2671	0.1476	0.0000	4,279.3663
Waste													80.8960	4.7808	0.0000	181.2931
Water													133.9727	0.7277	0.0183	154.9117
Total													**5,792.3651**	**5.7049**	**0.0359**	**5,923.3027**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Energy													1,060.2130	0.0364	0.0142	1,065.3642
Mobile													4,057.9499	0.1404	0.0000	4,060.8985
Waste													60.6720	3.5856	0.0000	135.9698
Water													81.9090	0.4349	0.0109	94.4230
Total													**5,348.1179**	**4.2044**	**0.0266**	**5,444.6431**

	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	N20	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**	**7.67**	**26.30**	**26.06**	**8.08**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	70.8000
Total	**70.8000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

Provide Traffic Calming Measures

Limit Parking Supply

	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													4,057.9499	0.1404	0.0000	4,060.8985
Unmitigated													4,276.2671	0.1476	0.0000	4,279.3663

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	3,253.80	3,427.20	2981.80	11,070,596	10,490,773
Total	3,253.80	3,427.20	2,981.80	11,070,596	10,490,773

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.507717	0.059700	0.181648	0.140055	0.042936	0.006749	0.016265	0.033349	0.001955	0.002502	0.004345	0.000573	0.002206

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	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													598.9308	0.0275	5.7000e-003	601.2748
Electricity Unmitigated													689.8018	0.0317	6.5600e-003	692.5014
NaturalGas Mitigated													461.2821	8.8400e-003	8.4600e-003	464.0894
NaturalGas Unmitigated													524.0534	0.0100	9.6100e-003	527.2427

5.2 Energy by Land Use - NaturalGas

Unmitigated

	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					
Single Family Housing	9.82039e+006													524.0534	0.0100	9.6100e-003	527.2427

Total														**524.0534**	**0.0100**	**9.6100e-003**	**527.2427**

Mitigated

	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					
Single Family Housing	8.6441e+006													461.2821	8.8400e-003	8.4600e-003	464.0894
Total														**461.2821**	**8.8400e-003**	**8.4600e-003**	**464.0894**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.41049e+006	689.8018	0.0317	6.5600e-003	692.5014
Total		**689.8018**	**0.0317**	**6.5600e-003**	**692.5014**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.09294e+006	598.9308	0.0275	5.7000e-003	601.2748
Total		**598.9308**	**0.0275**	**5.7000e-003**	**601.2748**

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													87.3741	7.1200e-003	1.5000e-003	87.9876
Unmitigated													87.3741	7.1200e-003	1.5000e-003	87.9876

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

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													0.0000	0.0000	0.0000	0.0000
Consumer Products													0.0000	0.0000	0.0000	0.0000
Hearth													81.6466	1.5600e-003	1.5000e-003	82.1435
Landscaping													5.7275	5.5500e-003	0.0000	5.8440
Total													**87.3741**	**7.1100e-003**	**1.5000e-003**	**87.9876**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Turf Reduction

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	81.9090	0.4349	0.0109	94.4230
Unmitigated	133.9727	0.7277	0.0183	154.9117

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	22.1524 / 13.9656	133.9727	0.7277	0.0183	154.9117
Total		**133.9727**	**0.7277**	**0.0183**	**154.9117**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Single Family Housing	13.2387 / 8.92622	81.9090	0.4349	0.0109	94.4230
Total		**81.9090**	**0.4349**	**0.0109**	**94.4230**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	60.6720	3.5856	0.0000	135.9698
Unmitigated	80.8960	4.7808	0.0000	181.2931

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	398.52	80.8960	4.7808	0.0000	181.2931
Total		**80.8960**	**4.7808**	**0.0000**	**181.2931**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	298.89	60.6720	3.5856	0.0000	135.9698
Total		**60.6720**	**3.5856**	**0.0000**	**135.9698**

9.0 Operational Offroad

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

10.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	70.8000	0.0000	0.0000	70.8000

10.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	100	70.8000	0.0000	0.0000	70.8000
Total		**70.8000**	**0.0000**	**0.0000**	**70.8000**

Construction data removed because it was not relevant to this analysis.