

APPENDIX 3.0-1
AIR QUALITY AND GHG

APPENDIX B AIR QUALITY BACKGROUND DATA

AMBIENT AIR QUALITY IN RIVERSIDE COUNTY

Ozone (O₃), coarse particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}) are the pollutants most potently affecting Riverside County. Ambient air quality in Riverside County can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. Existing levels of ambient air quality and historical trends and projections in the county are documented by measurements made by the South Coast Air Quality Management District (SCAQMD) and Mojave Desert Air Quality Management District (MDAQMD).

Air quality monitoring sites in the county are located at Banning, Blythe, Indio, Joshua Tree National Park, Lake Elsinore, Riverside, and Winchester. **Table 1** shows historical occurrences of O₃, PM₁₀, and PM_{2.5} pollutant levels exceeding state and federal ambient air quality standards for the three-year period of 2012, 2013, and 2014 at all the listed monitoring stations.

**TABLE 1
SUMMARY OF AMBIENT AIR QUALITY DATA**

Pollutant Standards	2012	2013	2014
Banning Airport Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.117	0.115	0.114
Max 8-hour concentration (ppm) (state/federal)	0.098 / 0.098	0.104 / 0.103	0.098 / 0.097
Number of days above state 1-hour standard	40	24	22
Number of days above state/federal 8-hour standard	71 / 53	66 / 41	58 / 38
Coarse Particulate Matter			
Max 24-hour concentration (µg/m3) (state/federal)	41.0 / 45.0	60.0 / 64.0	42.0 / 45.0
Number of days above state/federal standard	0 / 0	6.1 / 0	* / 0
Fine Particulate Matter			
Max 24-hour concentration (µg/m3) (state/federal)	41.5 / *	65.3 / *	38.8 / *
Number of days above federal standard	*	*	*
Blythe – 445 West Murphy Street Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.084	0.065	0.093
Max 8-hour concentration (ppm) (state/federal)	0.077 / 0.076	0.061 / 0.077	0.084 / 0.084
Number of days above state 1-hour standard	0	0	0
Number of days above state/federal 8-hour standard	12 / 2	0 / 0	16 / 8
Coarse Particulate Matter			
Max 24-hour concentration (µg/m3) (state/federal)	* / *	* / *	* / *
Number of days above state/federal standard	* / *	* / *	* / *
Fine Particulate Matter			
Max 24-hour concentration (µg/m3) (state/federal)	* / *	* / *	* / *
Number of days above federal standard	*	*	*

APPENDIX B AIR QUALITY BACKGROUND DATA

Pollutant Standards	2012	2013	2014
Indio – Jackson Street Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.102	0.105	0.095
Max 8-hour concentration (ppm) (state/federal)	0.090 / 0.089	0.087 / 0.087	0.091 / 0.091
Number of days above state 1-hour standard	2	2	2
Number of days above state/federal 8-hour standard	45 / 24	38 / 18	30 / 10
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	125.0 / 270.6	159.0 / 255.2	299.0 / 322.3
Number of days above state/federal standard	43.2 / *	85.2 / 3.0	94.9 / 6.1
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	18.4 / 18.4	25.8 / 25.8	26.5 / 26.5
Number of days above federal standard	0	0	0
Joshua Tree National Park Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.089	0.091	0.105
Max 8-hour concentration (ppm) (state/federal)	0.082 / 0.082	0.087 / 0.086	0.094 / 0.093
Number of days above state 1-hour standard	0	0	0
Number of days above state/federal 8-hour standard	9 / 3	16 / 4	3 / 13
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	* / *	* / *	* / *
Number of days above state/federal standard	* / *	* / *	* / *
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	* / *	* / *	* / *
Number of days above federal standard	*	*	*
Joshua Tree National Park – Pinto Wells Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.089	0.092	0.101
Max 8-hour concentration (ppm) (state/federal)	0.080 / 0.079	0.079 / 0.079	0.093 / 0.092
Number of days above state 1-hour standard	0	0	3
Number of days above state/federal 8-hour standard	19 / 8	6 / 1	44 / 19
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	* / *	* / *	* / *
Number of days above state/federal standard	* / *	* / *	* / *
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	* / *	* / *	* / *
Number of days above federal standard	*	*	*

APPENDIX B AIR QUALITY BACKGROUND DATA

Pollutant Standards	2012	2013	2014
Lake Elsinore – West Flint Street Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.11	0.102	0.104
Max 8-hour concentration (ppm) (state/federal)	0.090 / 0.089	0.090 / 0.089	0.087 / 0.086
Number of days above state 1-hour standard	10	6	4
Number of days above state/federal 8-hour standard	32 / 17	25 / 12	13 / 6
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	* / 65.5	* / 112.3	* / 86.8
Number of days above state/federal standard	* / 0	* / 0	* / 0
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	24.9 / *	37.4 / *	33.7 / *
Number of days above federal standard	*	*	*
Mira Loma – Van Buren Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.124	0.118	0.138
Max 8-hour concentration (ppm) (state/federal)	0.103 / 0.102	0.097 / 0.096	0.103 / 0.102
Number of days above state 1-hour standard	31	11	17
Number of days above state/federal 8-hour standard	72 / 47	32 / 21	55 / 29
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	76.0 / 78.0	143.0 / 147.0	83.0 / 85.0
Number of days above state/federal standard	98.2 / 0	73.0 / 0	89.1 / 0
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	47.7 / 39.3	83.2 / 56.5	73.6 / 73.6
Number of days above federal standard	7.0	9.2	9.4
Palm Springs Fire Station Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.126	0.113	0.108
Max 8-hour concentration (ppm) (state/federal)	0.101 / 0.100	0.104 / 0.104	0.093 / 0.093
Number of days above state 1-hour standard	17	10	9
Number of days above state/federal 8-hour standard	79 / 51	82 / 46	61 / 35
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	37.0 / 143.4	127.0 / 185.8	56.0 / 313.8
Number of days above state/federal standard	0 / 0	13.1 / 1.0	* / 1.1
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	15.5 / 15.5	18.5 / 18.5	15.5 / 15.5
Number of days above federal standard	0	0	0

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Pollutant Standards	2012	2013	2014
Perris Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.111	0.108	0.117
Max 8-hour concentration (ppm) (state/federal)	0.094 / 0.093	0.090 / 0.090	0.094 / 0.094
Number of days above state 1-hour standard	28	17	16
Number of days above state/federal 8-hour standard	65 / 46	60 / 34	63 / 38
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	58.0 / 62.0	67.0 / 70.0	82.0 / 87.0
Number of days above state/federal standard	6.1 / 0	* / 0	36.4 / *
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	* / *	* / *	* / *
Number of days above federal standard	*	*	*
Riverside – Rubidoux Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.126	0.123	0.141
Max 8-hour concentration (ppm) (state/federal)	0.102 / 0.102	0.104 / 0.103	0.105 / 0.104
Number of days above state 1-hour standard	27	13	29
Number of days above state/federal 8-hour standard	70 / 47	38 / 26	69 / 4
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	82.6 / 67.0	199.2 / 135.0	122.7 / 100.0
Number of days above state/federal standard	51.7 / 0	30.2 / 0	124.7 / 0
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	182.2 / 38.1	170.8 / 60.3	50.6 / 48.9
Number of days above federal standard	7.1	6.2	5.3
Winchester – 33700 Boreal Road Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.104	0.093	0.119
Max 8-hour concentration (ppm) (state/federal)	0.083 / 0.082	0.79 / 0.078	0.100 / 0.100
Number of days above state 1-hour standard	1	0	1
Number of days above state/federal 8-hour standard	21 / 4	12 / 3	14 / 4
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	* / *	* / *	* / *
Number of days above state/federal standard	* / *	* / *	* / *
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	21.7 / *	27.7 / *	64.0 / *
Number of days above federal standard	*	*	*

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Pollutant Standards	2012	2013	2014
Riverside – Magnolia Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	*	*	*
Max 8-hour concentration (ppm) (state/federal)	* / *	* / *	* / *
Number of days above state 1-hour standard	*	*	*
Number of days above state/federal 8-hour standard	* / *	* / *	* / *
Coarse Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	* / 72.0	* / 152.0	* / 91.5
Number of days above state/federal standard	* / 0	* / 0	* / 0
Fine Particulate Matter			
Max 24-hour concentration ($\mu\text{g}/\text{m}^3$) (state/federal)	34.7 / 30.2	60.2 / 53.7	47.7 / 30.9
Number of days above federal standard	*	3.0	5.3

Source: CARB 2015

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter; ppm = parts per million

* No data currently available to determine the value

AMBIENT AIR QUALITY STANDARDS

Both the State of California and the federal government have established health-based ambient air quality standards for six air pollutants. As shown in **Table 2**, these pollutants include O₃, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), PM₁₀, PM_{2.5}, and lead. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

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TABLE 2
AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	National Standards
Ozone (O ₃)	8 Hour	0.070 ppm (137 μg/m ³)	0.075 ppm
	1 Hour	0.09 ppm (180 μg/m ³)	—
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)
	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)
Nitrogen Dioxide (NO ₂)	1 Hour	0.18 ppm (339 μg/m ³)	100 ppb
	Annual Arithmetic Mean	0.030 ppm (57 μg/m ³)	53 ppb (100 μg/m ³)
Sulfur Dioxide (SO ₂)	24 Hour	0.04 ppm (105 μg/m ³)	N/A
	3 Hour	—	N/A
	1 Hour	0.25 ppm (665 μg/m ³)	75 ppb
Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 μg/m ³	N/A
	24 Hour	50 μg/m ³	150 μg/m ³
Particulate Matter – Fine (PM _{2.5})	Annual Arithmetic Mean	12 μg/m ³	15 μg/m ³
	24 Hour	N/A	35 μg/m ³
Sulfates	24 Hour	25 μg/m ³	N/A
Lead	Calendar Quarter	N/A	1.5 μg/m ³
	30 Day Average	1.5 μg/m ³)	N/A
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m ³)	N/A
Vinyl Chloride (chloroethene)	24 Hour	0.01 ppm (26 μg/m ³)	N/A
Visibility-Reducing Particles	8 Hour (10:00 to 18:00 PST)	—	N/A

Source: CARB 2013

Notes: mg/m³ = milligrams per cubic meter; ppm = parts per million; ppb = parts per billion; μg/m³ = micrograms per cubic meter

REFERENCES

CARB (California Air Resources Board). 2013. *Ambient Air Quality Standards*.
<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.

———. 2015. *Air Quality Data Statistics*. <http://www.arb.ca.gov/adam/index.html>.

Riverside Housing Element Buildout South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	70,133.00	Dwelling Unit	1,845.61	70,133,000.00	226220

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	490.64	CH4 Intensity (lb/MWhr)	0.021	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Climate Zone 10 = majority of Riverside County. SCE's emission intensity factors used

Land Use - Population per Housing Element

Construction Phase - No construction this model

Vehicle Trips - Trip generation per Urban Crossroads, Inc.

Woodstoves - SCAQMD Rule 445

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	11.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	59,613.05	63,119.70
tblFireplaces	NumberWood	3,506.65	0.00
tblLandUse	Population	200,580.00	226,220.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.021
tblProjectCharacteristics	CO2IntensityFactor	630.89	490.64
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblProjectCharacteristics	OperationalYear	2014	2021
tblVehicleTrips	ST_TR	7.16	3.95
tblVehicleTrips	SU_TR	6.07	3.95
tblVehicleTrips	WD_TR	6.59	3.95
tblWoodstoves	NumberCatalytic	3,506.65	0.00
tblWoodstoves	NumberNoncatalytic	3,506.65	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548
Energy	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
Mobile	783.8388	2,069.9277	8,993.6216	30.2063	2,008.4716	38.6747	2,047.1462	536.7111	35.6746	572.3857		2,306,635.0728	2,306,635.0728	76.4978		2,308,241.5266
Total	2,645.8296	2,349.2481	14,889.3128	31.8675	2,008.4716	172.4641	2,180.9356	536.7111	168.5729	705.2840	0.0000	3,924,828.4997	3,924,828.4997	117.4097	29.4759	3,936,431.6242

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548
Energy	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
Mobile	783.8388	2,069.9277	8,993.6216	30.2063	2,008.4716	38.6747	2,047.1462	536.7111	35.6746	572.3857		2,306,635.0728	2,306,635.0728	76.4978		2,308,241.5266
Total	2,645.8296	2,349.2481	14,889.3128	31.8675	2,008.4716	172.4641	2,180.9356	536.7111	168.5729	705.2840	0.0000	3,924,828.4997	3,924,828.4997	117.4097	29.4759	3,936,431.6242

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

3.0 Operational Detail - Mobile

3.1 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	lb/day										lb/day					
Mitigated	783.8388	2,069.9277	8,993.6216	30.2063	2,008.4716	38.6747	2,047.1462	536.7111	35.6746	572.3857		2,306,635.0728	2,306,635.0728	76.4978		2,308,241.5266
Unmitigated	783.8388	2,069.9277	8,993.6216	30.2063	2,008.4716	38.6747	2,047.1462	536.7111	35.6746	572.3857		2,306,635.0728	2,306,635.0728	76.4978		2,308,241.5266

3.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	277,025.35	277,025.35	277,025.35	946,637,707	946,637,707
Total	277,025.35	277,025.35	277,025.35	946,637,707	946,637,707

3.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	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
0.506750	0.059757	0.181621	0.139916	0.043076	0.006784	0.016217	0.034284	0.001953	0.002493	0.004353	0.000571	0.002225

4.0 Energy Detail

Historical Energy Use: N

4.1 Mitigation Measures Energy

Category	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
	lb/day										lb/day					
NaturalGas Mitigated	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
NaturalGas Unmitigated	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428

4.2 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	lb/day										lb/day					
Apartments Mid Rise	2.30454e+006	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
Total		24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428

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	lb/day										lb/day					
Apartments Mid Rise	2304.54	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
Total		24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428

5.0 Area Detail

5.1 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	lb/day										lb/day					
Mitigated	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548
Unmitigated	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548

5.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	150.2876					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1,388.6334					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	122.5265	5.5700e-003	6.6833	0.0000		84.6547	84.6547		83.7636	83.7636	0.0000	1,336,652.4706	1,336,652.4706	25.6192	24.5053	1,344,787.1148
Landscaping	175.6904	66.9354	5,798.6337	0.3055		31.9637	31.9637		31.9637	31.9637		10,418.4201	10,418.4201	10.0962		10,630.4400
Total	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	150.2876					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1,388.6334					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	122.5265	5.5700e-003	6.6833	0.0000		84.6547	84.6547		83.7636	83.7636	0.0000	1,336,652.4706	1,336,652.4706	25.6192	24.5053	1,344,787.1148
Landscaping	175.6904	66.9354	5,798.6337	0.3055		31.9637	31.9637		31.9637	31.9637		10,418.4201	10,418.4201	10.0962		10,630.4400
Total	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548

Riverside Housing Element Buildout South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	70,133.00	Dwelling Unit	1,845.61	70,133,000.00	226220

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	490.64	CH4 Intensity (lb/MWhr)	0.021	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Climate Zone 10 = majority of Riverside County. SCE's emission intensity factors used

Land Use - Population per Housing Element

Construction Phase - No construction this model

Vehicle Trips - Trip generation per Urban Crossroads, Inc.

Woodstoves - SCAQMD Rule 445

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	11.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	59,613.05	63,119.70
tblFireplaces	NumberWood	3,506.65	0.00
tblLandUse	Population	200,580.00	226,220.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.021
tblProjectCharacteristics	CO2IntensityFactor	630.89	490.64
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblProjectCharacteristics	OperationalYear	2014	2021
tblVehicleTrips	ST_TR	7.16	3.95
tblVehicleTrips	SU_TR	6.07	3.95
tblVehicleTrips	WD_TR	6.59	3.95
tblWoodstoves	NumberCatalytic	3,506.65	0.00
tblWoodstoves	NumberNoncatalytic	3,506.65	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Operational Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548
Energy	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
Mobile	804.8171	2,175.7752	8,859.8467	28.6900	2,008.4716	38.7846	2,047.2562	536.7111	35.7758	572.4869		2,197,743.9679	2,197,743.9679	76.5906		2,199,352.3706
Total	2,666.8079	2,455.0955	14,755.5378	30.3512	2,008.4716	172.5740	2,181.0456	536.7111	168.6741	705.3852	0.0000	3,815,937.3948	3,815,937.3948	117.5025	29.4759	3,827,542.4682

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548
Energy	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
Mobile	804.8171	2,175.7752	8,859.8467	28.6900	2,008.4716	38.7846	2,047.2562	536.7111	35.7758	572.4869		2,197,743.9679	2,197,743.9679	76.5906		2,199,352.3706
Total	2,666.8079	2,455.0955	14,755.5378	30.3512	2,008.4716	172.5740	2,181.0456	536.7111	168.6741	705.3852	0.0000	3,815,937.3948	3,815,937.3948	117.5025	29.4759	3,827,542.4682

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

3.0 Operational Detail - Mobile

3.1 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	lb/day										lb/day					
Mitigated	804.8171	2,175.7752	8,859.8467	28.6900	2,008.4716	38.7846	2,047.2562	536.7111	35.7758	572.4869		2,197,743.9679	2,197,743.9679	76.5906		2,199,352.3706
Unmitigated	804.8171	2,175.7752	8,859.8467	28.6900	2,008.4716	38.7846	2,047.2562	536.7111	35.7758	572.4869		2,197,743.9679	2,197,743.9679	76.5906		2,199,352.3706

3.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	277,025.35	277,025.35	277,025.35	946,637,707	946,637,707
Total	277,025.35	277,025.35	277,025.35	946,637,707	946,637,707

3.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	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
0.506750	0.059757	0.181621	0.139916	0.043076	0.006784	0.016217	0.034284	0.001953	0.002493	0.004353	0.000571	0.002225

4.0 Energy Detail

Historical Energy Use: N

4.1 Mitigation Measures Energy

Category	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
NaturalGas Mitigated	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
NaturalGas Unmitigated	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428

4.2 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	lb/day										lb/day					
Apartments Mid Rise	2.30454e+006	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
Total		24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428

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	lb/day										lb/day					
Apartments Mid Rise	2304.54	24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428
Total		24.8529	212.3793	90.3742	1.3556		17.1711	17.1711		17.1711	17.1711		271,122.5363	271,122.5363	5.1965	4.9706	272,772.5428

5.0 Area Detail

5.1 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	lb/day										lb/day					
Mitigated	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548
Unmitigated	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548

5.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	150.2876					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1,388.6334					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	122.5265	5.5700e-003	6.6833	0.0000		84.6547	84.6547		83.7636	83.7636	0.0000	1,336,652.4706	1,336,652.4706	25.6192	24.5053	1,344,787.1148
Landscaping	175.6904	66.9354	5,798.6337	0.3055		31.9637	31.9637		31.9637	31.9637		10,418.4201	10,418.4201	10.0962		10,630.4400
Total	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	150.2876					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1,388.6334					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	122.5265	5.5700e-003	6.6833	0.0000		84.6547	84.6547		83.7636	83.7636	0.0000	1,336,652.4706	1,336,652.4706	25.6192	24.5053	1,344,787.1148
Landscaping	175.6904	66.9354	5,798.6337	0.3055		31.9637	31.9637		31.9637	31.9637		10,418.4201	10,418.4201	10.0962		10,630.4400
Total	1,837.1379	66.9410	5,805.3170	0.3055		116.6183	116.6183		115.7272	115.7272	0.0000	1,347,070.8907	1,347,070.8907	35.7154	24.5053	1,355,417.5548

Riverside Housing Element Buildout South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	70,133.00	Dwelling Unit	1,845.61	70,133,000.00	226220

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	490.64	CH4 Intensity (lb/MW hr)	0.021	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Climate Zone 10 = majority of Riverside County. SCE's emission intensity factors used

Land Use - Population per Housing Element

Construction Phase - No construction this model

Vehicle Trips - Trip generation per Urban Crossroads, Inc.

Woodstoves - SCAQMD Rule 445

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	11.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	59,613.05	63,119.70
tblFireplaces	NumberWood	3,506.65	0.00
tblLandUse	Population	200,580.00	226,220.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.021
tblProjectCharacteristics	CO2IntensityFactor	630.89	490.64
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblProjectCharacteristics	OperationalYear	2014	2021
tblVehicleTrips	ST_TR	7.16	3.95
tblVehicleTrips	SU_TR	6.07	3.95
tblVehicleTrips	WD_TR	6.59	3.95
tblWoodstoves	NumberCatalytic	3,506.65	0.00
tblWoodstoves	NumberNoncatalytic	3,506.65	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 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	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010
Energy	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	105,054.2530	105,054.2530	3.4356	1.3135	105,533.5700
Mobile	139.4352	403.8869	1,627.5765	5.2812	358.8983	7.0388	365.9371	96.0507	6.4928	102.5435	0.0000	366,748.6517	366,748.6517	12.6218	0.0000	367,013.7090
Waste						0.0000	0.0000		0.0000	0.0000	6,548.7280	0.0000	6,548.7280	387.0187	0.0000	14,676.1215
Water						0.0000	0.0000		0.0000	0.0000	1,449.6748	20,364.2170	21,813.8918	149.7671	3.6818	26,100.3492
Total	448.3168	451.0131	2,368.9826	5.5668	358.8983	15.2262	374.1244	96.0507	14.6690	110.7197	7,998.4028	508,505.9347	516,504.3375	554.2786	5.2731	529,778.8506

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	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010
Energy	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	105,054.2530	105,054.2530	3.4356	1.3135	105,533.5700
Mobile	139.4352	403.8869	1,627.5765	5.2812	358.8983	7.0388	365.9371	96.0507	6.4928	102.5435	0.0000	366,748.6517	366,748.6517	12.6218	0.0000	367,013.7090
Waste						0.0000	0.0000		0.0000	0.0000	6,548.7280	0.0000	6,548.7280	387.0187	0.0000	14,676.1215
Water						0.0000	0.0000		0.0000	0.0000	1,449.6748	20,364.2170	21,813.8918	149.7475	3.6780	26,098.7745
Total	448.3168	451.0131	2,368.9826	5.5668	358.8983	15.2262	374.1244	96.0507	14.6690	110.7197	7,998.4028	508,505.9347	516,504.3375	554.2589	5.2694	529,777.2760

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00

3.0 Operational Detail - Mobile

3.1 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	139.4352	403.8869	1,627.5765	5.2812	358.8983	7.0388	365.9371	96.0507	6.4928	102.5435	0.0000	366,748.6517	366,748.6517	12.6218	0.0000	367,013.7090
Unmitigated	139.4352	403.8869	1,627.5765	5.2812	358.8983	7.0388	365.9371	96.0507	6.4928	102.5435	0.0000	366,748.6517	366,748.6517	12.6218	0.0000	367,013.7090

3.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	277,025.35	277,025.35	277,025.35	946,637,707	946,637,707
Total	277,025.35	277,025.35	277,025.35	946,637,707	946,637,707

3.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	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
0.506750	0.059757	0.181621	0.139916	0.043076	0.006784	0.016217	0.034284	0.001953	0.002493	0.004353	0.000571	0.002225

4.0 Energy Detail

Historical Energy Use: N

4.1 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						0.0000	0.0000		0.0000	0.0000	0.0000	60,166.8764	60,166.8764	2.5752	0.4905	60,373.0164
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	60,166.8764	60,166.8764	2.5752	0.4905	60,373.0164
NaturalGas Mitigated	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536
NaturalGas Unmitigated	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536

4.2 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					
Apartments Mid Rise	8.41158e+008	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536
Total		4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	8.41158e+008	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536
Total		4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536

4.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.70351e+008	60,166.8764	2.5752	0.4905	60,373.0164
Total		60,166.8764	2.5752	0.4905	60,373.0164

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.70351e+008	60,166.8764	2.5752	0.4905	60,373.0164
Total		60,166.8764	2.5752	0.4905	60,373.0164

5.0 Area Detail

5.1 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	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010
Unmitigated	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010

5.2 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	27.4275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	253.4256					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5316	7.0000e-005	0.0835	0.0000		1.0582	1.0582		1.0470	1.0470	0.0000	15,157.3841	15,157.3841	0.2905	0.2779	15,249.6294
Landscaping	21.9613	8.3669	724.8292	0.0382		3.9955	3.9955		3.9955	3.9955	0.0000	1,181.4290	1,181.4290	1.1449	0.0000	1,205.4716
Total	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010

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	27.4275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	253.4256					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5316	7.0000e-005	0.0835	0.0000		1.0582	1.0582		1.0470	1.0470	0.0000	15,157.3841	15,157.3841	0.2905	0.2779	15,249.6294
Landscaping	21.9613	8.3669	724.8292	0.0382		3.9955	3.9955		3.9955	3.9955	0.0000	1,181.4290	1,181.4290	1.1449	0.0000	1,205.4716
Total	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010

6.0 Water Detail

6.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	21,813.8918	149.7475	3.6780	26,098.7745
Unmitigated	21,813.8918	149.7671	3.6818	26,100.3492

6.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	4569.45 / 2880.74	21,813.8918	149.7671	3.6818	26,100.3492
Total		21,813.8918	149.7671	3.6818	26,100.3492

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	4569.45 / 2880.74	21,813.891	149.7475	3.6780	26,098.77
Total		21,813.891	149.7475	3.6780	26,098.77

7.0 Waste Detail

7.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	6,548.7280	387.0187	0.0000	14,676.1215
Mitigated	6,548.7280	387.0187	0.0000	14,676.1215

7.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	32261.2	6,548.7280	387.0187	0.0000	14,676.1215
Total		6,548.7280	387.0187	0.0000	14,676.1215

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	32261.2	6,548.7280	387.0187	0.0000	14,676.1215
Total		6,548.7280	387.0187	0.0000	14,676.1215

Riverside Housing Element Buildout South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	70,133.00	Dwelling Unit	1,845.61	70,133,000.00	226220

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	490.64	CH4 Intensity (lb/MW hr)	0.021	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Climate Zone 10 = majority of Riverside County. SCE's emission intensity factors used

Land Use - Population per Housing Element

Construction Phase - No construction this model

Vehicle Trips - Trip generation per Urban Crossroads, Inc.

Woodstoves - SCAQMD Rule 445

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	11.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	59,613.05	63,119.70
tblFireplaces	NumberWood	3,506.65	0.00
tblLandUse	Population	200,580.00	226,220.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.021
tblProjectCharacteristics	CO2IntensityFactor	630.89	490.64
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblProjectCharacteristics	OperationalYear	2014	2021
tblVehicleTrips	ST_TR	7.16	3.95
tblVehicleTrips	SU_TR	6.07	3.95
tblVehicleTrips	WD_TR	6.59	3.95
tblWoodstoves	NumberCatalytic	3,506.65	0.00
tblWoodstoves	NumberNoncatalytic	3,506.65	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 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	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010
Energy	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	105,054.2530	105,054.2530	3.4356	1.3135	105,533.5700
Mobile	139.4352	403.8869	1,627.5765	5.2812	358.8983	7.0388	365.9371	96.0507	6.4928	102.5435	0.0000	366,748.6517	366,748.6517	12.6218	0.0000	367,013.7090
Waste						0.0000	0.0000		0.0000	0.0000	6,548.7280	0.0000	6,548.7280	387.0187	0.0000	14,676.1215
Water						0.0000	0.0000		0.0000	0.0000	1,449.6748	20,364.2170	21,813.8918	149.7671	3.6818	26,100.3492
Total	448.3168	451.0131	2,368.9826	5.5668	358.8983	15.2262	374.1244	96.0507	14.6690	110.7197	7,998.4028	508,505.9347	516,504.3375	554.2786	5.2731	529,778.8506

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	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010
Energy	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	105,054.2530	105,054.2530	3.4356	1.3135	105,533.5700
Mobile	139.4352	403.8869	1,627.5765	5.2812	358.8983	7.0388	365.9371	96.0507	6.4928	102.5435	0.0000	366,748.6517	366,748.6517	12.6218	0.0000	367,013.7090
Waste						0.0000	0.0000		0.0000	0.0000	6,548.7280	0.0000	6,548.7280	387.0187	0.0000	14,676.1215
Water						0.0000	0.0000		0.0000	0.0000	1,449.6748	20,364.2170	21,813.8918	149.7475	3.6780	26,098.7745
Total	448.3168	451.0131	2,368.9826	5.5668	358.8983	15.2262	374.1244	96.0507	14.6690	110.7197	7,998.4028	508,505.9347	516,504.3375	554.2589	5.2694	529,777.2760

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00

3.0 Operational Detail - Mobile

3.1 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	139.4352	403.8869	1,627.5765	5.2812	358.8983	7.0388	365.9371	96.0507	6.4928	102.5435	0.0000	366,748.6517	366,748.6517	12.6218	0.0000	367,013.7090
Unmitigated	139.4352	403.8869	1,627.5765	5.2812	358.8983	7.0388	365.9371	96.0507	6.4928	102.5435	0.0000	366,748.6517	366,748.6517	12.6218	0.0000	367,013.7090

3.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	277,025.35	277,025.35	277,025.35	946,637,707	946,637,707
Total	277,025.35	277,025.35	277,025.35	946,637,707	946,637,707

3.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	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
0.506750	0.059757	0.181621	0.139916	0.043076	0.006784	0.016217	0.034284	0.001953	0.002493	0.004353	0.000571	0.002225

4.0 Energy Detail

Historical Energy Use: N

4.1 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							0.0000	0.0000		0.0000	0.0000	60,166.8764	60,166.8764	2.5752	0.4905	60,373.0164
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	60,166.8764	60,166.8764	2.5752	0.4905	60,373.0164
NaturalGas Mitigated	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536
NaturalGas Unmitigated	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536

4.2 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					
Apartments Mid Rise	8.41158e+008	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536
Total		4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	8.41158e+008	4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536
Total		4.5357	38.7592	16.4933	0.2474		3.1337	3.1337		3.1337	3.1337	0.0000	44,887.3765	44,887.3765	0.8603	0.8229	45,160.5536

4.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.70351e+008	60,166.8764	2.5752	0.4905	60,373.0164
Total		60,166.8764	2.5752	0.4905	60,373.0164

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.70351e+008	60,166.8764	2.5752	0.4905	60,373.0164
Total		60,166.8764	2.5752	0.4905	60,373.0164

5.0 Area Detail

5.1 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	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010
Unmitigated	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010

5.2 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	27.4275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	253.4256					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5316	7.0000e-005	0.0835	0.0000		1.0582	1.0582		1.0470	1.0470	0.0000	15,157.3841	15,157.3841	0.2905	0.2779	15,249.6294
Landscaping	21.9613	8.3669	724.8292	0.0382		3.9955	3.9955		3.9955	3.9955	0.0000	1,181.4290	1,181.4290	1.1449	0.0000	1,205.4716
Total	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010

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	27.4275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	253.4256					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5316	7.0000e-005	0.0835	0.0000		1.0582	1.0582		1.0470	1.0470	0.0000	15,157.3841	15,157.3841	0.2905	0.2779	15,249.6294
Landscaping	21.9613	8.3669	724.8292	0.0382		3.9955	3.9955		3.9955	3.9955	0.0000	1,181.4290	1,181.4290	1.1449	0.0000	1,205.4716
Total	304.3460	8.3670	724.9128	0.0382		5.0536	5.0536		5.0425	5.0425	0.0000	16,338.8130	16,338.8130	1.4354	0.2779	16,455.1010

6.0 Water Detail

6.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	21,813.8918	149.7475	3.6780	26,098.7745
Unmitigated	21,813.8918	149.7671	3.6818	26,100.3492

6.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	4569.45 / 2880.74	21,813.8918	149.7671	3.6818	26,100.3492
Total		21,813.8918	149.7671	3.6818	26,100.3492

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	4569.45 / 2880.74	21,813.891	149.7475	3.6780	26,098.77
Total		21,813.891	149.7475	3.6780	26,098.77

7.0 Waste Detail

7.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	6,548.7280	387.0187	0.0000	14,676.1215
Mitigated	6,548.7280	387.0187	0.0000	14,676.1215

7.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	32261.2	6,548.7280	387.0187	0.0000	14,676.1215
Total		6,548.7280	387.0187	0.0000	14,676.1215

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	32261.2	6,548.7280	387.0187	0.0000	14,676.1215
Total		6,548.7280	387.0187	0.0000	14,676.1215

