

APPENDIX 4.2-7

Air Quality and GHG Calculations Annual, Operational

Azusa TOD Operational South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	93.00	1000sqft	2.13	93,000.00	0
Hotel	150.00	Room	5.00	217,800.00	0
Apartments Mid Rise	840.00	Dwelling Unit	22.11	840,000.00	2915
Regional Shopping Center	226.00	1000sqft	5.19	226,000.00	0
Strip Mall	84.00	1000sqft	1.93	84,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2035
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2035 operational year

Land Use - 226,000 retail, 93,000 office, 84,000 services (assumed as strip mall), 150 room lodging (assumed as hotel), 840 units (assumed as apartments mid rise), 2,915 persons

Construction Phase - Operational only, ignore construction

Woodstoves - no stoves/fireplaces

Energy Use -

Energy Mitigation - assume 25% improvement over 2008 Title 24 due to compliance with 2013 Title 24 standards

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	714.00	0.00
tblFireplaces	NumberNoFireplace	84.00	0.00
tblFireplaces	NumberWood	42.00	0.00
tblLandUse	Population	2,402.00	2,915.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblWoodstoves	NumberCatalytic	42.00	0.00
tblWoodstoves	NumberNoncatalytic	42.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	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
Year	tons/yr										MT/yr					
2016	1.0995	6.6180	11.9373	0.0235	1.3354	0.3026	1.6380	0.3577	0.2834	0.6411	0.0000	1,916.489 1	1,916.489 1	0.1416	0.0000	1,919.461 9
2017	0.9917	6.0537	11.0443	0.0234	1.3303	0.2730	1.6033	0.3564	0.2556	0.6120	0.0000	1,855.371 6	1,855.371 6	0.1349	0.0000	1,858.203 7
2018	0.7437	4.5672	8.6675	0.0197	1.1205	0.1968	1.3173	0.3002	0.1844	0.4845	0.0000	1,519.656 0	1,519.656 0	0.1092	0.0000	1,521.948 5
Total	2.8350	17.2389	31.6492	0.0665	3.7862	0.7723	4.5585	1.0142	0.7233	1.7375	0.0000	5,291.516 7	5,291.516 7	0.3856	0.0000	5,299.614 1

Mitigated Construction

	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
Year	tons/yr										MT/yr					
2016	1.0995	6.6180	11.9373	0.0235	1.3354	0.3026	1.6380	0.3577	0.2834	0.6411	0.0000	1,916.488 7	1,916.488 7	0.1416	0.0000	1,919.461 5
2017	0.9917	6.0537	11.0443	0.0234	1.3303	0.2730	1.6033	0.3564	0.2556	0.6120	0.0000	1,855.371 2	1,855.371 2	0.1349	0.0000	1,858.203 3
2018	0.7437	4.5672	8.6675	0.0197	1.1205	0.1968	1.3173	0.3002	0.1844	0.4845	0.0000	1,519.655 7	1,519.655 7	0.1092	0.0000	1,521.948 2
Total	2.8350	17.2388	31.6491	0.0665	3.7862	0.7723	4.5585	1.0142	0.7233	1.7375	0.0000	5,291.515 6	5,291.515 6	0.3856	0.0000	5,299.613 0

	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

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	6.5852	0.0997	8.6392	4.6000e-004		0.0481	0.0481		0.0481	0.0481	0.0000	14.1640	14.1640	0.0135	0.0000	14.4476
Energy	0.0826	0.7268	0.4513	4.5100e-003		0.0571	0.0571		0.0571	0.0571	0.0000	3,931.5070	3,931.5070	0.1588	0.0446	3,948.6696
Mobile	6.6144	15.7255	71.7250	0.2976	19.3653	0.4227	19.7880	5.1861	0.3901	5.5762	0.0000	19,342.3971	19,342.3971	0.5069	0.0000	19,353.0418
Waste						0.0000	0.0000		0.0000	0.0000	178.7376	0.0000	178.7376	10.5631	0.0000	400.5625
Water						0.0000	0.0000		0.0000	0.0000	31.0992	553.2579	584.3571	3.2196	0.0807	676.9808
Total	13.2822	16.5519	80.8155	0.3026	19.3653	0.5279	19.8931	5.1861	0.4952	5.6813	209.8368	23,841.3259	24,051.1627	14.4619	0.1253	24,393.7023

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.5852	0.0997	8.6392	4.6000e-004		0.0481	0.0481		0.0481	0.0481	0.0000	14.1640	14.1640	0.0135	0.0000	14.4476
Energy	0.0654	0.5749	0.3566	3.5700e-003		0.0452	0.0452		0.0452	0.0452	0.0000	3,551.1107	3,551.1107	0.1459	0.0395	3,566.4134
Mobile	6.6144	15.7255	71.7250	0.2976	19.3653	0.4227	19.7880	5.1861	0.3901	5.5762	0.0000	19,342.3971	19,342.3971	0.5069	0.0000	19,353.0418
Waste						0.0000	0.0000		0.0000	0.0000	178.7376	0.0000	178.7376	10.5631	0.0000	400.5625
Water						0.0000	0.0000		0.0000	0.0000	31.0992	553.2579	584.3571	3.2190	0.0806	676.9312
Total	13.2649	16.4000	80.7208	0.3017	19.3653	0.5160	19.8812	5.1861	0.4833	5.6694	209.8368	23,460.9296	23,670.7664	14.4484	0.1200	24,011.3965

	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	0.13	0.92	0.12	0.31	0.00	2.26	0.06	0.00	2.41	0.21	0.00	1.60	1.58	0.09	4.19	1.57

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2016	11/1/2018	5	740	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	9	825.00	192.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0104	316.0104	0.0784	0.0000	317.6563
Total	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0104	316.0104	0.0784	0.0000	317.6563

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2223	2.2622	2.9161	5.4400e-003	0.1542	0.0358	0.1900	0.0440	0.0329	0.0769	0.0000	493.8433	493.8433	3.5800e-003	0.0000	493.9185
Worker	0.4328	0.6357	6.6061	0.0145	1.1812	0.0101	1.1913	0.3137	9.2500e-003	0.3229	0.0000	1,106.6354	1,106.6354	0.0596	0.0000	1,107.8871
Total	0.6550	2.8979	9.5222	0.0200	1.3354	0.0458	1.3812	0.3577	0.0422	0.3999	0.0000	1,600.4786	1,600.4786	0.0632	0.0000	1,601.8056

3.2 Building Construction - 2016**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0101	316.0101	0.0784	0.0000	317.6560
Total	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0101	316.0101	0.0784	0.0000	317.6560

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2223	2.2622	2.9161	5.4400e-003	0.1542	0.0358	0.1900	0.0440	0.0329	0.0769	0.0000	493.8433	493.8433	3.5800e-003	0.0000	493.9185
Worker	0.4328	0.6357	6.6061	0.0145	1.1812	0.0101	1.1913	0.3137	9.2500e-003	0.3229	0.0000	1,106.6354	1,106.6354	0.0596	0.0000	1,107.8871
Total	0.6550	2.8979	9.5222	0.0200	1.3354	0.0458	1.3812	0.3577	0.0422	0.3999	0.0000	1,600.4786	1,600.4786	0.0632	0.0000	1,601.8056

3.2 Building Construction - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3228	311.3228	0.0766	0.0000	312.9319
Total	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3228	311.3228	0.0766	0.0000	312.9319

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2024	2.0493	2.7527	5.4100e-003	0.1536	0.0318	0.1854	0.0439	0.0292	0.0731	0.0000	483.9787	483.9787	3.4500e-003	0.0000	484.0512
Worker	0.3860	0.5716	5.9348	0.0145	1.1767	9.6400e-003	1.1863	0.3125	8.8900e-003	0.3214	0.0000	1,060.0701	1,060.0701	0.0548	0.0000	1,061.2206
Total	0.5884	2.6210	8.6875	0.0199	1.3303	0.0414	1.3717	0.3564	0.0381	0.3945	0.0000	1,544.0488	1,544.0488	0.0582	0.0000	1,545.2718

3.2 Building Construction - 2017**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3225	311.3225	0.0766	0.0000	312.9315
Total	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3225	311.3225	0.0766	0.0000	312.9315

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2024	2.0493	2.7527	5.4100e-003	0.1536	0.0318	0.1854	0.0439	0.0292	0.0731	0.0000	483.9787	483.9787	3.4500e-003	0.0000	484.0512
Worker	0.3860	0.5716	5.9348	0.0145	1.1767	9.6400e-003	1.1863	0.3125	8.8900e-003	0.3214	0.0000	1,060.0701	1,060.0701	0.0548	0.0000	1,061.2206
Total	0.5884	2.6210	8.6875	0.0199	1.3303	0.0414	1.3717	0.3564	0.0381	0.3945	0.0000	1,544.0488	1,544.0488	0.0582	0.0000	1,545.2718

3.2 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2922	2.5471	1.9198	2.9400e-003		0.1636	0.1636		0.1538	0.1538	0.0000	259.2628	259.2628	0.0635	0.0000	260.5952
Total	0.2922	2.5471	1.9198	2.9400e-003		0.1636	0.1636		0.1538	0.1538	0.0000	259.2628	259.2628	0.0635	0.0000	260.5952

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1595	1.5834	2.2213	4.5500e-003	0.1294	0.0252	0.1546	0.0369	0.0232	0.0602	0.0000	400.8153	400.8153	2.8900e-003	0.0000	400.8759
Worker	0.2920	0.4367	4.5264	0.0122	0.9911	7.9000e-003	0.9990	0.2632	7.3100e-003	0.2705	0.0000	859.5779	859.5779	0.0428	0.0000	860.4774
Total	0.4515	2.0201	6.7477	0.0167	1.1205	0.0331	1.1537	0.3002	0.0305	0.3307	0.0000	1,260.3932	1,260.3932	0.0457	0.0000	1,261.3533

3.2 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2922	2.5471	1.9198	2.9400e-003		0.1636	0.1636		0.1538	0.1538	0.0000	259.2625	259.2625	0.0635	0.0000	260.5949
Total	0.2922	2.5471	1.9198	2.9400e-003		0.1636	0.1636		0.1538	0.1538	0.0000	259.2625	259.2625	0.0635	0.0000	260.5949

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1595	1.5834	2.2213	4.5500e-003	0.1294	0.0252	0.1546	0.0369	0.0232	0.0602	0.0000	400.8153	400.8153	2.8900e-003	0.0000	400.8759
Worker	0.2920	0.4367	4.5264	0.0122	0.9911	7.9000e-003	0.9990	0.2632	7.3100e-003	0.2705	0.0000	859.5779	859.5779	0.0428	0.0000	860.4774
Total	0.4515	2.0201	6.7477	0.0167	1.1205	0.0331	1.1537	0.3002	0.0305	0.3307	0.0000	1,260.3932	1,260.3932	0.0457	0.0000	1,261.3533

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	6.6144	15.7255	71.7250	0.2976	19.3653	0.4227	19.7880	5.1861	0.3901	5.5762	0.0000	19,342.3971	19,342.3971	0.5069	0.0000	19,353.0418
Unmitigated	6.6144	15.7255	71.7250	0.2976	19.3653	0.4227	19.7880	5.1861	0.3901	5.5762	0.0000	19,342.3971	19,342.3971	0.5069	0.0000	19,353.0418

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	5,535.60	6,014.40	5098.80	18,936,489	18,936,489
General Office Building	1,023.93	220.41	91.14	2,499,486	2,499,486
Hotel	1,225.50	1,228.50	892.50	2,811,762	2,811,762
Regional Shopping Center	9,704.44	11,293.22	5704.24	20,244,114	20,244,114
Strip Mall	3,722.88	3,531.36	1716.12	6,485,643	6,485,643
Total	21,212.35	22,287.89	13,502.80	50,977,493	50,977,493

4.3 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-W	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
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.474926	0.062601	0.188601	0.146937	0.045783	0.007301	0.017304	0.043806	0.002178	0.002600	0.003891	0.000533	0.003539

5.0 Energy Detail

5.1 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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 Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,113.6493	3,113.6493	0.1431	0.0296	3,125.8346
NaturalGas Mitigated	0.0654	0.5749	0.3566	3.5700e-003		0.0452	0.0452		0.0452	0.0452	0.0000	646.9635	646.9635	0.0124	0.0119	650.9008
NaturalGas Unmitigated	0.0826	0.7268	0.4513	4.5100e-003		0.0571	0.0571		0.0571	0.0571	0.0000	817.8577	817.8577	0.0157	0.0150	822.8350
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,904.1472	2,904.1472	0.1335	0.0276	2,915.5126

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					
Apartments Mid Rise	8.33323e+006	0.0449	0.3840	0.1634	2.4500e-003		0.0311	0.0311		0.0311	0.0311	0.0000	444.6928	444.6928	8.5200e-003	8.1500e-003	447.3991
General Office Building	1.01649e+006	5.4800e-003	0.0498	0.0419	3.0000e-004		3.7900e-003	3.7900e-003		3.7900e-003	3.7900e-003	0.0000	54.2438	54.2438	1.0400e-003	9.9000e-004	54.5739
Hotel	5.44936e+006	0.0294	0.2671	0.2244	1.6000e-003		0.0203	0.0203		0.0203	0.0203	0.0000	290.7984	290.7984	5.5700e-003	5.3300e-003	292.5681
Regional Shopping Center	384200	2.0700e-003	0.0188	0.0158	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	20.5024	20.5024	3.9000e-004	3.8000e-004	20.6272
Strip Mall	142800	7.7000e-004	7.0000e-003	5.8800e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6204	7.6204	1.5000e-004	1.4000e-004	7.6667
Total		0.0826	0.7268	0.4514	4.5000e-003		0.0571	0.0571		0.0571	0.0571	0.0000	817.8577	817.8577	0.0157	0.0150	822.8351

5.2 Energy by Land Use - NaturalGas

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					
General Office Building	771435	4.1600e-003	0.0378	0.0318	2.3000e-004		2.8700e-003	2.8700e-003		2.8700e-003	2.8700e-003	0.0000	41.1667	41.1667	7.9000e-004	7.5000e-004	41.4172
Hotel	4.30808e+006	0.0232	0.2112	0.1774	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	229.8958	229.8958	4.4100e-003	4.2100e-003	231.2949
Regional Shopping Center	315835	1.7000e-003	0.0155	0.0130	9.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	16.8542	16.8542	3.2000e-004	3.1000e-004	16.9567
Strip Mall	117390	6.3000e-004	5.7500e-003	4.8300e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	6.2644	6.2644	1.2000e-004	1.1000e-004	6.3025
Apartments Mid Rise	6.61089e+006	0.0357	0.3046	0.1296	1.9400e-003		0.0246	0.0246		0.0246	0.0246	0.0000	352.7825	352.7825	6.7600e-003	6.4700e-003	354.9295
Total		0.0654	0.5749	0.3566	3.5600e-003		0.0452	0.0452		0.0452	0.0452	0.0000	646.9635	646.9635	0.0124	0.0119	650.9008

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.97525e+006	851.4170	0.0391	8.1000e-003	854.7491
General Office Building	1.35129e+006	386.6945	0.0178	3.6800e-003	388.2078
Hotel	1.8513e+006	529.7808	0.0244	5.0400e-003	531.8541
Regional Shopping Center	3.42842e+006	981.1003	0.0451	9.3300e-003	984.9398
Strip Mall	1.27428e+006	364.6567	0.0168	3.4700e-003	366.0838
Total		3,113.6493	0.1431	0.0296	3,125.8346

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.92345e+006	836.5940	0.0385	7.9600e-003	839.8680
General Office Building	1.22063e+006	349.3025	0.0161	3.3200e-003	350.6695
Hotel	1.68142e+006	481.1656	0.0221	4.5800e-003	483.0486
Regional Shopping Center	3.15157e+006	901.8750	0.0415	8.5800e-003	905.4045
Strip Mall	1.17138e+006	335.2102	0.0154	3.1900e-003	336.5220
Total		2,904.1472	0.1335	0.0276	2,915.5126

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	6.5852	0.0997	8.6392	4.6000e-004		0.0481	0.0481		0.0481	0.0481	0.0000	14.1640	14.1640	0.0135	0.0000	14.4476
Unmitigated	6.5852	0.0997	8.6392	4.6000e-004		0.0481	0.0481		0.0481	0.0481	0.0000	14.1640	14.1640	0.0135	0.0000	14.4476

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	1.0479					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.2786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2587	0.0997	8.6392	4.6000e-004		0.0481	0.0481		0.0481	0.0481	0.0000	14.1640	14.1640	0.0135	0.0000	14.4476
Total	6.5852	0.0997	8.6392	4.6000e-004		0.0481	0.0481		0.0481	0.0481	0.0000	14.1640	14.1640	0.0135	0.0000	14.4476

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0479					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.2786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2587	0.0997	8.6392	4.6000e-004		0.0481	0.0481		0.0481	0.0481	0.0000	14.1640	14.1640	0.0135	0.0000	14.4476
Total	6.5852	0.0997	8.6392	4.6000e-004		0.0481	0.0481		0.0481	0.0481	0.0000	14.1640	14.1640	0.0135	0.0000	14.4476

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	584.3571	3.2190	0.0806	676.9312
Unmitigated	584.3571	3.2196	0.0807	676.9808

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	54.7294 / 34.5033	330.9914	1.7978	0.0451	382.7231
General Office Building	16.5292 / 10.1308	99.0439	0.5429	0.0136	114.6642
Hotel	3.80502 / 0.422779	16.7295	0.1247	3.0800e-003	20.3015
Regional Shopping Center	16.7404 / 10.2602	100.3092	0.5499	0.0138	116.1290
Strip Mall	6.22209 / 3.81354	37.2831	0.2044	5.1200e-003	43.1630
Total		584.3571	3.2196	0.0807	676.9808

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	54.7294 / 34.5033	330.9914	1.7975	0.0450	382.6954
General Office Building	16.5292 / 10.1308	99.0439	0.5428	0.0136	114.6558
Hotel	3.80502 / 0.422779	16.7295	0.1247	3.0700e-003	20.2996
Regional Shopping Center	16.7404 / 10.2602	100.3092	0.5498	0.0138	116.1205
Strip Mall	6.22209 / 3.81354	37.2831	0.2043	5.1200e-003	43.1598
Total		584.3571	3.2190	0.0806	676.9312

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	178.7376	10.5631	0.0000	400.5625
Unmitigated	178.7376	10.5631	0.0000	400.5625

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	386.4	78.4357	4.6354	0.0000	175.7795
General Office Building	86.49	17.5567	1.0376	0.0000	39.3457
Hotel	82.13	16.6717	0.9853	0.0000	37.3622
Regional Shopping Center	237.3	48.1698	2.8468	0.0000	107.9515
Strip Mall	88.2	17.9038	1.0581	0.0000	40.1236
Total		178.7376	10.5631	0.0000	400.5625

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	386.4	78.4357	4.6354	0.0000	175.7795
General Office Building	86.49	17.5567	1.0376	0.0000	39.3457
Hotel	82.13	16.6717	0.9853	0.0000	37.3622
Regional Shopping Center	237.3	48.1698	2.8468	0.0000	107.9515
Strip Mall	88.2	17.9038	1.0581	0.0000	40.1236
Total		178.7376	10.5631	0.0000	400.5625

9.0 Operational Offroad

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