

# **Appendix F**

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**Air Quality Modeling and  
Greenhouse Gas Calculations**

**CO Conformity Mobile Source Emissions Modeling Results**

Alternative 1 Vehicle Activity Data	El Dorado County		Placer County	
	VMT	Daily Trips	VMT	Daily Trips
2010	760,129	131,050	428,545	46,864
2018 (interpolated)	804,354	132,617	452,395	49,038
2020	815,410	133,009	458,357	49,582
2026 (interpolated)	819,544	134,857	464,484	50,792
2035	825,745	137,629	473,675	52,606

EMFAC 2011	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	7.95	19	4.35	11
2018	3.32	10	1.86	11
2026	1.76	-	1.05	-

EMFAC 2007	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	6.84	19	3.25	11
2018	3.15	10	1.48	11
2026	1.62	-	0.82	-

**CO Conformity Mobile Source Emissions Modeling Results**

Alternative 2 Vehicle Activity Data	El Dorado County		Placer County	
	VMT	Daily Trips	VMT	Daily Trips
2010	760,129	131,050	428,545	46,864
2018 (interpolated)	784,549	134,868	443,752	50,638
2020	790,654	135,823	447,554	51,581
2026 (interpolated)	812,462	138,813	458,837	53,502
2035	845,175	143,298	475,762	56,384

EMFAC 2011	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	7.95	19	4.35	11
2018	3.23	10	1.82	11
2026	1.75	-	1.04	-

EMFAC 2007	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	6.84	19	3.25	11
2018	3.11	10	1.46	11
2026	1.62	-	0.82	-

**CO Conformity Mobile Source Emissions Modeling Results**

Alternative 3 Vehicle Activity Data	El Dorado County		Placer County	
	VMT	Daily Trips	VMT	Daily Trips
2010	760,129	131,050	428,545	46,864
2018 (interpolated)	793,012	136,891	447,963	48,114
2020	801,233	138,351	452,818	48,427
2026 (interpolated)	818,631	141,077	464,386	52,473
2035	844,728	145,167	481,739	58,542

EMFAC 2011	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	7.95	19	4.35	11
2018	3.27	10	1.84	11
2026	1.76	-	1.05	-

EMFAC 2007	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	6.84	19	3.25	11
2018	3.15	10	1.46	11
2026	1.63	-	0.82	-

**CO Conformity Mobile Source Emissions Modeling Results**

Alternative 4 Vehicle Activity Data	El Dorado County		Placer County	
	VMT	Daily Trips	VMT	Daily Trips
2010	760,129	131,050	428,545	46,864
2018 (interpolated)	804,354	136,939	452,395	49,707
2020	815,410	138,411	458,357	50,418
2026 (interpolated)	841,554	142,531	476,448	54,046
2035	880,770	148,710	503,585	59,487

EMFAC 2011	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	7.95	19	4.35	11
2018	3.32	10	1.86	11
2026	1.81	-	1.08	-

EMFAC 2007	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	6.84	19	3.25	11
2018	3.18	10	1.48	11
2026	1.67	-	0.84	-

**CO Conformity Mobile Source Emissions Modeling Results**

Alternative 5 Vehicle Activity Data	El Dorado County		Placer County	
	VMT	Daily Trips	VMT	Daily Trips
2010	760,129	131,050	428,545	46,864
2018 (interpolated)	812,027	138,223	456,019	49,762
2020	825,001	140,016	462,887	50,487
2026 (interpolated)	853,383	143,469	482,494	54,499
2035	895,956	148,648	511,904	60,516

EMFAC 2011	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	7.95	19	4.35	11
2018	3.35	10	1.87	11
2026	1.84	-	1.09	-

EMFAC 2007	El Dorado County		Placer County	
	Total CO (TPD)	Emissions Budget	Total CO (TPD)	Emissions Budget
2010	6.84	19	3.25	11
2018	3.21	10	1.49	11
2026	1.69	-	0.85	-

## RPU Emissions Modeling Summary (Year 2035)

### Alternative 1

Remaining 1987 Regional Plan Allocations

Residential	874 bonus units
CFA	383,600 sf
TAUs	342
population	1,214

Net Change from 2010	TPY					MT/yr
	ROG	NOX	CO	PM10	PM2.5	CO2e
Area Sources	14.55	0.28	19.89	1.83	1.83	643.95
Mobile Sources	(399.13)	(636.52)	(4,578.56)	(6.21)	(7.30)	30,443.48
Waterborne Transit	3.57	26.89	26.79	0.71	0.71	3,168.13
Energy	0.23	2.00	1.23	0.16	0.16	11,926.80
Solid Waste	-	-	-	-	-	415.92
Water Consumption	-	-	-	-	-	774.44
<b>Total</b>	<b>(380.78)</b>	<b>(607.35)</b>	<b>(4,530.65)</b>	<b>(3.51)</b>	<b>(4.60)</b>	<b>47,372.72</b>
GHG/capita						39.02

Source: CalEEMod 2012 and EMFAC 2011 output based on inputs from Fehr & Peers 2012 and Ascent Environmental 2012.

## RPU Emissions Modeling Summary (Year 2035)

### Alternative 2

Remaining 1987 Regional Plan Allocations + Alternative 2 allocations

Residential	3,474	=874 bonus units from 1987 RP + 2,600 new allocations
CFA	583,600	=383,600 sf remaining under 1987 RP + 200,000 new sf CFA
TAUs	342	=342 remaining from 1987 RP
population	3,340	=57,813 in 2035 -54,473 in 2010

Net Change from 2010	TPY					MT/yr
	ROG	NOX	CO	PM10	PM2.5	CO2e
Area Sources	45.59	1.11	78.95	7.25	7.25	2,557.74
Mobile Sources	(400.44)	(638.68)	(4,588.93)	(6.61)	(7.41)	26,656.42
Energy	0.62	5.41	2.76	0.43	0.43	28,951.22
Solid Waste	-	-	-	-	-	795.51
Water Consumption	-	-	-	-	-	1,979.32
<b>Total</b>	<b>(354.23)</b>	<b>(632.16)</b>	<b>(4,507.22)</b>	<b>1.07</b>	<b>0.27</b>	<b>60,940.21</b>
GHG/capita						18.25

Net Change from Alternative 1	ROG	NOX	CO	PM10	PM2.5	CO2e
Area Sources	31.04	0.83	59.06	5.42	5.42	1,913.79
Mobile Sources	(1.31)	(2.15)	(10.37)	(0.40)	(0.11)	(3,787.06)
Waterborne Transit	(3.57)	(26.89)	(26.79)	(0.71)	(0.71)	(3,168.13)
Energy	0.39	3.41	1.53	0.27	0.27	17,024.42
Solid Waste	-	-	-	-	-	379.59
Water Consumption	-	-	-	-	-	1,204.88
<b>Total</b>	<b>26.54</b>	<b>-24.80</b>	<b>23.43</b>	<b>4.58</b>	<b>4.87</b>	<b>13,567.49</b>
GHG/capita						(20.78)

Source: CalEEMod 2012 and EMFAC 2011 output based on inputs from Fehr & Peers 2012 and Ascent Environmental 2012.



## RPU Emissions Modeling Summary (Year 2035)

### Alternative 3

Remaining 1987 Regional Plan Allocations + Alternative 3 allocations

Residential 4,074 =874 bonus units from 1987 RP + 2,600 new allocations + 600 new bonus units

CFA 583,600 =383,600 sf remaining under 1987 RP + 200,000 new sf CFA

TAUs 342 =342 remaining from 1987 RP

population 5,892 =60,365 in 2035 - 54,473 in 2010

Net Change from 2010	TPY					MT/yr
	ROG	NOX	CO	PM10	PM2.5	CO2e
Area Sources	52.52	1.31	92.64	8.51	8.51	3,000.45
Mobile Sources	(398.07)	(634.88)	(4,570.13)	(5.91)	(7.08)	33,610.29
Waterborne Transit	3.57	26.89	26.79	0.71	0.71	3,168.13
Energy	0.71	6.15	3.08	0.49	0.49	32,454.92
Solid Waste	-	-	-	-	-	1,149.60
Water Consumption	-	-	-	-	-	2,209.41
<b>Total</b>	<b>(341.27)</b>	<b>(600.53)</b>	<b>(4,447.62)</b>	<b>3.80</b>	<b>2.63</b>	<b>75,592.80</b>
GHG/capita						12.83

Net Change from Alternative 1	ROG	NOX	CO	PM10	PM2.5	CO2e
Area Sources	37.97	1.03	72.75	6.68	6.68	2,356.50
Mobile Sources	1.06	1.64	8.43	0.29	0.22	3,166.80
Waterborne Transit	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.48	4.15	1.85	0.33	0.33	20,528.12
Solid Waste	-	-	-	-	-	733.68
Water Consumption	-	-	-	-	-	1,434.97
<b>Total</b>	<b>39.51</b>	<b>6.82</b>	<b>83.03</b>	<b>7.30</b>	<b>7.23</b>	<b>28,220.07</b>
GHG/capita						(26.19)

Source: CalEEMod 2012 and EMFAC 2011 output based on inputs from Fehr & Peers 2012 and Ascent Environmental 2012.

## RPU Emissions Modeling Summary (Year 2035)

### Alternative 4

Remaining 1987 Regional Plan Allocations + Alternative 4 allocations

Residential 4,874 =874 bonus units from 1987 RP + 4,000 new allocations

CFA 783,600 =383,600 sf remaining under 1987 RP + 400,000 new sf CFA

TAUs 542 =342 remaining from 1987 RP + 200 new TAUs

population 5,300 =59,773 in 2035 - 54,473 in 2010

Net Change from 2010	TPY					MT/yr
	ROG	NOX	CO	PM10	PM2.5	CO2e
Area Sources	64.24	1.56	110.83	10.18	10.18	3,589.57
Mobile Sources	(393.36)	(627.36)	(4,532.10)	(4.38)	(6.31)	47,498.33
Waterborne Transit	3.57	26.89	26.79	0.71	0.71	3,168.13
Energy	0.88	7.64	3.93	0.61	0.61	40,892.60
Solid Waste	-	-	-	-	-	1,201.89
Water Consumption	-	-	-	-	-	2,747.81
<b>Total</b>	<b>(324.67)</b>	<b>(591.27)</b>	<b>(4,390.55)</b>	<b>7.12</b>	<b>5.19</b>	<b>99,098.33</b>
GHG/capita						18.70

Net Change from Alternative 1	ROG	NOX	CO	PM10	PM2.5	CO2e
Area Sources	49.69	1.28	90.94	8.35	8.35	2,945.62
Mobile Sources	5.77	9.16	46.46	1.83	0.99	17,054.85
Waterborne Transit	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.65	5.64	2.7	0.45	0.45	28,965.80
Solid Waste	-	-	-	-	-	785.97
Water Consumption	-	-	-	-	-	1,973.37
<b>Total</b>	<b>56.11</b>	<b>16.08</b>	<b>140.10</b>	<b>10.63</b>	<b>9.79</b>	<b>51,725.61</b>
GHG/capita						(20.32)

Source: CalEEMod 2012 and EMFAC 2011 output based on inputs from Fehr & Peers 2012 and Ascent Environmental 2012.

## RPU Emissions Modeling Summary (Year 2035)

### Alternative 5

Remaining 1987 Regional Plan Allocations + Alternative 5 allocations

Residential	4,965	=874 bonus units from 1987 RP + 4,091 new allocations
CFA	983,600	=383,600 sf remaining under 1987 RP + 600,000 new sf CFA
TAUs	742	=342 remaining from 1987 RP + 400 new TAUs
population	5,479	

Net Change from 2010	TPY					MT/yr
	ROG	NOX	CO	PM10	PM2.5	CO2e
Area Sources	67.78	1.59	112.89	10.37	10.37	3,656.49
Mobile Sources	(390.08)	(621.67)	(4,503.11)	(3.25)	(5.84)	58,103.28
Waterborne Transit	3.57	26.89	26.79	0.71	0.71	3,168.13
Energy	0.95	8.27	4.41	0.66	0.66	61,160.48
Solid Waste	-	-	-	-	-	1,336.32
Water Consumption	-	-	-	-	-	3,014.32
<b>Total</b>	<b>(317.78)</b>	<b>(584.92)</b>	<b>(4,359.02)</b>	<b>8.49</b>	<b>5.90</b>	<b>130,439.02</b>
GHG/capita						23.81

Net Change from Alternative 1	ROG	NOX	CO	PM10	PM2.5	CO2e
Area Sources	53.23	1.31	93.00	8.54	8.54	3,012.54
Mobile Sources	9.05	14.86	75.45	2.96	1.46	27,659.80
Waterborne Transit	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.72	6.27	3.18	0.5	0.5	49,233.68
Solid Waste	-	-	-	-	-	920.40
Water Consumption	-	-	-	-	-	2,239.88
<b>Total</b>	<b>63.00</b>	<b>22.44</b>	<b>171.63</b>	<b>12.00</b>	<b>10.50</b>	<b>83,066.30</b>
GHG/capita						(15.21)

Source: CalEEMod 2012 and EMFAC 2011 output based on inputs from Fehr & Peers 2012 and Ascent Environmental 2012.

**Total Basinwide SCS Mobile Source Emissions Modeling Results**

**Alternative 1**

Vehicle Activity Data	Resident Population	Daily Trips	VMT	VMT per Capita
2010	54,473	198,340	1,459,299	26.79
2035	55,687	205,155	1,570,454	28.20
Net change from 2010	1,214	6,815	111,155	
% change from 2010	2.23%	3.44%	7.62%	5.27%

<b>EMFAC 2011 Output</b>	Total CO2	Conversion to CO2e	CO2e (TPD)	CO2e (MT/yr)	GHG/capita (pounds/day)	GHG/capita (MT/yr)
2010	872.01 TPD	1.05	918	303,877	33.70	5.58
2035	959.37 TPD	1.05	1,010	334,320	36.27	6.00
% change from 2010			10.0%	10.0%	7.6%	7.6%
Net change				30,443		

<b>EMFAC 2011 Output</b>	ROG	NOX	CO	PM10	PM2.5
<b>Pollutant (TPD)</b>					
2010	1.39	2.24	15.04	0.11	0.06
2035	0.30	0.49	2.50	0.10	0.04
% reduction	-78.7%	-78.0%	-83.4%	-14.9%	-32.1%
<b>Pollutant (TPY)</b>					
2010	507.28	815.85	5490.44	41.54	22.74
2035	108.15	179.32	911.88	35.33	15.44
Waterborne Transit Emissions	3.57	26.89	26.79	0.71	0.71
Total 2035 Emissions	111.72	206.21	938.67	36.04	16.15
net change	-395.56	-609.63	-4551.77	-5.50	-6.59

**Total Basinwide SCS Mobile Source Emissions Modeling Results**

**Alternative 2**

Vehicle Activity Data	Resident Population	Daily Trips	VMT	VMT per Capita
2010	54,473	198,340	1,459,299	26.79
2035	57,813	210,940	1,552,670	26.86
Net change from 2010	3,340	12,600	93,371	
% change from 2010	6.13%	6.35%	6.40%	0.25%

EMFAC 2011	Total CO2	Conversion to CO2e	Conversion to		GHG/capita (pounds/day)	GHG/capita (MT/yr)
			CO2e (TPD)	CO2e (MT/yr)		
2010	872.01 TPD	1.05	918	303,877	33.70	5.58
2035	948.50 TPD	1.05	998	330,533	34.54	5.72
% change from 2010			8.8%	8.8%	2.5%	2.5%
Net change				26,656		

EMFAC 2011	Pollutant (TPD)	ROG	NOX	CO	PM10	PM2.5
		2010	1.39	2.24	15.04	0.11
2035	0.29	0.49	2.47	0.10	0.04	
% reduction	-78.9%	-78.3%	-83.6%	-15.9%	-32.6%	

  

Pollutant (TPY)	ROG	NOX	CO	PM10	PM2.5
	2010	507.28	815.85	5490.44	41.54
2035	106.84	177.17	901.51	34.93	15.33
net change	-400.44	-638.68	-4588.93	-6.61	-7.41

**Total Basinwide SCS Mobile Source Emissions Modeling Results**

**Alternative 3**

Vehicle Activity Data	Resident Population	Daily Trips	VMT	VMT per Capita
2010	54,473	198,340	1,459,299	26.79
2035	60,365	215,406	1,585,335	26.26
Net change from 2010	5,892	17,066	126,036	
% change from 2010	10.82%	8.60%	8.64%	-1.97%

<b>EMFAC 2011</b>	Total CO2	Conversion to CO2e	CO2e (TPD)	CO2e (MT/yr)	GHG/capita (pounds/day)	GHG/capita (MT/yr)
2010	872.01 TPD	1.05	918	303,877	33.70	5.58
2035	968.46 TPD	1.05	1,019	337,487	33.78	5.59
% change from 2010			11.1%	11.1%	0.2%	0.2%
Net change				33,610		

<b>EMFAC 2011</b>	ROG	NOX	CO	PM10	PM2.5
<b>Pollutant (TPD)</b>					
2010	1.39	2.24	15.04	0.11	0.06
2035	0.30	0.50	2.52	0.10	0.04
% reduction	-78.5%	-77.8%	-83.2%	-14.2%	-31.1%
<b>Pollutant (TPY)</b>					
2010	507.28	815.85	5490.44	41.54	22.74
2035	109.21	180.97	920.31	35.62	15.66
Waterborne Transit Emissions	3.57	26.89	26.79	0.71	0.71
Total 2035 Emissions	112.78	207.86	947.10	36.33	16.37
net change	-394.50	-607.99	-4543.34	-5.20	-6.37

**Total Basinwide SCS Mobile Source Emissions Modeling Results**

**Alternative 4**

Vehicle Activity Data	Resident Population	Daily Trips	VMT	VMT per Capita
2010	54,473	198,340	1,459,299	26.79
2035	59,773	217,392	1,650,574	27.61
Net change from 2010	5,300	19,052	191,275	
% change from 2010	9.73%	9.61%	13.11%	3.08%

EMFAC 2011	Total CO2	Conversion to CO2e	CO2e		GHG/capita	GHG/capita
			CO2e (TPD)	CO2e (MT/yr)	(pounds/day)	(MT/yr)
2010	872.01 TPD	1.05	918	303,877	33.70	5.58
2035	1,008.31 TPD	1.05	1,061	351,375	35.51	5.88
% change from 2010			15.6%	15.6%	5.4%	5.4%
Net change				47,498		

EMFAC 2011	Pollutant (TPD)	ROG	NOX	CO	PM10	PM2.5
		2010	1.39	2.24	15.04	0.11
2035	0.31	0.52	2.63	0.10	0.05	
% reduction		-77.5%	-76.9%	-82.5%	-10.5%	-27.8%

  

EMFAC 2011	Pollutant (TPY)	ROG	NOX	CO	PM10	PM2.5
		2010	507.28	815.85	5490.44	41.54
2035	113.92	188.49	958.34	37.16	16.43	
Waterborne Transit Emissions		3.57	26.89	26.79	0.71	0.71
Total 2035 Emissions		117.49	215.38	985.13	37.87	17.14
net change		-389.79	-600.47	-4505.31	-3.67	-5.60

**Total Basinwide SCS Mobile Source Emissions Modeling Results**

**Alternative 5**

Vehicle Activity Data	Resident Population	Daily Trips	VMT	VMT per Capita
2010	54,473	198,340	1,459,299	26.79
2035	59,952	220,770	1,700,389	28.36
Net change from 2010	5,479	22,430	241,090	
% change from 2010	10.06%	11.31%	16.52%	5.87%

EMFAC 2011	Total CO2	Conversion to			GHG/capita (pounds/day)	GHG/capita (MT/yr)
		CO2e	CO2e (TPD)	CO2e (MT/yr)		
2010	872.01 TPD	1.05	918	303,877	33.70	5.58
2035	1,038.74 TPD	1.05	1,093	361,980	36.48	6.04
% change from 2010			19.1%	19.1%	8.2%	8.2%
Net change				58,103		

EMFAC 2011	ROG	NOX	CO	PM10	PM2.5
Pollutant (TPD)					
2010	1.39	2.24	15.04	0.11	0.06
2035	0.32	0.53	2.71	0.10	0.05
% reduction	-76.9%	-76.2%	-82.0%	-7.8%	-25.7%
Pollutant (TPY)					
2010	507.28	815.85	5490.44	41.54	22.74
2035	117.20	194.18	987.33	38.29	16.90
Waterborne Transit Emissions	3.57	26.89	26.79	0.71	0.71
Total 2035 Emissions	120.77	221.07	1014.12	39.00	17.61
net change	-386.51	-594.78	-4476.32	-2.54	-5.13



**RPU Alt 1**  
**Lake Tahoe Air Basin, Annual**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric
General Office Building	383.6	1000sqft
Hotel	342	Room
Single Family Housing	874	Dwelling Unit

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>		<b>Utility Company</b>	Sierra Pacific Resources
<b>Climate Zone</b>	14		2.7		
		<b>Precipitation Freq (Days)</b>			

**1.3 User Entered Comments**

Project Characteristics -

Land Use - Alt 1 population from TRPA travel demand model.

Construction Phase - placeholder for construction

Vehicle Trips - placeholder for vehicle emissions. Modeling conducted outside of CalEEMod.

Landscape Equipment - It was assumed that, on average, 72 days per year receive measureable snowfall. This is a conservative assumption, because not all precipitation days would be in the form of snowfall.

Waste Mitigation -

Woodstoves - See Woodstove Calculations Sheet for more detail

## 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	14.55	0.28	19.89	0.04		0.00	1.83		0.00	1.83	234.48	383.91	618.39	1.12	0.01	643.95
Energy	0.23	2.00	1.23	0.01		0.00	0.16		0.00	0.16	0.00	11,886.27	11,886.27	0.24	0.11	11,926.80
Mobile	5.74	9.94	48.30	0.20	17.00	0.73	17.72	0.31	0.71	1.02	0.00	13,486.58	13,486.58	0.40	0.00	13,494.98
Waste						0.00	0.00		0.00	0.00	185.59	0.00	185.59	10.97	0.00	415.92
Water						0.00	0.00		0.00	0.00	0.00	655.45	655.45	4.10	0.11	774.44
<b>Total</b>	<b>20.52</b>	<b>12.22</b>	<b>69.42</b>	<b>0.25</b>	<b>17.00</b>	<b>0.73</b>	<b>19.71</b>	<b>0.31</b>	<b>0.71</b>	<b>3.01</b>	<b>420.07</b>	<b>26,412.21</b>	<b>26,832.28</b>	<b>16.83</b>	<b>0.23</b>	<b>27,256.09</b>

#### 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	14.55	0.28	19.89	0.04		0.00	1.83		0.00	1.83	234.48	383.91	618.39	1.12	0.01	643.95
Energy	0.23	2.00	1.23	0.01		0.00	0.16		0.00	0.16	0.00	11,886.27	11,886.27	0.24	0.11	11,926.80
Mobile	5.74	9.94	48.30	0.20	17.00	0.73	17.72	0.31	0.71	1.02	0.00	13,486.58	13,486.58	0.40	0.00	13,494.98
Waste						0.00	0.00		0.00	0.00	185.59	0.00	185.59	10.97	0.00	415.92
Water						0.00	0.00		0.00	0.00	0.00	655.45	655.45	4.10	0.11	774.44
<b>Total</b>	<b>20.52</b>	<b>12.22</b>	<b>69.42</b>	<b>0.25</b>	<b>17.00</b>	<b>0.73</b>	<b>19.71</b>	<b>0.31</b>	<b>0.71</b>	<b>3.01</b>	<b>420.07</b>	<b>26,412.21</b>	<b>26,832.28</b>	<b>16.83</b>	<b>0.23</b>	<b>27,256.09</b>

## 5.0 Energy Detail

### 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						0.00	0.00		0.00	0.00	0.00	9,637.81	9,637.81	0.19	0.07	9,664.65
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	9,637.81	9,637.81	0.19	0.07	9,664.65
NaturalGas Mitigated	0.23	2.00	1.23	0.01		0.00	0.16		0.00	0.16	0.00	2,248.47	2,248.47	0.04	0.04	2,262.15
NaturalGas Unmitigated	0.23	2.00	1.23	0.01		0.00	0.16		0.00	0.16	0.00	2,248.47	2,248.47	0.04	0.04	2,262.15
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 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	tons/yr										MT/yr					
General Office Building	7.88682e+006	0.04	0.39	0.32	0.00		0.00	0.03		0.00	0.03	0.00	420.87	420.87	0.01	0.01	423.43
Hotel	1.08504e+007	0.06	0.53	0.45	0.00		0.00	0.04		0.00	0.04	0.00	579.02	579.02	0.01	0.01	582.54
Single Family Housing	2.33975e+007	0.13	1.08	0.46	0.01		0.00	0.09		0.00	0.09	0.00	1,248.58	1,248.58	0.02	0.02	1,256.18
<b>Total</b>		<b>0.23</b>	<b>2.00</b>	<b>1.23</b>	<b>0.01</b>		<b>0.00</b>	<b>0.16</b>		<b>0.00</b>	<b>0.16</b>	<b>0.00</b>	<b>2,248.47</b>	<b>2,248.47</b>	<b>0.04</b>	<b>0.04</b>	<b>2,262.15</b>

#### 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	tons/yr										MT/yr					
General Office Building	7.88682e+006	0.04	0.39	0.32	0.00		0.00	0.03		0.00	0.03	0.00	420.87	420.87	0.01	0.01	423.43
Hotel	1.08504e+007	0.06	0.53	0.45	0.00		0.00	0.04		0.00	0.04	0.00	579.02	579.02	0.01	0.01	582.54
Single Family Housing	2.33975e+007	0.13	1.08	0.46	0.01		0.00	0.09		0.00	0.09	0.00	1,248.58	1,248.58	0.02	0.02	1,256.18
<b>Total</b>		<b>0.23</b>	<b>2.00</b>	<b>1.23</b>	<b>0.01</b>		<b>0.00</b>	<b>0.16</b>		<b>0.00</b>	<b>0.16</b>	<b>0.00</b>	<b>2,248.47</b>	<b>2,248.47</b>	<b>0.04</b>	<b>0.04</b>	<b>2,262.15</b>

### 5.3 Energy by Land Use - Electricity

#### Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
General Office Building	4.73746e+006					3,100.35	0.06	0.02	3,108.99
Hotel	4.12661e+006					2,700.60	0.05	0.02	2,708.12
Single Family Housing	5.86286e+006					3,836.86	0.08	0.03	3,847.54
<b>Total</b>						<b>9,637.81</b>	<b>0.19</b>	<b>0.07</b>	<b>9,664.65</b>

#### Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
General Office Building	4.73746e+006					3,100.35	0.06	0.02	3,108.99
Hotel	4.12661e+006					2,700.60	0.05	0.02	2,708.12
Single Family Housing	5.86286e+006					3,836.86	0.08	0.03	3,847.54
<b>Total</b>						<b>9,637.81</b>	<b>0.19</b>	<b>0.07</b>	<b>9,664.65</b>

## 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	14.55	0.28	19.89	0.04		0.00	1.83		0.00	1.83	234.48	383.91	618.39	1.12	0.01	643.95
Unmitigated	14.55	0.28	19.89	0.04		0.00	1.83		0.00	1.83	234.48	383.91	618.39	1.12	0.01	643.95
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 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	3.48					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	9.58					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	1.22	0.18	10.74	0.04		0.00	1.78		0.00	1.78	234.48	368.90	603.38	1.10	0.01	628.64
Landscaping	0.27	0.11	9.15	0.00		0.00	0.05		0.00	0.05	0.00	15.01	15.01	0.01	0.00	15.31
<b>Total</b>	<b>14.55</b>	<b>0.29</b>	<b>19.89</b>	<b>0.04</b>		<b>0.00</b>	<b>1.83</b>		<b>0.00</b>	<b>1.83</b>	<b>234.48</b>	<b>383.91</b>	<b>618.39</b>	<b>1.11</b>	<b>0.01</b>	<b>643.95</b>

#### 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	3.48					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	9.58					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	1.22	0.18	10.74	0.04		0.00	1.78		0.00	1.78	234.48	368.90	603.38	1.10	0.01	628.64
Landscaping	0.27	0.11	9.15	0.00		0.00	0.05		0.00	0.05	0.00	15.01	15.01	0.01	0.00	15.31
<b>Total</b>	<b>14.55</b>	<b>0.29</b>	<b>19.89</b>	<b>0.04</b>		<b>0.00</b>	<b>1.83</b>		<b>0.00</b>	<b>1.83</b>	<b>234.48</b>	<b>383.91</b>	<b>618.39</b>	<b>1.11</b>	<b>0.01</b>	<b>643.95</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					655.45	4.10	0.11	774.44
Unmitigated					655.45	4.10	0.11	774.44
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 7.2 Water by Land Use

#### Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	68.1787 / 41.7869					337.91	2.09	0.05	398.55
Hotel	8.67544 / 0.963937					33.03	0.27	0.01	40.71
Single Family Housing	56.9446 / 35.8999					284.52	1.74	0.05	335.17
<b>Total</b>						<b>655.46</b>	<b>4.10</b>	<b>0.11</b>	<b>774.43</b>

#### Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	68.1787 / 41.7869					337.91	2.09	0.05	398.55
Hotel	8.67544 / 0.963937					33.03	0.27	0.01	40.71
Single Family Housing	56.9446 / 35.8999					284.52	1.74	0.05	335.17
<b>Total</b>						<b>655.46</b>	<b>4.10</b>	<b>0.11</b>	<b>774.43</b>

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

#### Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					185.59	10.97	0.00	415.92
Unmitigated					185.59	10.97	0.00	415.92
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 8.2 Waste by Land Use

#### Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	356.75					72.42	4.28	0.00	162.29
Hotel	187.25					38.01	2.25	0.00	85.18
Single Family Housing	370.27					75.16	4.44	0.00	168.44
<b>Total</b>						<b>185.59</b>	<b>10.97</b>	<b>0.00</b>	<b>415.91</b>

#### Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	356.75					72.42	4.28	0.00	162.29
Hotel	187.25					38.01	2.25	0.00	85.18
Single Family Housing	370.27					75.16	4.44	0.00	168.44
<b>Total</b>						<b>185.59</b>	<b>10.97</b>	<b>0.00</b>	<b>415.91</b>

**RPU Alt 2**  
**Lake Tahoe Air Basin, Annual**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric
General Office Building	583.6	1000sqft
Hotel	342	Room
Single Family Housing	3474	Dwelling Unit

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>		<b>Utility Company</b>	Sierra Pacific Resources
<b>Climate Zone</b>	14		2.7		
		<b>Precipitation Freq (Days)</b>			
			72		

**1.3 User Entered Comments**

Project Characteristics -  
 Land Use - Alt 2 population from TRPA travel demand model.  
 Construction Phase - placeholder for construction  
 Vehicle Trips - placeholder for vehicle emissions. Modeling conducted outside of CalEEMod.  
 Landscape Equipment - It was assumed that, on average, 72 days per year receive measureable snowfall. This is a conservative assumption, because not all precipitation days would be in the form of snowfall.  
 Waste Mitigation -  
 Woodstoves - See Woodstove Calculations for more detail



## 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	45.59	1.11	78.95	0.14		0.00	7.25		0.00	7.25	929.83	1,526.52	2,456.34	4.43	0.03	2,557.74
Energy	0.62	5.41	2.76	0.03		0.00	0.43		0.00	0.43	0.00	28,850.45	28,850.45	0.57	0.29	28,951.22
Mobile	17.18	29.46	145.15	0.60	51.79	2.21	53.99	0.94	2.15	3.09	0.00	41,010.39	41,010.39	1.21	0.00	41,035.82
Waste						0.00	0.00		0.00	0.00	354.97	0.00	354.97	20.98	0.00	795.51
Water						0.00	0.00		0.00	0.00	0.00	1,678.02	1,678.02	10.37	0.27	1,979.32
<b>Total</b>	<b>63.39</b>	<b>35.98</b>	<b>226.86</b>	<b>0.77</b>	<b>51.79</b>	<b>2.21</b>	<b>61.67</b>	<b>0.94</b>	<b>2.15</b>	<b>10.77</b>	<b>1,284.80</b>	<b>73,065.38</b>	<b>74,350.17</b>	<b>37.56</b>	<b>0.59</b>	<b>75,319.61</b>

#### 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	45.59	1.11	78.95	0.14		0.00	7.25		0.00	7.25	929.83	1,526.52	2,456.34	4.43	0.03	2,557.74
Energy	0.62	5.41	2.76	0.03		0.00	0.43		0.00	0.43	0.00	28,850.45	28,850.45	0.57	0.29	28,951.22
Mobile	17.18	29.46	145.15	0.60	51.79	2.21	53.99	0.94	2.15	3.09	0.00	41,010.39	41,010.39	1.21	0.00	41,035.82
Waste						0.00	0.00		0.00	0.00	354.97	0.00	354.97	20.98	0.00	795.51
Water						0.00	0.00		0.00	0.00	0.00	1,678.02	1,678.02	10.37	0.27	1,979.32
<b>Total</b>	<b>63.39</b>	<b>35.98</b>	<b>226.86</b>	<b>0.77</b>	<b>51.79</b>	<b>2.21</b>	<b>61.67</b>	<b>0.94</b>	<b>2.15</b>	<b>10.77</b>	<b>1,284.80</b>	<b>73,065.38</b>	<b>74,350.17</b>	<b>37.56</b>	<b>0.59</b>	<b>75,319.61</b>

## 5.0 Energy Detail

### 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						0.00	0.00		0.00	0.00	0.00	22,668.25	22,668.25	0.46	0.17	22,731.39
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	22,668.25	22,668.25	0.46	0.17	22,731.39
Natural Gas Mitigated	0.62	5.41	2.76	0.03		0.00	0.43		0.00	0.43	0.00	6,182.20	6,182.20	0.12	0.11	6,219.83
Natural Gas Unmitigated	0.62	5.41	2.76	0.03		0.00	0.43		0.00	0.43	0.00	6,182.20	6,182.20	0.12	0.11	6,219.83
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 5.2 Energy by Land Use - Natural Gas

#### Unmitigated

	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	tons/yr										MT/yr					
General Office Building	1.19988e+007	0.06	0.59	0.49	0.00		0.00	0.04		0.00	0.04	0.00	640.30	640.30	0.01	0.01	644.20
Hotel	1.08504e+007	0.06	0.53	0.45	0.00		0.00	0.04		0.00	0.04	0.00	579.02	579.02	0.01	0.01	582.54
Single Family Housing	9.30009e+007	0.50	4.29	1.82	0.03		0.00	0.35		0.00	0.35	0.00	4,962.88	4,962.88	0.10	0.09	4,993.09
<b>Total</b>		<b>0.62</b>	<b>5.41</b>	<b>2.76</b>	<b>0.03</b>		<b>0.00</b>	<b>0.43</b>		<b>0.00</b>	<b>0.43</b>	<b>0.00</b>	<b>6,182.20</b>	<b>6,182.20</b>	<b>0.12</b>	<b>0.11</b>	<b>6,219.83</b>

#### 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	tons/yr										MT/yr					
General Office Building	1.19988e+007	0.06	0.59	0.49	0.00		0.00	0.04		0.00	0.04	0.00	640.30	640.30	0.01	0.01	644.20
Hotel	1.08504e+007	0.06	0.53	0.45	0.00		0.00	0.04		0.00	0.04	0.00	579.02	579.02	0.01	0.01	582.54
Single Family Housing	9.30009e+007	0.50	4.29	1.82	0.03		0.00	0.35		0.00	0.35	0.00	4,962.88	4,962.88	0.10	0.09	4,993.09
<b>Total</b>		<b>0.62</b>	<b>5.41</b>	<b>2.76</b>	<b>0.03</b>		<b>0.00</b>	<b>0.43</b>		<b>0.00</b>	<b>0.43</b>	<b>0.00</b>	<b>6,182.20</b>	<b>6,182.20</b>	<b>0.12</b>	<b>0.11</b>	<b>6,219.83</b>

### 5.3 Energy by Land Use - Electricity

#### Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
General Office Building	7.20746e+006					4,716.81	0.09	0.04	4,729.95
Hotel	4.12661e+006					2,700.60	0.05	0.02	2,708.12
Single Family Housing	2.33039e+007					15,250.84	0.31	0.12	15,293.33
<b>Total</b>						<b>22,668.25</b>	<b>0.45</b>	<b>0.18</b>	<b>22,731.40</b>

#### Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
General Office Building	7.20746e+006					4,716.81	0.09	0.04	4,729.95
Hotel	4.12661e+006					2,700.60	0.05	0.02	2,708.12
Single Family Housing	2.33039e+007					15,250.84	0.31	0.12	15,293.33
<b>Total</b>						<b>22,668.25</b>	<b>0.45</b>	<b>0.18</b>	<b>22,731.40</b>

## 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	45.59	1.11	78.95	0.14		0.00	7.25		0.00	7.25	929.83	1,526.52	2,456.34	4.43	0.03	2,557.74
Unmitigated	45.59	1.11	78.95	0.14		0.00	7.25		0.00	7.25	929.83	1,526.52	2,456.34	4.43	0.03	2,557.74
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 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	11.02					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	28.64					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	4.84	0.69	42.58	0.14		0.00	7.05		0.00	7.05	929.83	1,466.85	2,396.67	4.37	0.03	2,496.88
Landscaping	1.09	0.42	36.38	0.00		0.00	0.20		0.00	0.20	0.00	59.67	59.67	0.06	0.00	60.86
<b>Total</b>	<b>45.59</b>	<b>1.11</b>	<b>78.96</b>	<b>0.14</b>		<b>0.00</b>	<b>7.25</b>		<b>0.00</b>	<b>7.25</b>	<b>929.83</b>	<b>1,526.52</b>	<b>2,456.34</b>	<b>4.43</b>	<b>0.03</b>	<b>2,557.74</b>

#### 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	11.02					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	28.64					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	4.84	0.69	42.58	0.14		0.00	7.05		0.00	7.05	929.83	1,466.85	2,396.67	4.37	0.03	2,496.88
Landscaping	1.09	0.42	36.38	0.00		0.00	0.20		0.00	0.20	0.00	59.67	59.67	0.06	0.00	60.86
<b>Total</b>	<b>45.59</b>	<b>1.11</b>	<b>78.96</b>	<b>0.14</b>		<b>0.00</b>	<b>7.25</b>		<b>0.00</b>	<b>7.25</b>	<b>929.83</b>	<b>1,526.52</b>	<b>2,456.34</b>	<b>4.43</b>	<b>0.03</b>	<b>2,557.74</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					1,678.02	10.37	0.27	1,979.32
Unmitigated					1,678.02	10.37	0.27	1,979.32
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 7.2 Water by Land Use

#### Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	103.725 / 63.5736					514.09	3.18	0.08	606.35
Hotel	8.67544 / 0.963937					33.03	0.27	0.01	40.71
Single Family Housing	226.345 / 142.696					1,130.91	6.93	0.18	1,332.26
<b>Total</b>						<b>1,678.03</b>	<b>10.38</b>	<b>0.27</b>	<b>1,979.32</b>

#### Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	103.725 / 63.5736					514.09	3.18	0.08	606.35
Hotel	8.67544 / 0.963937					33.03	0.27	0.01	40.71
Single Family Housing	226.345 / 142.696					1,130.91	6.93	0.18	1,332.26
<b>Total</b>						<b>1,678.03</b>	<b>10.38</b>	<b>0.27</b>	<b>1,979.32</b>

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

#### Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					354.97	20.98	0.00	795.51
Unmitigated					354.97	20.98	0.00	795.51
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 8.2 Waste by Land Use

#### Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	542.75					110.17	6.51	0.00	246.91
Hotel	187.25					38.01	2.25	0.00	85.18
Single Family Housing	1018.7					206.79	12.22	0.00	463.42
<b>Total</b>						<b>354.97</b>	<b>20.98</b>	<b>0.00</b>	<b>795.51</b>

#### Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	542.75					110.17	6.51	0.00	246.91
Hotel	187.25					38.01	2.25	0.00	85.18
Single Family Housing	1018.7					206.79	12.22	0.00	463.42
<b>Total</b>						<b>354.97</b>	<b>20.98</b>	<b>0.00</b>	<b>795.51</b>

**RPU Alt 3**  
**Lake Tahoe Air Basin, Annual**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric
General Office Building	583.6	1000sqft
Hotel	342	Room
Single Family Housing	4074	Dwelling Unit

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>		<b>Utility Company</b>	Sierra Pacific Resources
<b>Climate Zone</b>	14		2.7		
		<b>Precipitation Freq (Days)</b>			
			72		

**1.3 User Entered Comments**

- Project Characteristics -
- Land Use - Alt 3 population from TRPA travel demand model.
- Construction Phase - placeholder for construction
- Vehicle Trips - placeholder for vehicle emissions. Modeling conducted outside of CalEEMod.
- Landscape Equipment - It was assumed that, on average, 72 days per year receive measureable snowfall. This is a conservative assumption, because not all precipitation days would be in the form of snowfall.
- Waste Mitigation -
- Woodstoves - See Woodstove Calcs for more detail

## 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	52.52	1.31	92.64	0.17		0.00	8.51		0.00	8.51	1,091.54	1,789.89	2,881.43	5.20	0.03	3,000.45
Energy	0.71	6.15	3.08	0.04		0.00	0.49		0.00	0.49	0.00	32,341.59	32,341.59	0.64	0.32	32,454.92
Mobile	19.67	33.71	166.26	0.69	59.39	2.53	61.92	1.07	2.47	3.54	0.00	47,022.00	47,022.00	1.39	0.00	47,051.15
Waste						0.00	0.00		0.00	0.00	512.97	0.00	512.97	30.32	0.00	1,149.60
Water						0.00	0.00		0.00	0.00	0.00	1,873.34	1,873.34	11.57	0.30	2,209.41
<b>Total</b>	<b>72.90</b>	<b>41.17</b>	<b>261.98</b>	<b>0.90</b>	<b>59.39</b>	<b>2.53</b>	<b>70.92</b>	<b>1.07</b>	<b>2.47</b>	<b>12.54</b>	<b>1,604.51</b>	<b>83,026.82</b>	<b>84,631.33</b>	<b>49.12</b>	<b>0.65</b>	<b>85,865.53</b>

#### 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	52.52	1.31	92.64	0.17		0.00	8.51		0.00	8.51	1,091.54	1,789.89	2,881.43	5.20	0.03	3,000.45
Energy	0.71	6.15	3.08	0.04		0.00	0.49		0.00	0.49	0.00	32,341.59	32,341.59	0.64	0.32	32,454.92
Mobile	19.67	33.71	166.26	0.69	59.39	2.53	61.92	1.07	2.47	3.54	0.00	47,022.00	47,022.00	1.39	0.00	47,051.15
Waste						0.00	0.00		0.00	0.00	512.97	0.00	512.97	30.32	0.00	1,149.60
Water						0.00	0.00		0.00	0.00	0.00	1,873.34	1,873.34	11.57	0.30	2,209.41
<b>Total</b>	<b>72.90</b>	<b>41.17</b>	<b>261.98</b>	<b>0.90</b>	<b>59.39</b>	<b>2.53</b>	<b>70.92</b>	<b>1.07</b>	<b>2.47</b>	<b>12.54</b>	<b>1,604.51</b>	<b>83,026.82</b>	<b>84,631.33</b>	<b>49.12</b>	<b>0.65</b>	<b>85,865.53</b>



## 5.0 Energy Detail

### 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						0.00	0.00		0.00	0.00	0.00	25,302.24	25,302.24	0.51	0.19	25,372.73
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	25,302.24	25,302.24	0.51	0.19	25,372.73
NaturalGas Mitigated	0.71	6.15	3.08	0.04		0.00	0.49		0.00	0.49	0.00	7,039.35	7,039.35	0.13	0.13	7,082.19
NaturalGas Unmitigated	0.71	6.15	3.08	0.04		0.00	0.49		0.00	0.49	0.00	7,039.35	7,039.35	0.13	0.13	7,082.19
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 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	tons/yr										MT/yr					
General Office Building	1.19988e+007	0.06	0.59	0.49	0.00		0.00	0.04		0.00	0.04	0.00	640.30	640.30	0.01	0.01	644.20
Hotel	1.08504e+007	0.06	0.53	0.45	0.00		0.00	0.04		0.00	0.04	0.00	579.02	579.02	0.01	0.01	582.54
Single Family Housing	1.09063e+008	0.59	5.03	2.14	0.03		0.00	0.41		0.00	0.41	0.00	5,820.03	5,820.03	0.11	0.11	5,855.45
<b>Total</b>		<b>0.71</b>	<b>6.15</b>	<b>3.08</b>	<b>0.03</b>		<b>0.00</b>	<b>0.49</b>		<b>0.00</b>	<b>0.49</b>	<b>0.00</b>	<b>7,039.35</b>	<b>7,039.35</b>	<b>0.13</b>	<b>0.13</b>	<b>7,082.19</b>

### 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	tons/yr										MT/yr					
General Office Building	1.19988e+007	0.06	0.59	0.49	0.00		0.00	0.04		0.00	0.04	0.00	640.30	640.30	0.01	0.01	644.20
Hotel	1.08504e+007	0.06	0.53	0.45	0.00		0.00	0.04		0.00	0.04	0.00	579.02	579.02	0.01	0.01	582.54
Single Family Housing	1.09063e+008	0.59	5.03	2.14	0.03		0.00	0.41		0.00	0.41	0.00	5,820.03	5,820.03	0.11	0.11	5,855.45
<b>Total</b>		<b>0.71</b>	<b>6.15</b>	<b>3.08</b>	<b>0.03</b>		<b>0.00</b>	<b>0.49</b>		<b>0.00</b>	<b>0.49</b>	<b>0.00</b>	<b>7,039.35</b>	<b>7,039.35</b>	<b>0.13</b>	<b>0.13</b>	<b>7,082.19</b>

### 5.3 Energy by Land Use - Electricity

#### Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr			MT/yr				
General Office Building	7.20746e+006					4,716.81	0.09	0.04	4,729.95
Hotel	4.12661e+006					2,700.60	0.05	0.02	2,708.12
Single Family Housing	2.73287e+007					17,884.84	0.36	0.14	17,934.66
<b>Total</b>						<b>25,302.25</b>	<b>0.50</b>	<b>0.20</b>	<b>25,372.73</b>

#### Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr			MT/yr				
General Office Building	7.20746e+006					4,716.81	0.09	0.04	4,729.95
Hotel	4.12661e+006					2,700.60	0.05	0.02	2,708.12
Single Family Housing	2.73287e+007					17,884.84	0.36	0.14	17,934.66
<b>Total</b>						<b>25,302.25</b>	<b>0.50</b>	<b>0.20</b>	<b>25,372.73</b>

## 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	52.52	1.31	92.64	0.17		0.00	8.51		0.00	8.51	1,091.54	1,789.89	2,881.43	5.20	0.03	3,000.45
Unmitigated	52.52	1.31	92.64	0.17		0.00	8.51		0.00	8.51	1,091.54	1,789.89	2,881.43	5.20	0.03	3,000.45
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 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	12.71					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	32.86					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	5.68	0.82	49.98	0.16		0.00	8.27		0.00	8.27	1,091.54	1,719.92	2,811.45	5.14	0.03	2,929.08
Landscaping	1.27	0.49	42.66	0.00		0.00	0.24		0.00	0.24	0.00	69.97	69.97	0.07	0.00	71.37
<b>Total</b>	<b>52.52</b>	<b>1.31</b>	<b>92.64</b>	<b>0.16</b>		<b>0.00</b>	<b>8.51</b>		<b>0.00</b>	<b>8.51</b>	<b>1,091.54</b>	<b>1,789.89</b>	<b>2,881.42</b>	<b>5.21</b>	<b>0.03</b>	<b>3,000.45</b>

#### 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	12.71					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	32.86					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	5.68	0.82	49.98	0.16		0.00	8.27		0.00	8.27	1,091.54	1,719.92	2,811.45	5.14	0.03	2,929.08
Landscaping	1.27	0.49	42.66	0.00		0.00	0.24		0.00	0.24	0.00	69.97	69.97	0.07	0.00	71.37
<b>Total</b>	<b>52.52</b>	<b>1.31</b>	<b>92.64</b>	<b>0.16</b>		<b>0.00</b>	<b>8.51</b>		<b>0.00</b>	<b>8.51</b>	<b>1,091.54</b>	<b>1,789.89</b>	<b>2,881.42</b>	<b>5.21</b>	<b>0.03</b>	<b>3,000.45</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					1,873.34	11.57	0.30	2,209.41
Unmitigated					1,873.34	11.57	0.30	2,209.41
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 7.2 Water by Land Use

#### Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	103.725 / 63.5736					514.09	3.18	0.08	606.35
Hotel	8.67544 / 0.963937					33.03	0.27	0.01	40.71
Single Family Housing	265.438 / 167.341					1,326.23	8.13	0.21	1,562.35
<b>Total</b>						<b>1,873.35</b>	<b>11.58</b>	<b>0.30</b>	<b>2,209.41</b>

#### Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	103.725 / 63.5736					514.09	3.18	0.08	606.35
Hotel	8.67544 / 0.963937					33.03	0.27	0.01	40.71
Single Family Housing	265.438 / 167.341					1,326.23	8.13	0.21	1,562.35
<b>Total</b>						<b>1,873.35</b>	<b>11.58</b>	<b>0.30</b>	<b>2,209.41</b>

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

#### Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					512.97	30.32	0.00	1,149.60
Unmitigated					512.97	30.32	0.00	1,149.60
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 8.2 Waste by Land Use

#### Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	542.75					110.17	6.51	0.00	246.91
Hotel	187.25					38.01	2.25	0.00	85.18
Single Family Housing	1797.06					364.79	21.56	0.00	817.51
<b>Total</b>						<b>512.97</b>	<b>30.32</b>	<b>0.00</b>	<b>1,149.60</b>

#### Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	542.75					110.17	6.51	0.00	246.91
Hotel	187.25					38.01	2.25	0.00	85.18
Single Family Housing	1797.06					364.79	21.56	0.00	817.51
<b>Total</b>						<b>512.97</b>	<b>30.32</b>	<b>0.00</b>	<b>1,149.60</b>

**RPU Alt 4**  
**Lake Tahoe Air Basin, Annual**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric
General Office Building	783.6	1000sqft
Hotel	542	Room
Single Family Housing	4874	Dwelling Unit

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>		<b>Utility Company</b>	Sierra Pacific Resources
<b>Climate Zone</b>	14		2.7		
		<b>Precipitation Freq (Days)</b>			
			72		

**1.3 User Entered Comments**

Project Characteristics -

Land Use - Alt 4 population from TRPA travel demand model.

Construction Phase - placeholder for construction

Vehicle Trips - placeholder for vehicle emissions. Modeling conducted outside of CalEEMod.

Landscape Equipment - It was assumed that, on average, 72 days per year receive measureable snowfall. This is a conservative assumption, because not all precipitation days would be in the form of snowfall.

Waste Mitigation -

Woodstoves - See Woodstove Calculations for more detail

## 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	64.24	1.56	110.83	0.20		0.00	10.18		0.00	10.18	1,305.80	2,141.39	3,447.19	6.22	0.04	3,589.57
Energy	0.88	7.64	3.93	0.05		0.00	0.61		0.00	0.61	0.00	40,750.24	40,750.24	0.81	0.40	40,892.60
Mobile	24.15	41.43	204.03	0.84	72.76	3.10	75.86	1.32	3.03	4.34	0.00	57,624.13	57,624.13	1.70	0.00	57,659.87
Waste						0.00	0.00		0.00	0.00	536.30	0.00	536.30	31.69	0.00	1,201.89
Water						0.00	0.00		0.00	0.00	0.00	2,329.26	2,329.26	14.41	0.37	2,747.81
<b>Total</b>	<b>89.27</b>	<b>50.63</b>	<b>318.79</b>	<b>1.09</b>	<b>72.76</b>	<b>3.10</b>	<b>86.65</b>	<b>1.32</b>	<b>3.03</b>	<b>15.13</b>	<b>1,842.10</b>	<b>102,845.02</b>	<b>104,687.12</b>	<b>54.83</b>	<b>0.81</b>	<b>106,091.74</b>

#### 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	64.24	1.56	110.83	0.20		0.00	10.18		0.00	10.18	1,305.80	2,141.39	3,447.19	6.22	0.04	3,589.57
Energy	0.88	7.64	3.93	0.05		0.00	0.61		0.00	0.61	0.00	40,750.24	40,750.24	0.81	0.40	40,892.60
Mobile	24.15	41.43	204.03	0.84	72.76	3.10	75.86	1.32	3.03	4.34	0.00	57,624.13	57,624.13	1.70	0.00	57,659.87
Waste						0.00	0.00		0.00	0.00	536.30	0.00	536.30	31.69	0.00	1,201.89
Water						0.00	0.00		0.00	0.00	0.00	2,329.26	2,329.26	14.41	0.37	2,747.81
<b>Total</b>	<b>89.27</b>	<b>50.63</b>	<b>318.79</b>	<b>1.09</b>	<b>72.76</b>	<b>3.10</b>	<b>86.65</b>	<b>1.32</b>	<b>3.03</b>	<b>15.13</b>	<b>1,842.10</b>	<b>102,845.02</b>	<b>104,687.12</b>	<b>54.83</b>	<b>0.81</b>	<b>106,091.74</b>

## 5.0 Energy Detail

### 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						0.00	0.00		0.00	0.00	0.00	32,009.99	32,009.99	0.64	0.24	32,099.16
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	32,009.99	32,009.99	0.64	0.24	32,099.16
NaturalGas Mitigated	0.88	7.64	3.93	0.05		0.00	0.61		0.00	0.61	0.00	8,740.25	8,740.25	0.17	0.16	8,793.44
NaturalGas Unmitigated	0.88	7.64	3.93	0.05		0.00	0.61		0.00	0.61	0.00	8,740.25	8,740.25	0.17	0.16	8,793.44
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 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	tons/yr										MT/yr					
General Office Building	1.61108e+007	0.09	0.79	0.66	0.00		0.00	0.06		0.00	0.06	0.00	859.73	859.73	0.02	0.02	864.97
Hotel	1.71956e+007	0.09	0.84	0.71	0.01		0.00	0.06		0.00	0.06	0.00	917.62	917.62	0.02	0.02	923.21
Single Family Housing	1.3048e+008	0.70	6.01	2.56	0.04		0.00	0.49		0.00	0.49	0.00	6,962.89	6,962.89	0.13	0.13	7,005.27
<b>Total</b>		<b>0.88</b>	<b>7.64</b>	<b>3.93</b>	<b>0.05</b>		<b>0.00</b>	<b>0.61</b>		<b>0.00</b>	<b>0.61</b>	<b>0.00</b>	<b>8,740.24</b>	<b>8,740.24</b>	<b>0.17</b>	<b>0.17</b>	<b>8,793.45</b>

#### 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	tons/yr										MT/yr					
General Office Building	1.61108e+007	0.09	0.79	0.66	0.00		0.00	0.06		0.00	0.06	0.00	859.73	859.73	0.02	0.02	864.97
Hotel	1.71956e+007	0.09	0.84	0.71	0.01		0.00	0.06		0.00	0.06	0.00	917.62	917.62	0.02	0.02	923.21
Single Family Housing	1.3048e+008	0.70	6.01	2.56	0.04		0.00	0.49		0.00	0.49	0.00	6,962.89	6,962.89	0.13	0.13	7,005.27
<b>Total</b>		<b>0.88</b>	<b>7.64</b>	<b>3.93</b>	<b>0.05</b>		<b>0.00</b>	<b>0.61</b>		<b>0.00</b>	<b>0.61</b>	<b>0.00</b>	<b>8,740.24</b>	<b>8,740.24</b>	<b>0.17</b>	<b>0.17</b>	<b>8,793.45</b>



### 5.3 Energy by Land Use - Electricity

#### Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
General Office Building	9.67746e+006					6,333.26	0.13	0.05	6,350.90
Hotel	6.53984e+006					4,279.89	0.09	0.03	4,291.81
Single Family Housing	3.26952e+007					21,396.84	0.43	0.16	21,456.44
<b>Total</b>						<b>32,009.99</b>	<b>0.65</b>	<b>0.24</b>	<b>32,099.15</b>

#### Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
General Office Building	9.67746e+006					6,333.26	0.13	0.05	6,350.90
Hotel	6.53984e+006					4,279.89	0.09	0.03	4,291.81
Single Family Housing	3.26952e+007					21,396.84	0.43	0.16	21,456.44
<b>Total</b>						<b>32,009.99</b>	<b>0.65</b>	<b>0.24</b>	<b>32,099.15</b>

## 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	64.24	1.56	110.83	0.20		0.00	10.18		0.00	10.18	1,305.80	2,141.39	3,447.19	6.22	0.04	3,589.57
Unmitigated	64.24	1.56	110.83	0.20		0.00	10.18		0.00	10.18	1,305.80	2,141.39	3,447.19	6.22	0.04	3,589.57
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 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	15.53					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	40.40					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	6.79	0.98	59.79	0.20		0.00	9.90		0.00	9.89	1,305.80	2,057.67	3,363.47	6.14	0.04	3,504.19
Landscaping	1.53	0.59	51.04	0.00		0.00	0.28		0.00	0.28	0.00	83.71	83.71	0.08	0.00	85.39
<b>Total</b>	<b>64.25</b>	<b>1.57</b>	<b>110.83</b>	<b>0.20</b>		<b>0.00</b>	<b>10.18</b>		<b>0.00</b>	<b>10.17</b>	<b>1,305.80</b>	<b>2,141.38</b>	<b>3,447.18</b>	<b>6.22</b>	<b>0.04</b>	<b>3,589.58</b>

#### 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	15.53					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	40.40					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	6.79	0.98	59.79	0.20		0.00	9.90		0.00	9.89	1,305.80	2,057.67	3,363.47	6.14	0.04	3,504.19
Landscaping	1.53	0.59	51.04	0.00		0.00	0.28		0.00	0.28	0.00	83.71	83.71	0.08	0.00	85.39
<b>Total</b>	<b>64.25</b>	<b>1.57</b>	<b>110.83</b>	<b>0.20</b>		<b>0.00</b>	<b>10.18</b>		<b>0.00</b>	<b>10.17</b>	<b>1,305.80</b>	<b>2,141.38</b>	<b>3,447.18</b>	<b>6.22</b>	<b>0.04</b>	<b>3,589.58</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					2,329.26	14.41	0.37	2,747.81
Unmitigated					2,329.26	14.41	0.37	2,747.81
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 7.2 Water by Land Use

#### Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	139.272 / 85.3604					690.26	4.27	0.11	814.14
Hotel	13.7488 / 1,527.64					52.34	0.42	0.01	64.52
Single Family Housing	317.561 / 200.201					1,586.65	9.73	0.25	1,869.15
<b>Total</b>						<b>2,329.25</b>	<b>14.42</b>	<b>0.37</b>	<b>2,747.81</b>

#### Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	139.272 / 85.3604					690.26	4.27	0.11	814.14
Hotel	13.7488 / 1,527.64					52.34	0.42	0.01	64.52
Single Family Housing	317.561 / 200.201					1,586.65	9.73	0.25	1,869.15
<b>Total</b>						<b>2,329.25</b>	<b>14.42</b>	<b>0.37</b>	<b>2,747.81</b>

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

#### Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					536.30	31.69	0.00	1,201.89
Unmitigated					536.30	31.69	0.00	1,201.89
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 8.2 Waste by Land Use

#### Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	728.75					147.93	8.74	0.00	331.52
Hotel	296.75					60.24	3.56	0.00	135.00
Single Family Housing	1616.5					328.13	19.39	0.00	735.37
<b>Total</b>						<b>536.30</b>	<b>31.69</b>	<b>0.00</b>	<b>1,201.89</b>

#### Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	728.75					147.93	8.74	0.00	331.52
Hotel	296.75					60.24	3.56	0.00	135.00
Single Family Housing	1616.5					328.13	19.39	0.00	735.37
<b>Total</b>						<b>536.30</b>	<b>31.69</b>	<b>0.00</b>	<b>1,201.89</b>

**RPU Alt 5**  
**Lake Tahoe Air Basin, Annual**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric
General Office Building	983.6	1000sqft
Hotel	742	Room
Single Family Housing	4965	Dwelling Unit

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>		<b>Utility Company</b>	Sierra Pacific Resources
<b>Climate Zone</b>	14		2.7		
		<b>Precipitation Freq (Days)</b>			

**1.3 User Entered Comments**

Project Characteristics -

Land Use - Alt 5 population from TRPA travel demand model.

Construction Phase - placeholder for construction

Vehicle Trips - placeholder for vehicle emissions. Modeling conducted outside of CalEEMod.

Landscape Equipment - It was assumed that, on average, 72 days per year receive measureable snowfall. This is a conservative assumption, because not all precipitation days would be in the form of snowfall.

Waste Mitigation -

Woodstoves - See Woodstove Calculations for more detail

## 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	67.78	1.59	112.89	0.20		0.00	10.37		0.00	10.37	1,330.06	2,181.40	3,511.46	6.34	0.04	3,656.49
Energy	0.95	8.27	4.41	0.05		0.00	0.66		0.00	0.66	0.00	45,033.52	45,033.52	0.90	0.44	45,190.08
Mobile	25.68	44.13	216.84	0.90	77.15	3.29	80.45	1.40	3.21	4.61	0.00	61,122.54	61,122.54	1.81	0.00	61,160.48
Waste						0.00	0.00		0.00	0.00	596.29	0.00	596.29	35.24	0.00	1,336.32
Water						0.00	0.00		0.00	0.00	0.00	2,554.37	2,554.37	15.84	0.41	3,014.32
<b>Total</b>	<b>94.41</b>	<b>53.99</b>	<b>334.14</b>	<b>1.15</b>	<b>77.15</b>	<b>3.29</b>	<b>91.48</b>	<b>1.40</b>	<b>3.21</b>	<b>15.64</b>	<b>1,926.35</b>	<b>110,891.83</b>	<b>112,818.18</b>	<b>60.13</b>	<b>0.89</b>	<b>114,357.69</b>

#### 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	67.78	1.59	112.89	0.20		0.00	10.37		0.00	10.37	1,330.06	2,181.40	3,511.46	6.34	0.04	3,656.49
Energy	0.95	8.27	4.41	0.05		0.00	0.66		0.00	0.66	0.00	45,033.52	45,033.52	0.90	0.44	45,190.08
Mobile	25.68	44.13	216.84	0.90	77.15	3.29	80.45	1.40	3.21	4.61	0.00	61,122.54	61,122.54	1.81	0.00	61,160.48
Waste						0.00	0.00		0.00	0.00	596.29	0.00	596.29	35.24	0.00	1,336.32
Water						0.00	0.00		0.00	0.00	0.00	2,554.37	2,554.37	15.84	0.41	3,014.32
<b>Total</b>	<b>94.41</b>	<b>53.99</b>	<b>334.14</b>	<b>1.15</b>	<b>77.15</b>	<b>3.29</b>	<b>91.48</b>	<b>1.40</b>	<b>3.21</b>	<b>15.64</b>	<b>1,926.35</b>	<b>110,891.83</b>	<b>112,818.18</b>	<b>60.13</b>	<b>0.89</b>	<b>114,357.69</b>

## 5.0 Energy Detail

### 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						0.00	0.00		0.00	0.00	0.00	35,605.23	35,605.23	0.72	0.27	35,704.41
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	35,605.23	35,605.23	0.72	0.27	35,704.41
NaturalGas Mitigated	0.95	8.27	4.41	0.05		0.00	0.66		0.00	0.66	0.00	9,428.29	9,428.29	0.18	0.17	9,485.67
NaturalGas Unmitigated	0.95	8.27	4.41	0.05		0.00	0.66		0.00	0.66	0.00	9,428.29	9,428.29	0.18	0.17	9,485.67
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 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	tons/yr										MT/yr					
General Office Building	2.02228e+007	0.11	0.99	0.83	0.01		0.00	0.08		0.00	0.08	0.00	1,079.17	1,079.17	0.02	0.02	1,085.73
Hotel	2.35408e+007	0.13	1.15	0.97	0.01		0.00	0.09		0.00	0.09	0.00	1,256.23	1,256.23	0.02	0.02	1,263.87
Single Family Housing	1.32916e+008	0.72	6.12	2.61	0.04		0.00	0.50		0.00	0.50	0.00	7,092.89	7,092.89	0.14	0.13	7,136.06
<b>Total</b>		<b>0.96</b>	<b>8.26</b>	<b>4.41</b>	<b>0.06</b>		<b>0.00</b>	<b>0.67</b>		<b>0.00</b>	<b>0.67</b>	<b>0.00</b>	<b>9,428.29</b>	<b>9,428.29</b>	<b>0.18</b>	<b>0.17</b>	<b>9,485.66</b>

#### 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	tons/yr										MT/yr					
General Office Building	2.02228e+007	0.11	0.99	0.83	0.01		0.00	0.08		0.00	0.08	0.00	1,079.17	1,079.17	0.02	0.02	1,085.73
Hotel	2.35408e+007	0.13	1.15	0.97	0.01		0.00	0.09		0.00	0.09	0.00	1,256.23	1,256.23	0.02	0.02	1,263.87
Single Family Housing	1.32916e+008	0.72	6.12	2.61	0.04		0.00	0.50		0.00	0.50	0.00	7,092.89	7,092.89	0.14	0.13	7,136.06
<b>Total</b>		<b>0.96</b>	<b>8.26</b>	<b>4.41</b>	<b>0.06</b>		<b>0.00</b>	<b>0.67</b>		<b>0.00</b>	<b>0.67</b>	<b>0.00</b>	<b>9,428.29</b>	<b>9,428.29</b>	<b>0.18</b>	<b>0.17</b>	<b>9,485.66</b>

### 5.3 Energy by Land Use - Electricity

#### Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr			MT/yr				
General Office Building	1.21475e+007					7,949.71	0.16	0.06	7,971.86
Hotel	8.95306e+006					5,859.19	0.12	0.04	5,875.51
Single Family Housing	3.33056e+007					21,796.33	0.44	0.17	21,857.04
<b>Total</b>						<b>35,605.23</b>	<b>0.72</b>	<b>0.27</b>	<b>35,704.41</b>

#### Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr			MT/yr				
General Office Building	1.21475e+007					7,949.71	0.16	0.06	7,971.86
Hotel	8.95306e+006					5,859.19	0.12	0.04	5,875.51
Single Family Housing	3.33056e+007					21,796.33	0.44	0.17	21,857.04
<b>Total</b>						<b>35,605.23</b>	<b>0.72</b>	<b>0.27</b>	<b>35,704.41</b>



## 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	67.78	1.59	112.89	0.20		0.00	10.37		0.00	10.37	1,330.06	2,181.40	3,511.46	6.34	0.04	3,656.49
Unmitigated	67.78	1.59	112.89	0.20		0.00	10.37		0.00	10.37	1,330.06	2,181.40	3,511.46	6.34	0.04	3,656.49
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 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	16.35					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	42.95					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	6.92	0.99	60.90	0.20		0.00	10.08		0.00	10.08	1,330.06	2,096.12	3,426.18	6.26	0.04	3,569.51
Landscaping	1.55	0.60	51.99	0.00		0.00	0.29		0.00	0.29	0.00	85.28	85.28	0.08	0.00	86.98
<b>Total</b>	<b>67.77</b>	<b>1.59</b>	<b>112.89</b>	<b>0.20</b>		<b>0.00</b>	<b>10.37</b>		<b>0.00</b>	<b>10.37</b>	<b>1,330.06</b>	<b>2,181.40</b>	<b>3,511.46</b>	<b>6.34</b>	<b>0.04</b>	<b>3,656.49</b>

#### 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	16.35					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	42.95					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	6.92	0.99	60.90	0.20		0.00	10.08		0.00	10.08	1,330.06	2,096.12	3,426.18	6.26	0.04	3,569.51
Landscaping	1.55	0.60	51.99	0.00		0.00	0.29		0.00	0.29	0.00	85.28	85.28	0.08	0.00	86.98
<b>Total</b>	<b>67.77</b>	<b>1.59</b>	<b>112.89</b>	<b>0.20</b>		<b>0.00</b>	<b>10.37</b>		<b>0.00</b>	<b>10.37</b>	<b>1,330.06</b>	<b>2,181.40</b>	<b>3,511.46</b>	<b>6.34</b>	<b>0.04</b>	<b>3,656.49</b>

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					2,554.37	15.84	0.41	3,014.32
Unmitigated					2,554.37	15.84	0.41	3,014.32
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 7.2 Water by Land Use

#### Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	174.819 / 107.147					866.44	5.35	0.14	1,021.94
Hotel	18.8221 / 2,091.35					71.65	0.58	0.01	88.33
Single Family Housing	323.49 / 203.939					1,616.28	9.91	0.26	1,904.05
<b>Total</b>						<b>2,554.37</b>	<b>15.84</b>	<b>0.41</b>	<b>3,014.32</b>

#### Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
General Office Building	174.819 / 107.147					866.44	5.35	0.14	1,021.94
Hotel	18.8221 / 2,091.35					71.65	0.58	0.01	88.33
Single Family Housing	323.49 / 203.939					1,616.28	9.91	0.26	1,904.05
<b>Total</b>						<b>2,554.37</b>	<b>15.84</b>	<b>0.41</b>	<b>3,014.32</b>

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

#### Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					596.29	35.24	0.00	1,336.32
Unmitigated					596.29	35.24	0.00	1,336.32
<b>Total</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

### 8.2 Waste by Land Use

#### Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	914.75					185.69	10.97	0.00	416.13
Hotel	406.25					82.47	4.87	0.00	184.81
Single Family Housing	1616.5					328.13	19.39	0.00	735.37
<b>Total</b>						<b>596.29</b>	<b>35.23</b>	<b>0.00</b>	<b>1,336.31</b>

#### Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
General Office Building	914.75					185.69	10.97	0.00	416.13
Hotel	406.25					82.47	4.87	0.00	184.81
Single Family Housing	1616.5					328.13	19.39	0.00	735.37
<b>Total</b>						<b>596.29</b>	<b>35.23</b>	<b>0.00</b>	<b>1,336.31</b>

## Woodstove & Fireplace Emissions Data

Portion of New Residential Units with Fireplace

Woodstove	Natural Gas
13%	87%

Assumes 100% of new units would have some type of fireplace appliance.

source: Washoe County Residential Wood Use Survey. 2010 (October). Pg 3.

EPA Certified Wood Stove PM emission factor (would be adopted as part of the RPU)

catalyst	% catalyst	non-catalyst	% non-catalyst
4.5g/hr	50%	2.5 g/hr	50%

Average # of days/year 2009-2010 season appliance used

	Washoe County	Tahoe Basin
woodstove	73	80.3
fireplace	34	37.4

Assumes 10% additional days of use in Tahoe Basin above Washoe County data.

source: Washoe County Residential Wood Use Survey. 2010 (October). Appendix A, pg 13.

Time of day wood-fire started (2009-2010 season)

8 am-noon	10%
noon-5 pm	10%
5 pm-midnight	71%
midnight-8 am	9%

Assumes average fire is 4 hours/day in length

source: Washoe County Residential Wood Use Survey. 2010 (October). Appendix A, pg 15.

	# of Residential Units	# woodstoves	50% catalyst/non-catalyst	# natural gas fireplaces
Alternative 1	874	116	58	758
Alternative 2	3,474	460	230	3,014
Alternative 3	4,074	540	270	3,534
Alternative 4	4,874	646	323	4,228
Alternative 5	4,965	658	329	4,307

**California Commercial Harbor Craft Emissions Database Output.**

Available: [http://www.arb.ca.gov/msei/california\\_harbor\\_craft\\_emissions\\_inventory\\_database\\_10072011.mdb](http://www.arb.ca.gov/msei/california_harbor_craft_emissions_inventory_database_10072011.mdb)

**Emissions Inventory Output**

EIC	DIS	County	AB	Calendar year	Vessel Type	Engine Type	Tons/Year					
							NOx	PM	ROG	CO	SOx	CO2
83585312109971	El Dorado County APCD	El Dorado	Lake Tahoe	2025	Ferry and Excursion	AE	1.079789	0.036558	0.203991	0.954887	0.001294	127.7228
83585312109971	Placer County APCD	Placer	Lake Tahoe	2025	Ferry and Excursion	AE	1.439672	0.048743	0.271979	1.273142	0.001726	170.2916
83585312109981	El Dorado County APCD	El Dorado	Lake Tahoe	2025	Ferry and Excursion	ME	25.8118	0.670984	3.370789	25.83982	0.034109	3365.373
83585312109981	Placer County APCD	Placer	Lake Tahoe	2025	Ferry and Excursion	ME	34.41462	0.894616	4.494241	34.45198	0.045477	4487.020

**2004 Fleet Population**

District Abbreviation	District Name	Vessel Type	Ship Population
ED	El Dorado County APCD	Ferries	3
PLA	Placer County APCD	Ferries	4

**Average 2025 Ferry Emission Factor (Tons/Ferry/Year)**

	NOx	PM	ROG	CO	SOx	CO2
El Dorado County	8.96	0.24	1.19	8.93	0.01	1,164.37
Placer County	8.96	0.24	1.19	8.93	0.01	1,164.33

**Fleet Growth Factor**

District	County	AB	EIC Vessel Group	Calendar Year	Ratio to Year 2004
ED	El Dorado	LT	Commercial Boats	2025	1
PLA	Placer	LT	Commercial Boats	2025	1

<b>Total Additional Emissions from Waterborne Transit (Assumes 3 Ferries) (Tons/year)</b>						
NOx	PM	ROG	CO	SOx	CO2	
26.89	0.71	3.57	26.79	0.04	3,492.98	

CA-Only Tahoe SCS Mobile Source Emissions Modeling Results

Alternative 1

Vehicle Activity Data	Resident Population	Daily Trips	VMT	VMT per Capita	% change from 2005
2005	41,213	139,996	949,750	23.04	
2020	41,709	133,802	928,908	22.27	-3.36%
2035	42,005	137,556	989,899	23.57	2.26%

EMFAC 2011	LDA	LDT1	LDT2	MDV	Total CO2	Conversion to CO2e	GHG/capita CO2e (TPD)	GHG/capita (TPD)	GHG/capita (lb/day)	MT CO2e/year	GHG/capita (MT/year)	% change from 2005	SB 375 target	Target met?
2005	116.7615	72.7490	130.7272	116.7493	436.99	1.05	459.99	0.01	22.32	152,281	3.69			
2020	116.5282	40.2824	118.5209	135.7151	411.05	1.05	432.68	0.01	20.75	143,241	3.43	-7.05%	-7%	yes
2035	123.3816	44.2515	126.2404	141.0759	434.95	1.05	457.84	0.01	21.80	151,571	3.61	-2.34%	-5%	no

CA-Only Tahoe SCS Mobile Source Emissions Modeling Results

Alternative 2

Vehicle	Resident			VMT per	% change
Activity Data	Population	Daily Trips	VMT	Capita	from 2005
2005	41,213	139,996	949,750	23.04	
2020	42,735	135,716	944,010	22.09	-4.14%
2035	44,102	143,341	1,004,890	22.79	-1.13%

EMFAC 2011	LDA	LDT1	LDT2	MDV	Total CO2	Conversion to CO2e	GHG/capita CO2e (TPD)	GHG/capita (TPD)	MT (lb/day)	GHG/capita CO2e/year	% change from 2005	SB 375 target	Target met?
2005	116.7615	72.7490	130.7272	116.7493	436.99 TPD	1.05	459.99	0.01	22.32	152,281	3.69		
2020	118.4228	40.9374	120.4478	137.9215	417.73 TPD	1.05	439.72	0.01	20.58	145,570	3.41	-7.81%	-7% yes
2035	125.2500	44.9216	128.152	143.2122	441.54 TPD	1.05	464.77	0.01	21.08	153,866	3.49	-5.58%	-5% yes



CA-Only Tahoe SCS Mobile Source Emissions Modeling Results

Alternative 3

Vehicle	Resident			VMT per	% change
Activity Data	Population	Daily Trips	VMT	Capita	from 2005
2005	41,213	139,996	949,750	23.04	
2020	43,934	133,901	925,150	21.06	-8.62%
2035	45,468	146,660	1,017,955	22.39	-2.85%

EMFAC 2011	LDA	LDT1	LDT2	MDV	Total CO2	Conversion to CO2e	GHG/capita CO2e (TPD)	GHG/capita (TPD)	MT (lb/day)	GHG/capita CO2e/year	GHG/capita (MT/year)	% change from 2005	SB 375 target	Target met?
2005	116.7615	72.7490	130.7272	116.7493	436.9870 TPD	1.05	459.99	0.01	22.32	152,281	3.69			
2020	116.0569	40.1195	118.0414	135.1660	409.3838 TPD	1.05	430.93	0.01	19.62	142,662	3.25	-12.12%		-7% yes
2035	126.8784	45.5057	129.8183	145.0742	447.2766 TPD	1.05	470.82	0.01	20.71	155,867	3.43	-7.22%		-5% yes

CA-Only Tahoe SCS Mobile Source Emissions Modeling Results

Alternative 4

Vehicle	Resident			VMT per	% change
Activity Data	Population	Daily Trips	VMT	Capita	from 2005
2005	41,213	139,996	949,750	23.04	
2020	43,737	136,941	963,786	22.04	-4.38%
2035	45,950	149,650	1,068,686	23.26	0.92%

EMFAC 2011	LDA	LDT1	LDT2	MDV	Total CO2	Conversion to CO2e	GHG/capita CO2e (TPD)	GHG/capita (TPD)	MT (lb/day)	GHG/capita CO2e/year	% change from 2005	SB 375 target	Target met?
2005	116.7615	72.7490	130.7272	116.7493	436.9870 TPD	1.05	459.99	0.01	22.32	152,281	3.69		
2020	120.9036	41.7950	122.9710	140.8108	426.4804 TPD	1.05	448.93	0.01	20.53	148,620	3.40	-8.04%	-7% yes
2035	133.2016	47.7735	136.2878	152.3041	469.5670 TPD	1.05	494.28	0.01	21.51	163,634	3.56	-3.62%	-5% no

CA-Only Tahoe SCS Mobile Source Emissions Modeling Results

Alternative 5

Vehicle	Resident			VMT per	% change
Activity Data	Population	Daily Trips	VMT	Capita	from 2005
2005	41,213	139,996	949,750	23.04	
2020	44,277	139,536	981,457	22.17	-3.81%
2035	46,129	151,074	1,095,393	23.75	3.04%

EMFAC 2011	LDA	LDT1	LDT2	MDV	Total CO2	Conversion to CO2e	GHG/capita CO2e (TPD)	GHG/capita (TPD)	MT (lb/day)	GHG/capita CO2e/year	% change from 2005	SB 375 target	Target met?
2005	116.7615	72.7490	130.7272	116.7493	436.9870 TPD	1.05	459.99	0.01	22.32	152,281	3.69		
2020	123.1205	42.5613	125.2259	143.3927	434.3004 TPD	1.05	457.16	0.01	20.65	151,345	3.42	-7.49%	-7% yes
2035	136.5304	48.9674	139.6939	156.1103	481.3020 TPD	1.05	506.63	0.01	21.97	167,724	3.64	-1.60%	-5% no