

Appendix I

Alternatives Analysis Supplemental Information



**BVDSP Alt 1 No Project Construction Phase 1
Alameda County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Mid Rise	991	Dwelling Unit
Strip Mall	75.6	1000sqft
General Office Building	31.8	1000sqft
Medical Office Building	60	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Pacific Gas & Electric Company
Climate Zone 5 **Precipitation Freq (Days)** 63

1.3 User Entered Comments

Project Characteristics - This run Phase 1 Construction only. Ignore Operational emissions this run
 Land Use - This run construction only
 Construction Phase -
 Off-road Equipment - Adjust load factor to match CARB recommendation

Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Architectural Coating - Adjust ROG content to match upper end of GBC

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					
2015	1.08	5.88	7.63	0.02	1.23	0.28	1.52	0.22	0.28	0.51	0.00	1,358.24	1,358.24	0.09	0.00	1,360.04
2016	1.14	5.10	9.10	0.02	1.33	0.25	1.58	0.07	0.25	0.32	0.00	1,701.22	1,701.22	0.09	0.00	1,703.10
2017	10.58	0.59	0.84	0.00	0.10	0.04	0.14	0.01	0.04	0.05	0.00	145.38	145.38	0.01	0.00	145.59
Total	12.80	11.57	17.57	0.04	2.66	0.57	3.24	0.30	0.57	0.88	0.00	3,204.84	3,204.84	0.19	0.00	3,208.73

2.1 Overall Construction

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					
2015	1.08	5.88	7.63	0.02	0.42	0.28	0.70	0.22	0.28	0.51	0.00	1,358.24	1,358.24	0.09	0.00	1,360.04
2016	1.14	5.10	9.10	0.02	0.07	0.25	0.32	0.07	0.25	0.32	0.00	1,701.22	1,701.22	0.09	0.00	1,703.10
2017	10.58	0.59	0.84	0.00	0.01	0.04	0.05	0.01	0.04	0.05	0.00	145.38	145.38	0.01	0.00	145.59
Total	12.80	11.57	17.57	0.04	0.50	0.57	1.07	0.30	0.57	0.88	0.00	3,204.84	3,204.84	0.19	0.00	3,208.73

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	12.48	0.18	15.62	0.01		0.00	1.22		0.00	1.22	117.75	89.45	207.20	0.20	0.01	213.96
Energy	0.07	0.60	0.30	0.00		0.00	0.05		0.00	0.05	0.00	1,422.86	1,422.86	0.09	0.04	1,437.28
Mobile	3.80	10.03	29.08	0.12	11.17	0.54	11.71	0.20	0.47	0.67	0.00	8,577.16	8,577.16	0.24	0.00	8,582.22
Waste						0.00	0.00		0.00	0.00	246.19	0.00	246.19	14.55	0.00	551.73
Water						0.00	0.00		0.00	0.00	0.00	82.84	82.84	2.55	0.07	156.96
Total	16.35	10.81	45.00	0.13	11.17	0.54	12.98	0.20	0.47	1.94	363.94	10,172.31	10,536.25	17.63	0.12	10,942.15

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	12.48	0.18	15.62	0.01		0.00	1.22		0.00	1.22	117.75	89.45	207.20	0.20	0.01	213.96
Energy	0.07	0.60	0.30	0.00		0.00	0.05		0.00	0.05	0.00	1,422.86	1,422.86	0.09	0.04	1,437.28
Mobile	3.80	10.03	29.08	0.12	11.17	0.54	11.71	0.20	0.47	0.67	0.00	8,577.16	8,577.16	0.24	0.00	8,582.22
Waste						0.00	0.00		0.00	0.00	246.19	0.00	246.19	14.55	0.00	551.73
Water						0.00	0.00		0.00	0.00	0.00	82.84	82.84	2.55	0.07	156.96
Total	16.35	10.81	45.00	0.13	11.17	0.54	12.98	0.20	0.47	1.94	363.94	10,172.31	10,536.25	17.63	0.12	10,942.15

3.0 Construction Detail

3.1 Mitigation Measures Construction

**BVDSP ALt 1- No Project
Alameda County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
General Office Building	60	1000sqft
Medical Office Building	60	1000sqft
Apartments Mid Rise	1400	Dwelling Unit
Strip Mall	140	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Pacific Gas & Electric Company
Climate Zone 5 **Precipitation Freq (Days)** 63

1.3 User Entered Comments

Project Characteristics - Adjust CO2 factor to match PG&E estimate for year 2020, its latest available progostication.

Land Use - Adjust population to match project-specific estimate

Construction Phase - This run operations only as construction is distributed over two time windows and estimared in separate runs.

Vehicle Trips - Adjust trip rates to match transportation analysis.

Woodstoves - Assume no woodstoves. Default percentage of fireplaces assumed but all assumed to be gas.

Area Coating - Adjusted ROG content of coatings to match upper end of GBC

Energy Use - all default for electrical demand

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					
2011	1.92	12.12	11.88	0.02	1.38	0.61	1.98	0.32	0.61	0.93	0.00	1,700.89	1,700.89	0.15	0.00	1,704.11
2012	2.28	10.56	17.63	0.03	1.89	0.53	2.43	0.10	0.53	0.63	0.00	2,549.48	2,549.48	0.18	0.00	2,553.25
2013	2.10	9.72	16.29	0.03	1.89	0.49	2.38	0.10	0.49	0.58	0.00	2,519.32	2,519.32	0.16	0.00	2,522.77
2014	25.93	4.87	7.58	0.01	0.90	0.28	1.17	0.05	0.28	0.32	0.00	1,220.48	1,220.48	0.08	0.00	1,222.21
Total	32.23	37.27	53.38	0.09	6.06	1.91	7.96	0.57	1.91	2.46	0.00	7,990.17	7,990.17	0.57	0.00	8,002.34

2.1 Overall Construction

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					
2011	1.92	12.12	11.88	0.02	0.64	0.61	1.25	0.32	0.61	0.93	0.00	1,700.89	1,700.89	0.15	0.00	1,704.11
2012	2.28	10.56	17.63	0.03	0.10	0.53	0.63	0.10	0.53	0.63	0.00	2,549.48	2,549.48	0.18	0.00	2,553.25
2013	2.10	9.72	16.29	0.03	0.10	0.49	0.58	0.10	0.49	0.58	0.00	2,519.32	2,519.32	0.16	0.00	2,522.77
2014	25.93	4.87	7.58	0.01	0.05	0.28	0.32	0.05	0.28	0.32	0.00	1,220.48	1,220.48	0.08	0.00	1,222.21
Total	32.23	37.27	53.38	0.09	0.89	1.91	2.78	0.57	1.91	2.46	0.00	7,990.17	7,990.17	0.57	0.00	8,002.34

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	8.32	0.12	10.47	0.00		0.00	0.08		0.00	0.08	0.00	281.06	281.06	0.02	0.00	283.01
Energy	0.10	0.84	0.42	0.01		0.00	0.07		0.00	0.07	0.00	2,041.13	2,041.13	0.13	0.06	2,061.94
Mobile	4.13	11.00	31.53	0.13	11.94	0.58	12.52	0.21	0.51	0.72	0.00	9,191.02	9,191.02	0.26	0.00	9,196.47
Waste						0.00	0.00		0.00	0.00	303.43	0.00	303.43	17.93	0.00	680.01
Water						0.00	0.00		0.00	0.00	0.00	119.67	119.67	3.67	0.10	226.20
Total	12.55	11.96	42.42	0.14	11.94	0.58	12.67	0.21	0.51	0.87	303.43	11,632.88	11,936.31	22.01	0.16	12,447.63

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	8.32	0.12	10.47	0.00		0.00	0.08		0.00	0.08	0.00	281.06	281.06	0.02	0.00	283.01
Energy	0.10	0.84	0.42	0.01		0.00	0.07		0.00	0.07	0.00	2,041.13	2,041.13	0.13	0.06	2,061.94
Mobile	4.13	11.00	31.53	0.13	11.94	0.58	12.52	0.21	0.51	0.72	0.00	9,191.02	9,191.02	0.26	0.00	9,196.47
Waste						0.00	0.00		0.00	0.00	303.43	0.00	303.43	17.93	0.00	680.01
Water						0.00	0.00		0.00	0.00	0.00	119.67	119.67	3.67	0.10	226.20
Total	12.55	11.96	42.42	0.14	11.94	0.58	12.67	0.21	0.51	0.87	303.43	11,632.88	11,936.31	22.01	0.16	12,447.63

3.0 Construction Detail

3.1 Mitigation Measures Construction

Woodstoves - Assume no woodstoves. Default percentage of fireplaces assumed but all assumed to be gas.

Area Coating - Adjusted ROG content of coatings to match upper end of GBC

Energy Use - all default for electrical demand

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2011	20.28	110.98	148.53	0.21	18.34	5.44	22.95	9.94	5.44	14.56	0.00	21,617.78	0.00	1.65	0.00	21,652.53
2012	18.66	82.24	137.05	0.21	18.12	4.10	22.21	0.75	4.10	4.84	0.00	21,360.49	0.00	1.52	0.00	21,392.39
2013	17.17	75.65	126.61	0.21	18.12	3.74	21.86	0.75	3.74	4.49	0.00	21,108.15	0.00	1.39	0.00	21,137.34
2014	907.28	69.48	117.04	0.21	18.12	3.40	21.51	0.75	3.40	4.14	0.00	20,863.51	0.00	1.28	0.00	20,890.32
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2011	20.28	110.98	148.53	0.21	18.08	5.44	22.69	9.94	5.44	14.56	0.00	21,617.78	0.00	1.65	0.00	21,652.53
2012	18.66	82.24	137.05	0.21	0.75	4.10	4.84	0.75	4.10	4.84	0.00	21,360.49	0.00	1.52	0.00	21,392.39
2013	17.17	75.65	126.61	0.21	0.75	3.74	4.49	0.75	3.74	4.49	0.00	21,108.15	0.00	1.39	0.00	21,137.34
2014	907.28	69.48	117.04	0.21	0.75	3.40	4.14	0.75	3.40	4.14	0.00	20,863.51	0.00	1.28	0.00	20,890.32
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	48.11	1.34	116.48	0.01		0.00	1.28		0.00	1.27	0.00	10,241.09		0.39	0.18	10,306.34
Energy	0.53	4.60	2.30	0.03		0.00	0.37		0.00	0.37		5,807.54		0.11	0.11	5,842.89
Mobile	24.55	59.97	180.14	0.70	81.98	3.20	85.18	1.16	2.80	3.96		55,074.73		1.57		55,107.71
Total	73.19	65.91	298.92	0.74	81.98	3.20	86.83	1.16	2.80	5.60	0.00	71,123.36		2.07	0.29	71,256.94

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	48.11	1.34	116.48	0.01		0.00	1.28		0.00	1.27	0.00	10,241.09		0.39	0.18	10,306.34
Energy	0.53	4.60	2.30	0.03		0.00	0.37		0.00	0.37		5,807.54		0.11	0.11	5,842.89
Mobile	24.55	59.97	180.14	0.70	81.98	3.20	85.18	1.16	2.80	3.96		55,074.73		1.57		55,107.71
Total	73.19	65.91	298.92	0.74	81.98	3.20	86.83	1.16	2.80	5.60	0.00	71,123.36		2.07	0.29	71,256.94

3.0 Construction Detail

**BVDSP Alt 2- Mitgated Construction Phase 1
Alameda County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Mid Rise	991	Dwelling Unit
Strip Mall	81	1000sqft
General Office Building	76.32	1000sqft
Medical Office Building	156	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Pacific Gas & Electric Company
Climate Zone 5 **Precipitation Freq (Days)** 63

1.3 User Entered Comments

Project Characteristics - This run Phase 1 construction only. Ignore operational emission in this run
 Land Use - consreuction only run
 Construction Phase -
 Off-road Equipment - Adjust load factor to match CARB recommendation

Off-road Equipment - Adjust load factor to match CARB recommendation
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 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Architectural Coating - Adjust ROG content to match upper end of GBC

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					
2015	1.14	6.20	8.05	0.02	1.29	0.29	1.59	0.23	0.29	0.52	0.00	1,446.98	1,446.98	0.09	0.00	1,448.85
2016	1.21	5.53	9.70	0.02	1.43	0.27	1.69	0.07	0.27	0.34	0.00	1,837.09	1,837.09	0.09	0.00	1,839.07
2017	11.86	1.77	2.95	0.01	0.44	0.10	0.53	0.02	0.10	0.12	0.00	570.99	570.99	0.03	0.00	571.63
Total	14.21	13.50	20.70	0.05	3.16	0.66	3.81	0.32	0.66	0.98	0.00	3,855.06	3,855.06	0.21	0.00	3,859.55

2.1 Overall Construction

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					
2015	1.14	6.20	8.05	0.02	0.42	0.29	0.72	0.23	0.29	0.52	0.00	1,446.98	1,446.98	0.09	0.00	1,448.85
2016	1.21	5.53	9.70	0.02	0.07	0.27	0.34	0.07	0.27	0.34	0.00	1,837.09	1,837.09	0.09	0.00	1,839.07
2017	11.86	1.77	2.95	0.01	0.02	0.10	0.12	0.02	0.10	0.12	0.00	570.99	570.99	0.03	0.00	571.63
Total	14.21	13.50	20.70	0.05	0.51	0.66	1.18	0.32	0.66	0.98	0.00	3,855.06	3,855.06	0.21	0.00	3,859.55

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	13.22	0.18	15.62	0.01		0.00	1.22		0.00	1.22	117.75	89.45	207.20	0.20	0.01	213.96
Energy	0.08	0.74	0.42	0.00		0.00	0.06		0.00	0.06	0.00	1,841.20	1,841.20	0.12	0.05	1,860.23
Mobile	4.85	12.81	37.10	0.15	14.23	0.69	14.92	0.25	0.60	0.86	0.00	10,933.04	10,933.04	0.31	0.00	10,939.49
Waste						0.00	0.00		0.00	0.00	466.21	0.00	466.21	27.55	0.00	1,044.80
Water						0.00	0.00		0.00	0.00	0.00	100.96	100.96	3.18	0.08	193.15
Total	18.15	13.73	53.14	0.16	14.23	0.69	16.20	0.25	0.60	2.14	583.96	12,964.65	13,548.61	31.36	0.14	14,251.63

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	13.22	0.18	15.62	0.01		0.00	1.22		0.00	1.22	117.75	89.45	207.20	0.20	0.01	213.96
Energy	0.08	0.74	0.42	0.00		0.00	0.06		0.00	0.06	0.00	1,841.20	1,841.20	0.12	0.05	1,860.23
Mobile	4.85	12.81	37.10	0.15	14.23	0.69	14.92	0.25	0.60	0.86	0.00	10,933.04	10,933.04	0.31	0.00	10,939.49
Waste						0.00	0.00		0.00	0.00	466.21	0.00	466.21	27.55	0.00	1,044.80
Water						0.00	0.00		0.00	0.00	0.00	100.96	100.96	3.18	0.08	193.15
Total	18.15	13.73	53.14	0.16	14.23	0.69	16.20	0.25	0.60	2.14	583.96	12,964.65	13,548.61	31.36	0.14	14,251.63

3.0 Construction Detail

3.1 Mitigation Measures Construction

**BVDSP Alt 2 Mitigated Construction Phase 2
Alameda County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Mid Rise	809	Dwelling Unit
Strip Mall	69	1000sqft
General Office Building	67.68	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Pacific Gas & Electric Company
Climate Zone 5 **Precipitation Freq (Days)** 63

1.3 User Entered Comments

Project Characteristics - This run Phase 2 Construction only. Ignore operational emission this run
 Land Use - Construction only run
 Construction Phase - Phasing adusted for 2020
 Off-road Equipment - Adjust load factor to match CARB recommendation
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 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Architectural Coating - Adjust ROG content to reflect upper rend of GBC

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					
2020	9.04	2.59	3.70	0.01	0.73	0.12	0.85	0.12	0.12	0.24	0.00	817.68	817.68	0.04	0.00	818.51
Total	9.04	2.59	3.70	0.01	0.73	0.12	0.85	0.12	0.12	0.24	0.00	817.68	817.68	0.04	0.00	818.51

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					
2020	9.04	2.59	3.70	0.01	0.27	0.12	0.39	0.12	0.12	0.24	0.00	817.68	817.68	0.04	0.00	818.51
Total	9.04	2.59	3.70	0.01	0.27	0.12	0.39	0.12	0.12	0.24	0.00	817.68	817.68	0.04	0.00	818.51

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	10.19	0.15	12.75	0.01		0.00	0.99		0.00	0.99	96.13	73.02	169.15	0.16	0.01	174.66
Energy	0.06	0.48	0.24	0.00		0.00	0.04		0.00	0.04	0.00	1,153.42	1,153.42	0.07	0.03	1,165.13
Mobile	2.88	7.60	22.05	0.09	8.47	0.41	8.89	0.15	0.36	0.51	0.00	6,507.87	6,507.87	0.18	0.00	6,511.70
Waste						0.00	0.00		0.00	0.00	103.02	0.00	103.02	6.09	0.00	230.88
Water						0.00	0.00		0.00	0.00	0.00	70.64	70.64	2.14	0.06	132.77
Total	13.13	8.23	35.04	0.10	8.47	0.41	9.92	0.15	0.36	1.54	199.15	7,804.95	8,004.10	8.64	0.10	8,215.14

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	10.19	0.15	12.75	0.01		0.00	0.99		0.00	0.99	96.13	73.02	169.15	0.16	0.01	174.66
Energy	0.06	0.48	0.24	0.00		0.00	0.04		0.00	0.04	0.00	1,153.42	1,153.42	0.07	0.03	1,165.13
Mobile	2.88	7.60	22.05	0.09	8.47	0.41	8.89	0.15	0.36	0.51	0.00	6,507.87	6,507.87	0.18	0.00	6,511.70
Waste						0.00	0.00		0.00	0.00	103.02	0.00	103.02	6.09	0.00	230.88
Water						0.00	0.00		0.00	0.00	0.00	70.64	70.64	2.14	0.06	132.77
Total	13.13	8.23	35.04	0.10	8.47	0.41	9.92	0.15	0.36	1.54	199.15	7,804.95	8,004.10	8.64	0.10	8,215.14

3.0 Construction Detail

3.1 Mitigation Measures Construction

Woodstoves - Assume no woodstoves. Assume default percentage of fireplaces but all gas

Area Coating - Adjust ROG content to match upper end of GBC

Energy Use - Energy use all default values

Energy Mitigation -

Water Mitigation -

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					
2011	1.77	12.81	9.71	0.02	1.25	0.64	1.88	0.42	0.64	1.05	0.00	1,450.00	1,450.00	0.14	0.00	1,452.99
2012	2.80	12.67	22.42	0.04	2.51	0.61	3.12	0.13	0.61	0.74	0.00	3,249.98	3,249.98	0.22	0.00	3,254.58
2013	2.58	11.65	20.65	0.04	2.51	0.56	3.07	0.13	0.56	0.68	0.00	3,210.26	3,210.26	0.20	0.00	3,214.47
2014	2.37	10.70	19.04	0.04	2.51	0.51	3.02	0.13	0.51	0.64	0.00	3,171.75	3,171.75	0.18	0.00	3,175.62
2015	2.19	9.77	17.60	0.04	2.51	0.46	2.97	0.13	0.46	0.59	0.00	3,131.22	3,131.22	0.17	0.00	3,134.78
2016	33.75	2.10	3.13	0.01	0.39	0.14	0.53	0.02	0.14	0.16	0.00	527.41	527.41	0.04	0.00	528.18
Total	45.46	59.70	92.55	0.19	11.68	2.92	14.59	0.96	2.92	3.86	0.00	14,740.62	14,740.62	0.95	0.00	14,760.62

2.1 Overall Construction

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					
2011	1.77	12.81	9.71	0.02	0.86	0.64	1.50	0.42	0.64	1.05	0.00	1,450.00	1,450.00	0.14	0.00	1,452.99
2012	2.80	12.67	22.42	0.04	0.13	0.61	0.74	0.13	0.61	0.74	0.00	3,249.98	3,249.98	0.22	0.00	3,254.58
2013	2.58	11.65	20.65	0.04	0.13	0.56	0.68	0.13	0.56	0.68	0.00	3,210.26	3,210.26	0.20	0.00	3,214.47
2014	2.37	10.70	19.04	0.04	0.13	0.51	0.64	0.13	0.51	0.64	0.00	3,171.75	3,171.75	0.18	0.00	3,175.62
2015	2.19	9.77	17.60	0.04	0.13	0.46	0.59	0.13	0.46	0.59	0.00	3,131.22	3,131.22	0.17	0.00	3,134.78
2016	33.75	2.10	3.13	0.01	0.02	0.14	0.16	0.02	0.14	0.16	0.00	527.41	527.41	0.04	0.00	528.18
Total	45.46	59.70	92.55	0.19	1.40	2.92	4.31	0.96	2.92	3.86	0.00	14,740.62	14,740.62	0.95	0.00	14,760.62

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	11.21	0.15	13.44	0.00		0.00	0.10		0.00	0.10	0.00	360.76	360.76	0.03	0.01	363.26
Energy	0.14	1.22	0.66	0.01		0.00	0.10		0.00	0.10	0.00	2,991.54	2,991.54	0.19	0.09	3,022.23
Mobile	5.62	14.90	42.93	0.18	16.36	0.80	17.15	0.29	0.70	0.98	0.00	12,579.99	12,579.99	0.35	0.00	12,587.43
Waste						0.00	0.00		0.00	0.00	568.95	0.00	568.95	33.62	0.00	1,275.06
Water						0.00	0.00		0.00	0.00	0.00	171.39	171.39	5.31	0.14	325.55
Total	16.97	16.27	57.03	0.19	16.36	0.80	17.35	0.29	0.70	1.18	568.95	16,103.68	16,672.63	39.50	0.24	17,573.53

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	11.21	0.15	13.44	0.00		0.00	0.10		0.00	0.10	0.00	360.76	360.76	0.03	0.01	363.26
Energy	0.14	1.22	0.66	0.01		0.00	0.10		0.00	0.10	0.00	2,963.88	2,963.88	0.18	0.09	2,994.19
Mobile	5.62	14.90	42.93	0.18	16.36	0.80	17.15	0.29	0.70	0.98	0.00	12,579.99	12,579.99	0.35	0.00	12,587.43
Waste						0.00	0.00		0.00	0.00	568.95	0.00	568.95	33.62	0.00	1,275.06
Water						0.00	0.00		0.00	0.00	0.00	146.33	146.33	4.25	0.11	269.78
Total	16.97	16.27	57.03	0.19	16.36	0.80	17.35	0.29	0.70	1.18	568.95	16,050.96	16,619.91	38.43	0.21	17,489.72

3.0 Construction Detail

3.1 Mitigation Measures Construction

Woodstoves - Assume no woodstoves. Assume default percentage of fireplaces but all gas

Area Coating - Adjust ROG content to match upper end of GBC

Energy Use - Energy use all default values

Energy Mitigation -

Water Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2011	25.00	110.98	189.61	0.27	24.00	5.44	29.05	9.94	5.44	14.56	0.00	27,559.06	0.00	2.02	0.00	27,601.42
2012	23.01	98.86	174.48	0.27	24.00	4.66	28.66	0.99	4.66	5.66	0.00	27,220.18	0.00	1.85	0.00	27,259.06
2013	21.17	90.83	160.73	0.27	24.00	4.27	28.27	0.99	4.27	5.27	0.00	26,887.81	0.00	1.69	0.00	26,923.40
2014	19.47	83.35	148.13	0.27	24.00	3.89	27.89	0.99	3.89	4.89	0.00	26,565.64	0.00	1.56	0.00	26,598.32
2015	17.99	76.07	136.95	0.27	24.00	3.56	27.55	0.99	3.56	4.55	0.00	26,226.74	0.00	1.43	0.00	26,256.82
2016	890.20	69.50	128.15	0.27	24.00	3.27	27.26	0.99	3.27	4.26	0.00	26,131.57	0.00	1.34	0.00	26,159.63
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2011	25.00	110.98	189.61	0.27	18.08	5.44	22.69	9.94	5.44	14.56	0.00	27,559.06	0.00	2.02	0.00	27,601.42
2012	23.01	98.86	174.48	0.27	0.99	4.66	5.66	0.99	4.66	5.66	0.00	27,220.18	0.00	1.85	0.00	27,259.06
2013	21.17	90.83	160.73	0.27	0.99	4.27	5.27	0.99	4.27	5.27	0.00	26,887.81	0.00	1.69	0.00	26,923.40
2014	19.47	83.35	148.13	0.27	0.99	3.89	4.89	0.99	3.89	4.89	0.00	26,565.64	0.00	1.56	0.00	26,598.32
2015	17.99	76.07	136.95	0.27	0.99	3.56	4.55	0.99	3.56	4.55	0.00	26,226.74	0.00	1.43	0.00	26,256.82
2016	890.20	69.50	128.15	0.27	0.99	3.27	4.26	0.99	3.27	4.26	0.00	26,131.57	0.00	1.34	0.00	26,159.63
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	64.68	1.72	149.51	0.01		0.00	1.64		0.00	1.64	0.00	13,145.17		0.50	0.24	13,228.92
Energy	0.77	6.66	3.59	0.04		0.00	0.53		0.00	0.53		8,363.08		0.16	0.15	8,413.98
Mobile	33.40	81.27	245.07	0.96	112.33	4.38	116.71	1.59	3.83	5.42		75,384.17		2.14		75,429.20
Total	98.85	89.65	398.17	1.01	112.33	4.38	118.88	1.59	3.83	7.59	0.00	96,892.42		2.80	0.39	97,072.10

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	64.68	1.72	149.51	0.01		0.00	1.64		0.00	1.64	0.00	13,145.17		0.50	0.24	13,228.92
Energy	0.77	6.66	3.59	0.04		0.00	0.53		0.00	0.53		8,363.08		0.16	0.15	8,413.98
Mobile	33.40	81.27	245.07	0.96	112.33	4.38	116.71	1.59	3.83	5.42		75,384.17		2.14		75,429.20
Total	98.85	89.65	398.17	1.01	112.33	4.38	118.88	1.59	3.83	7.59	0.00	96,892.42		2.80	0.39	97,072.10

3.0 Construction Detail

**BVDSP ALt 3 Construction Phase 1
Alameda County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Mid Rise	991	Dwelling Unit
Strip Mall	901.8	1000sqft
General Office Building	773.906	1000sqft
Medical Office Building	156	1000sqft

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Pacific Gas & Electric Company
Climate Zone 5 **Precipitation Freq (Days)** 63

1.3 User Entered Comments

Project Characteristics - This run construction only through 2020. Operations on another run.
 Land Use -
 Construction Phase -
 Off-road Equipment - Adjust load factor to match CARB recommendation

Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Vehicle Trips - Ignore operations this run

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					
2014	1.11	7.80	6.45	0.01	1.24	0.36	1.60	0.42	0.36	0.78	0.00	1,157.84	1,157.84	0.09	0.00	1,159.67
2015	2.11	10.92	17.02	0.04	2.43	0.45	2.88	0.13	0.45	0.59	0.00	3,254.58	3,254.58	0.15	0.00	3,257.82
2016	1.96	10.01	15.89	0.04	2.43	0.42	2.85	0.13	0.42	0.55	0.00	3,244.69	3,244.69	0.14	0.00	3,247.72
2017	1.81	9.12	14.69	0.04	2.42	0.38	2.80	0.13	0.38	0.51	0.00	3,197.80	3,197.80	0.13	0.00	3,200.58
2018	1.68	8.40	13.73	0.04	2.43	0.35	2.78	0.05	0.33	0.38	0.00	3,177.90	3,177.90	0.12	0.00	3,180.48
2019	37.00	1.45	2.29	0.01	0.37	0.09	0.45	0.01	0.08	0.09	0.00	479.14	479.14	0.02	0.00	479.64
Total	45.67	47.70	70.07	0.18	11.32	2.05	13.36	0.87	2.02	2.90	0.00	14,511.95	14,511.95	0.65	0.00	14,525.91

2.1 Overall Construction

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					
2014	1.11	7.80	6.45	0.01	0.86	0.36	1.22	0.42	0.36	0.78	0.00	1,157.84	1,157.84	0.09	0.00	1,159.67
2015	2.11	10.92	17.02	0.04	0.13	0.45	0.59	0.13	0.45	0.59	0.00	3,254.58	3,254.58	0.15	0.00	3,257.82
2016	1.96	10.01	15.89	0.04	0.13	0.42	0.55	0.13	0.42	0.55	0.00	3,244.69	3,244.69	0.14	0.00	3,247.72
2017	1.81	9.12	14.69	0.04	0.13	0.38	0.51	0.13	0.38	0.51	0.00	3,197.80	3,197.80	0.13	0.00	3,200.58
2018	1.68	8.40	13.73	0.04	0.13	0.35	0.48	0.05	0.33	0.38	0.00	3,177.90	3,177.90	0.12	0.00	3,180.48
2019	37.00	1.45	2.29	0.01	0.02	0.09	0.10	0.01	0.08	0.09	0.00	479.14	479.14	0.02	0.00	479.64
Total	45.67	47.70	70.07	0.18	1.40	2.05	3.45	0.87	2.02	2.90	0.00	14,511.95	14,511.95	0.65	0.00	14,525.91

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	20.91	0.18	15.62	0.01		0.00	1.22		0.00	1.22	117.75	89.45	207.20	0.20	0.01	213.96
Energy	0.18	1.62	1.16	0.01		0.00	0.13		0.00	0.13	0.00	9,614.16	9,614.16	0.39	0.17	9,674.08
Mobile	16.32	44.11	123.97	0.50	45.67	2.24	47.91	0.81	1.96	2.77	0.00	35,321.94	35,321.94	1.01	0.00	35,343.05
Waste						0.00	0.00		0.00	0.00	772.85	0.00	772.85	45.67	0.00	1,732.00
Water						0.00	0.00		0.00	0.00	0.00	630.12	630.12	8.83	0.23	886.68
Total	37.41	45.91	140.75	0.52	45.67	2.24	49.26	0.81	1.96	4.12	890.60	45,655.67	46,546.27	56.10	0.41	47,849.77

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	20.91	0.18	15.62	0.01		0.00	1.22		0.00	1.22	117.75	89.45	207.20	0.20	0.01	213.96
Energy	0.18	1.62	1.16	0.01		0.00	0.13		0.00	0.13	0.00	9,614.16	9,614.16	0.39	0.17	9,674.08
Mobile	16.32	44.11	123.97	0.50	45.67	2.24	47.91	0.81	1.96	2.77	0.00	35,321.94	35,321.94	1.01	0.00	35,343.05
Waste						0.00	0.00		0.00	0.00	772.85	0.00	772.85	45.67	0.00	1,732.00
Water						0.00	0.00		0.00	0.00	0.00	630.12	630.12	8.83	0.23	886.68
Total	37.41	45.91	140.75	0.52	45.67	2.24	49.26	0.81	1.96	4.12	890.60	45,655.67	46,546.27	56.10	0.41	47,849.77

3.0 Construction Detail

3.1 Mitigation Measures Construction

**BVDSP Alt 3 Constrctrion Phase 2
Alameda County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Mid Rise	4409	Dwelling Unit
Strip Mall	786.2	1000sqft
General Office Building	686.294	1000sqft
Medical Office Building	469.8	1000sqft
Hotel	540	Room

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Utility Company** Pacific Gas & Electric Company
Climate Zone 5 **Precipitation Freq (Days)** 63

1.3 User Entered Comments

Project Characteristics - This run phase 2 construction only. Ignore operational emissions on this run.
 Land Use - construction only run
 Construction Phase - Adjust construction to occur by 2025

Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation
 Off-road Equipment - Adjust load factor to match CARB recommendation

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					
2020	0.53	3.66	3.07	0.01	1.11	0.16	1.27	0.60	0.16	0.76	0.00	625.61	625.61	0.04	0.00	626.53
2021	0.64	4.19	3.58	0.01	2.46	0.17	2.63	1.15	0.17	1.33	0.00	836.24	836.24	0.05	0.00	837.32
2022	2.21	9.24	17.58	0.06	5.67	0.40	6.07	0.64	0.38	1.02	0.00	4,962.56	4,962.56	0.16	0.00	4,965.99
2023	1.12	4.75	8.87	0.03	2.18	0.24	2.42	0.04	0.23	0.27	0.00	2,470.71	2,470.71	0.08	0.00	2,472.45
2024	100.86	0.56	3.14	0.01	1.10	0.06	1.16	0.02	0.06	0.08	0.00	800.61	800.61	0.03	0.00	801.28
Total	105.36	22.40	36.24	0.12	12.52	1.03	13.55	2.45	1.00	3.46	0.00	9,695.73	9,695.73	0.36	0.00	9,703.57

2.1 Overall Construction

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					
2020	0.53	3.66	3.07	0.01	1.09	0.16	1.24	0.60	0.16	0.76	0.00	625.61	625.61	0.04	0.00	626.53
2021	0.64	4.19	3.58	0.01	2.43	0.17	2.60	1.15	0.17	1.33	0.00	836.24	836.24	0.05	0.00	837.32
2022	2.21	9.24	17.58	0.06	1.57	0.40	1.97	0.64	0.38	1.02	0.00	4,962.56	4,962.56	0.16	0.00	4,965.99
2023	1.12	4.75	8.87	0.03	0.11	0.24	0.35	0.04	0.23	0.27	0.00	2,470.71	2,470.71	0.08	0.00	2,472.45
2024	100.86	0.56	3.14	0.01	0.05	0.06	0.11	0.02	0.06	0.08	0.00	800.61	800.61	0.03	0.00	801.28
Total	105.36	22.40	36.24	0.12	5.25	1.03	6.27	2.45	1.00	3.46	0.00	9,695.73	9,695.73	0.36	0.00	9,703.57

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	65.57	0.80	69.48	0.03		0.00	5.42		0.00	5.42	523.89	397.97	921.86	0.89	0.04	951.91
Energy	0.56	4.96	3.27	0.03		0.00	0.39		0.00	0.39	0.00	11,837.90	11,837.90	0.74	0.34	11,958.81
Mobile	26.85	71.45	204.90	0.84	77.58	3.78	81.36	1.37	3.30	4.68	0.00	59,731.69	59,731.69	1.69	0.00	59,767.08
Waste						0.00	0.00		0.00	0.00	1,798.78	0.00	1,798.78	106.30	0.00	4,031.19
Water						0.00	0.00		0.00	0.00	0.00	530.61	530.61	16.54	0.43	1,010.85
Total	92.98	77.21	277.65	0.90	77.58	3.78	87.17	1.37	3.30	10.49	2,322.67	72,498.17	74,820.84	126.16	0.81	77,719.84

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	65.57	0.80	69.48	0.03		0.00	5.42		0.00	5.42	523.89	397.97	921.86	0.89	0.04	951.91
Energy	0.56	4.96	3.27	0.03		0.00	0.39		0.00	0.39	0.00	11,837.90	11,837.90	0.74	0.34	11,958.81
Mobile	26.85	71.45	204.90	0.84	77.58	3.78	81.36	1.37	3.30	4.68	0.00	59,731.69	59,731.69	1.69	0.00	59,767.08
Waste						0.00	0.00		0.00	0.00	1,798.78	0.00	1,798.78	106.30	0.00	4,031.19
Water						0.00	0.00		0.00	0.00	0.00	530.61	530.61	16.54	0.43	1,010.85
Total	92.98	77.21	277.65	0.90	77.58	3.78	87.17	1.37	3.30	10.49	2,322.67	72,498.17	74,820.84	126.16	0.81	77,719.84

3.0 Construction Detail

3.1 Mitigation Measures Construction

Vehicle Trips - Adjust trip rates to match project specific trip generation

Woodstoves - Assume no woodstoves in apartments.

Assume default percentage of fireplaces but all gas.

Area Coating - Adjust ROG content to match upper end of GBC

Energy Use - All energy demand values default

Energy Mitigation -

Water Mitigation -

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					
2011	1.30	10.40	6.15	0.01	0.02	0.53	0.56	0.00	0.53	0.53	0.00	905.85	905.85	0.11	0.00	908.07
2012	1.40	11.27	6.51	0.01	3.67	0.56	4.23	1.73	0.56	2.30	0.00	1,014.65	1,014.65	0.11	0.00	1,017.04
2013	1.57	12.74	7.09	0.01	2.05	0.60	2.65	0.84	0.60	1.44	0.00	1,311.00	1,311.00	0.13	0.00	1,313.67
2014	3.84	20.53	29.44	0.06	5.70	0.85	6.56	1.03	0.85	1.89	0.00	5,197.43	5,197.43	0.29	0.00	5,203.57
2015	7.18	32.04	61.52	0.13	9.77	1.27	11.04	0.52	1.27	1.79	0.00	11,510.47	11,510.47	0.53	0.00	11,521.67
2016	6.69	29.38	57.12	0.13	9.77	1.19	10.96	0.52	1.19	1.70	0.00	11,468.30	11,468.30	0.50	0.00	11,478.82
2017	6.17	26.80	52.41	0.13	9.73	1.09	10.83	0.52	1.09	1.61	0.00	11,279.81	11,279.81	0.46	0.00	11,289.48
2018	5.76	24.73	48.62	0.13	9.77	1.02	10.79	0.18	0.95	1.14	0.00	11,187.96	11,187.96	0.43	0.00	11,196.95

	ROG	NOx	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					
2019	5.39	22.86	45.17	0.13	9.77	0.95	10.72	0.18	0.89	1.07	0.00	11,064.02	11,064.02	0.40	0.00	11,072.36
2020	5.09	21.32	42.38	0.13	9.81	0.89	10.70	0.18	0.83	1.02	0.00	10,991.58	10,991.58	0.37	0.00	10,999.43
2021	4.79	19.83	39.62	0.13	9.77	0.84	10.61	0.18	0.78	0.96	0.00	10,843.34	10,843.34	0.35	0.00	10,850.66
2022	4.52	18.59	37.07	0.13	9.73	0.79	10.53	0.18	0.74	0.92	0.00	10,703.87	10,703.87	0.33	0.00	10,710.73
2023	4.30	17.59	34.91	0.13	9.73	0.75	10.49	0.18	0.70	0.89	0.00	10,614.06	10,614.06	0.31	0.00	10,620.56
2024	4.13	16.87	33.35	0.13	9.81	0.73	10.54	0.18	0.68	0.86	0.00	10,612.55	10,612.55	0.29	0.00	10,618.75
2025	3.94	16.09	31.67	0.13	9.77	0.70	10.47	0.18	0.65	0.84	0.00	10,497.64	10,497.64	0.28	0.00	10,503.53
2026	3.94	16.09	31.67	0.13	9.77	0.70	10.47	0.18	0.65	0.84	0.00	10,497.64	10,497.64	0.28	0.00	10,503.53
2027	3.94	16.09	31.67	0.13	9.77	0.70	10.47	0.18	0.65	0.84	0.00	10,497.64	10,497.64	0.28	0.00	10,503.53
2028	3.92	16.02	31.55	0.13	9.73	0.70	10.43	0.18	0.65	0.83	0.00	10,457.42	10,457.42	0.28	0.00	10,463.29
2029	3.94	16.09	31.67	0.13	9.77	0.70	10.47	0.18	0.65	0.84	0.00	10,497.64	10,497.64	0.28	0.00	10,503.53
2030	3.31	13.97	26.63	0.13	9.77	0.65	10.42	0.18	0.60	0.78	0.00	10,350.08	10,350.08	0.24	0.00	10,355.09
2031	3.31	13.97	26.63	0.13	9.77	0.65	10.42	0.18	0.60	0.78	0.00	10,350.08	10,350.08	0.24	0.00	10,355.09
2032	1.62	7.11	13.36	0.06	4.39	0.33	4.72	0.08	0.31	0.39	0.00	4,840.08	4,840.08	0.12	0.00	4,842.57
2033	31.43	1.20	2.79	0.01	0.50	0.07	0.57	0.01	0.07	0.08	0.00	584.72	584.72	0.02	0.00	585.24
2034	106.26	0.38	3.33	0.02	1.66	0.07	1.73	0.03	0.07	0.09	0.00	1,118.75	1,118.75	0.04	0.00	1,119.50
Total	227.74	401.96	732.33	2.39	184.00	17.33	201.38	7.80	16.56	24.43	0.00	198,396.58	198,396.58	6.67	0.00	198,536.66

2.1 Overall Construction

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					
2011	1.30	10.40	6.15	0.01	0.00	0.53	0.53	0.00	0.53	0.53	0.00	905.85	905.85	0.11	0.00	908.07
2012	1.40	11.27	6.51	0.01	3.64	0.56	4.21	1.73	0.56	2.30	0.00	1,014.65	1,014.65	0.11	0.00	1,017.04
2013	1.57	12.74	7.09	0.01	2.02	0.60	2.62	0.84	0.60	1.44	0.00	1,311.00	1,311.00	0.13	0.00	1,313.67
2014	3.84	20.53	29.44	0.06	2.21	0.85	3.07	1.03	0.85	1.89	0.00	5,197.43	5,197.43	0.29	0.00	5,203.57
2015	7.18	32.04	61.52	0.13	0.52	1.27	1.79	0.52	1.27	1.79	0.00	11,510.47	11,510.47	0.53	0.00	11,521.67
2016	6.69	29.38	57.12	0.13	0.52	1.19	1.70	0.52	1.19	1.70	0.00	11,468.30	11,468.30	0.50	0.00	11,478.82
2017	6.17	26.80	52.41	0.13	0.52	1.09	1.61	0.52	1.09	1.61	0.00	11,279.81	11,279.81	0.46	0.00	11,289.48
2018	5.76	24.73	48.62	0.13	0.52	1.02	1.54	0.18	0.95	1.14	0.00	11,187.96	11,187.96	0.43	0.00	11,196.95
2019	5.39	22.86	45.17	0.13	0.52	0.95	1.47	0.18	0.89	1.07	0.00	11,064.02	11,064.02	0.40	0.00	11,072.36
2020	5.09	21.32	42.38	0.13	0.52	0.89	1.41	0.18	0.83	1.02	0.00	10,991.58	10,991.58	0.37	0.00	10,999.43
2021	4.79	19.83	39.62	0.13	0.52	0.84	1.35	0.18	0.78	0.96	0.00	10,843.34	10,843.34	0.35	0.00	10,850.66
2022	4.52	18.59	37.07	0.13	0.52	0.79	1.31	0.18	0.74	0.92	0.00	10,703.87	10,703.87	0.33	0.00	10,710.73
2023	4.30	17.59	34.91	0.13	0.52	0.75	1.27	0.18	0.70	0.89	0.00	10,614.06	10,614.06	0.31	0.00	10,620.56
2024	4.13	16.87	33.35	0.13	0.52	0.73	1.25	0.18	0.68	0.86	0.00	10,612.55	10,612.55	0.29	0.00	10,618.75
2025	3.94	16.09	31.67	0.13	0.52	0.70	1.22	0.18	0.65	0.84	0.00	10,497.64	10,497.64	0.28	0.00	10,503.53
2026	3.94	16.09	31.67	0.13	0.52	0.70	1.22	0.18	0.65	0.84	0.00	10,497.64	10,497.64	0.28	0.00	10,503.53
2027	3.94	16.09	31.67	0.13	0.52	0.70	1.22	0.18	0.65	0.84	0.00	10,497.64	10,497.64	0.28	0.00	10,503.53
2028	3.92	16.02	31.55	0.13	0.52	0.70	1.22	0.18	0.65	0.83	0.00	10,457.42	10,457.42	0.28	0.00	10,463.29
2029	3.94	16.09	31.67	0.13	0.52	0.70	1.22	0.18	0.65	0.84	0.00	10,497.64	10,497.64	0.28	0.00	10,503.53
2030	3.31	13.97	26.63	0.13	0.52	0.65	1.17	0.18	0.60	0.78	0.00	10,350.08	10,350.08	0.24	0.00	10,355.09
2031	3.31	13.97	26.63	0.13	0.52	0.65	1.17	0.18	0.60	0.78	0.00	10,350.08	10,350.08	0.24	0.00	10,355.09

	ROG	NOx	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					
2032	1.62	7.11	13.36	0.06	0.23	0.33	0.56	0.08	0.31	0.39	0.00	4,840.08	4,840.08	0.12	0.00	4,842.57
2033	31.43	1.20	2.79	0.01	0.02	0.07	0.09	0.01	0.07	0.08	0.00	584.72	584.72	0.02	0.00	585.24
2034	106.26	0.38	3.33	0.02	0.08	0.07	0.15	0.03	0.07	0.09	0.00	1,118.75	1,118.75	0.04	0.00	1,119.50
Total	227.74	401.96	732.33	2.39	17.04	17.33	34.37	7.80	16.56	24.43	0.00	198,396.58	198,396.58	6.67	0.00	198,536.66

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	48.36	0.46	40.39	0.00		0.00	0.29		0.00	0.29	0.00	1,084.09	1,084.09	0.08	0.02	1,091.61
Energy	0.74	6.58	4.43	0.04		0.00	0.51		0.00	0.51	0.00	17,143.31	17,143.31	1.12	0.51	17,323.78
Mobile	21.13	56.22	161.19	0.66	61.01	2.98	63.99	1.08	2.60	3.68	0.00	46,978.77	46,978.77	1.33	0.00	47,006.61
Waste						0.00	0.00		0.00	0.00	2,568.22	0.00	2,568.22	151.78	0.00	5,755.54
Water						0.00	0.00		0.00	0.00	0.00	816.11	816.11	25.34	0.66	1,551.86
Total	70.23	63.26	206.01	0.70	61.01	2.98	64.79	1.08	2.60	4.48	2,568.22	66,022.28	68,590.50	179.65	1.19	72,729.40

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	48.36	0.46	40.39	0.00		0.00	0.29		0.00	0.29	0.00	1,084.09	1,084.09	0.08	0.02	1,091.61
Energy	0.68	6.02	4.04	0.04		0.00	0.47		0.00	0.47	0.00	16,182.17	16,182.17	1.08	0.48	16,354.22
Mobile	21.13	56.22	161.19	0.66	61.01	2.98	63.99	1.08	2.60	3.68	0.00	46,978.77	46,978.77	1.33	0.00	47,006.61
Waste						0.00	0.00		0.00	0.00	2,568.22	0.00	2,568.22	151.78	0.00	5,755.54
Water						0.00	0.00		0.00	0.00	0.00	696.47	696.47	20.27	0.53	1,285.67
Total	70.17	62.70	205.62	0.70	61.01	2.98	64.75	1.08	2.60	4.44	2,568.22	64,941.50	67,509.72	174.54	1.03	71,493.65

3.0 Construction Detail

3.1 Mitigation Measures Construction

Vehicle Trips - Adjust trip rates to match project specific trip generation

Woodstoves - Assume no woodstoves in apartments.

Assume default percentage of fireplaces but all gas.

Area Coating - Adjust ROG content to match upper end of GBC

Energy Use - All energy demand values default

Energy Mitigation -

Water Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2011	9.99	80.03	47.36	0.07	0.22	4.11	4.33	0.01	4.11	4.11	0.00	7,680.90	0.00	0.89	0.00	7,699.69
2012	12.68	104.08	56.83	0.10	18.34	5.02	22.61	9.94	5.02	14.22	0.00	11,078.64	0.00	1.14	0.00	11,102.50
2013	12.02	97.64	54.38	0.10	8.97	4.60	13.57	3.32	4.60	7.92	0.00	11,073.95	0.00	1.07	0.00	11,096.50
2014	64.59	273.94	524.54	0.99	93.39	10.55	103.93	3.97	10.55	14.52	0.00	97,621.00	0.00	4.90	0.00	97,723.96
2015	59.80	250.56	481.25	0.97	93.39	9.78	103.17	3.97	9.78	13.75	0.00	96,349.33	0.00	4.51	0.00	96,444.08
2016	55.76	229.41	446.93	0.99	93.39	9.15	102.54	3.97	9.15	13.12	0.00	95,996.83	0.00	4.23	0.00	96,085.67
2017	51.72	209.78	411.82	0.99	93.39	8.47	101.85	3.97	8.47	12.44	0.00	94,783.04	0.00	3.90	0.00	94,864.98
2018	48.12	192.54	380.75	0.99	93.39	7.85	101.24	1.41	7.35	8.76	0.00	93,651.53	0.00	3.62	0.00	93,727.45

	ROG	NOx	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	lb/day										lb/day					
2019	45.06	177.65	354.04	0.99	93.39	7.32	100.71	1.41	6.84	8.24	0.00	92,614.09	0.00	3.37	0.00	92,684.78
2020	42.46	164.77	331.18	0.99	93.39	6.85	100.24	1.41	6.39	7.80	0.00	91,656.51	0.00	3.14	0.00	91,722.46
2021	40.18	153.61	311.06	0.99	93.39	6.45	99.83	1.41	6.01	7.41	0.00	90,766.88	0.00	2.94	0.00	90,828.60
2022	38.13	144.26	292.38	0.99	93.39	6.13	99.52	1.41	5.71	7.11	0.00	89,943.88	0.00	2.76	0.00	90,001.92
2023	36.26	136.31	275.61	0.99	93.39	5.83	99.22	1.41	5.44	6.84	0.00	89,188.90	0.00	2.62	0.00	89,243.86
2024	34.58	129.50	261.47	0.97	93.39	5.61	99.00	1.41	5.21	6.62	0.00	88,495.38	0.00	2.49	0.00	88,547.58
2025	33.11	123.80	249.52	0.98	93.39	5.41	98.80	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2026	33.11	123.80	249.52	0.98	93.39	5.41	98.80	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2027	33.11	123.80	249.52	0.98	93.39	5.41	98.80	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2028	33.11	123.80	249.52	0.98	93.39	5.41	98.80	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2029	33.11	123.80	249.52	0.98	93.39	5.41	98.80	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2030	27.83	106.87	210.53	0.99	93.39	4.98	98.37	1.41	4.61	6.02	0.00	86,634.71	0.00	2.02	0.00	86,677.11
2031	27.83	106.87	210.53	0.99	93.39	4.98	98.37	1.41	4.61	6.02	0.00	86,634.71	0.00	2.02	0.00	86,677.11
2032	27.83	106.87	210.53	0.99	93.39	4.98	98.37	1.41	4.61	6.02	0.00	86,634.71	0.00	2.02	0.00	86,677.11
2033	833.85	11.73	26.07	0.12	16.24	0.56	16.80	0.22	0.53	0.74	0.00	9,550.06	0.00	0.31	0.00	9,556.47
2034	833.85	3.11	26.07	0.12	16.24	0.56	16.80	0.22	0.52	0.74	0.00	9,550.06	0.00	0.31	0.00	9,556.47
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2011	9.99	80.03	47.36	0.07	0.01	4.11	4.11	0.01	4.11	4.11	0.00	7,680.90	0.00	0.89	0.00	7,699.69
2012	12.68	104.08	56.83	0.10	18.08	5.02	22.35	9.94	5.02	14.22	0.00	11,078.64	0.00	1.14	0.00	11,102.50
2013	12.02	97.64	54.38	0.10	8.68	4.60	13.28	3.32	4.60	7.92	0.00	11,073.95	0.00	1.07	0.00	11,096.50
2014	64.59	273.94	524.54	0.99	8.68	10.55	14.52	3.97	10.55	14.52	0.00	97,621.00	0.00	4.90	0.00	97,723.96
2015	59.80	250.56	481.25	0.97	3.97	9.78	13.75	3.97	9.78	13.75	0.00	96,349.33	0.00	4.51	0.00	96,444.08
2016	55.76	229.41	446.93	0.99	3.97	9.15	13.12	3.97	9.15	13.12	0.00	95,996.83	0.00	4.23	0.00	96,085.67
2017	51.72	209.78	411.82	0.99	3.97	8.47	12.44	3.97	8.47	12.44	0.00	94,783.04	0.00	3.90	0.00	94,864.98
2018	48.12	192.54	380.75	0.99	3.97	7.85	11.82	1.41	7.35	8.76	0.00	93,651.53	0.00	3.62	0.00	93,727.45
2019	45.06	177.65	354.04	0.99	3.97	7.32	11.30	1.41	6.84	8.24	0.00	92,614.09	0.00	3.37	0.00	92,684.78
2020	42.46	164.77	331.18	0.99	3.97	6.85	10.83	1.41	6.39	7.80	0.00	91,656.51	0.00	3.14	0.00	91,722.46
2021	40.18	153.61	311.06	0.99	3.97	6.45	10.42	1.41	6.01	7.41	0.00	90,766.88	0.00	2.94	0.00	90,828.60
2022	38.13	144.26	292.38	0.99	3.97	6.13	10.10	1.41	5.71	7.11	0.00	89,943.88	0.00	2.76	0.00	90,001.92
2023	36.26	136.31	275.61	0.99	3.97	5.83	9.80	1.41	5.44	6.84	0.00	89,188.90	0.00	2.62	0.00	89,243.86
2024	34.58	129.50	261.47	0.97	3.97	5.61	9.58	1.41	5.21	6.62	0.00	88,495.38	0.00	2.49	0.00	88,547.58
2025	33.11	123.80	249.52	0.98	3.97	5.41	9.39	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2026	33.11	123.80	249.52	0.98	3.97	5.41	9.39	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2027	33.11	123.80	249.52	0.98	3.97	5.41	9.39	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2028	33.11	123.80	249.52	0.98	3.97	5.41	9.39	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2029	33.11	123.80	249.52	0.98	3.97	5.41	9.39	1.41	5.03	6.44	0.00	87,872.45	0.00	2.36	0.00	87,922.01
2030	27.83	106.87	210.53	0.99	3.97	4.98	8.95	1.41	4.61	6.02	0.00	86,634.71	0.00	2.02	0.00	86,677.11
2031	27.83	106.87	210.53	0.99	3.97	4.98	8.95	1.41	4.61	6.02	0.00	86,634.71	0.00	2.02	0.00	86,677.11

	ROG	NOx	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	lb/day										lb/day					
2032	27.83	106.87	210.53	0.99	3.97	4.98	8.95	1.41	4.61	6.02	0.00	86,634.71	0.00	2.02	0.00	86,677.11
2033	833.85	11.73	26.07	0.12	0.61	0.56	1.17	0.22	0.53	0.74	0.00	9,550.06	0.00	0.31	0.00	9,556.47
2034	833.85	3.11	26.07	0.12	0.61	0.56	1.17	0.22	0.52	0.74	0.00	9,550.06	0.00	0.31	0.00	9,556.47
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	274.76	5.16	449.29	0.02		0.00	4.94		0.00	4.91	0.00	39,501.35		1.51	0.71	39,753.01
Energy	4.07	36.06	24.27	0.22		0.00	2.81		0.00	2.81		44,383.26		0.85	0.81	44,653.36
Mobile	125.49	306.57	920.80	3.60	419.02	16.36	435.38	5.94	14.32	20.26		281,507.64		8.03		281,676.19
Total	404.32	347.79	1,394.36	3.84	419.02	16.36	443.13	5.94	14.32	27.98	0.00	365,392.25		10.39	1.52	366,082.56

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	lb/day										lb/day					
Area	274.76	5.16	449.29	0.02		0.00	4.94		0.00	4.91	0.00	39,501.35		1.51	0.71	39,753.01
Energy	4.07	36.06	24.27	0.22		0.00	2.81		0.00	2.81		44,383.26		0.85	0.81	44,653.36
Mobile	125.49	306.57	920.80	3.60	419.02	16.36	435.38	5.94	14.32	20.26		281,507.64		8.03		281,676.19
Total	404.32	347.79	1,394.36	3.84	419.02	16.36	443.13	5.94	14.32	27.98	0.00	365,392.25		10.39	1.52	366,082.56

3.0 Construction Detail

3.1 Mitigation Measures Construction

**TABLE 4.13-9
BROADWAY VALDEZ DEVELOPMENT PROGRAM
2035 TRIP GENERATION SUMMARY (PROJECT)**

Land Use	Units ^a	ITE Code	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Net New Uses												
Multi-Family Residential	1,797 DU	220 ^b	11,007	177	707	884	654	352	1,005	504	430	934
Retail	1,114.1 KSF	820 ^c	32,541	390	249	639	1,567	1,631	3,199	2,135	1,971	4,106
General Office	336.0 KSF	710 ^d	3,392	435	59	495	77	378	455	53	46	99
Medical Office	358.9 KSF	720 ^e	12,966	652	173	825	235	634	869	108	81	189
Hotel	180 rooms	310 ^f	1,615	65	47	111	53	55	109	88	69	157
Total			61,520	1,719	1,235	2,954	2,586	3,050	5,637	2,888	2,597	5,485
Reduction^g												
Internal Capture (Non-Auto)			-5,862	-118	-84	-202	-248	-292	-540			
External Walk, Bike and Transit			-15,357	-450	-322	-772	-637	-751	-1,388			
Total			-21,219	-568	-406	-974	-885	-1,043	-1,928	-722	-649	-1,371
Net New Project Trips			40,301	1,151	829	1,980	1,701	2,007	3,709	2,166	1,948	4,114

^a DU = dwelling unit. KSF = 1,000 square feet.

^b ITE *Trip Generation (8th Edition)* land use category 220 (Apartments):

Daily: $T = 6.06(X) + 123.56$

AM Peak Hour: $T = 0.49(X) + 3.73$ (20% in, 80% out)

PM Peak Hour: $T = 0.55(X) + 17.65$ (65% in, 35% out)

Saturday: $T = 0.52(X)$ (54% in, 46% out)

^c ITE *Trip Generation (8th Edition)* land use category 820 (Shopping Center):

Daily: $\text{Ln}(T) = 0.65 \cdot \text{Ln}(X) + 5.83$

AM Peak Hour: $\text{Ln}(T) = 0.59 \cdot \text{Ln}(X) + 2.32$ (61% in, 39% out)

PM Peak Hour: $\text{Ln}(T) = 0.67 \cdot \text{Ln}(X) + 3.37$ (49% in, 51% out)

Saturday: $\text{Ln}(T) = 0.65 \cdot \text{Ln}(X) + 3.76$ (52% in, 48% out)

^d ITE *Trip Generation (8th Edition)* land use category 710 (General Office):

Daily: $\text{Ln}(T) = 0.77 \cdot \text{Ln}(X) + 3.65$

AM Peak Hour: $\text{Ln}(T) = 0.80 \cdot \text{Ln}(X) + 1.55$ (88% in, 12% out)

PM Peak Hour: $T = 1.12 \cdot (X) + 78.81$ (17% in, 83% out)

Saturday: $\text{Ln}(T) = 0.81 \cdot \text{Ln}(X) - 0.12$ (54% in, 46% out)

^e ITE *Trip Generation (8th Edition)* land use category 720 (Medical-Dental Office):

Daily: $T = 36.13(X)$

AM Peak Hour: $T = 2.3(X)$ (79% in, 21% out)

PM Peak Hour: $\text{Ln}(T) = 0.88 \cdot \text{Ln}(X) + 1.59$ (27% in, 73% out)

Saturday: Based on the ratio of weekday PM and Saturday peak-hour trips for general office, $T = 0.53(X)$ (57% in, 43% out)

^f ITE *Trip Generation (8th Edition)* land use category 310 (Hotel):

Daily: $T = 8.92(X)$

AM Peak Hour: $T = 0.78(X) - 29.8$ (58% in, 42% out)

PM Peak Hour: $\text{Ln}(T) = 1.2 \cdot \text{Ln}(X) - 1.55$ (49% in, 51% out)

Saturday: $T = 0.87(X)$ (56% in, 44% out)

^g For weekdays, reductions based on application of MXD model: Daily = 34%, AM Peak Hour = 33%, PM Peak Hour = 34%

Internal Capture (Non-Auto): Daily = 10%, AM Peak Hour = 7%, PM Peak Hour = 10%

External Walk/Bike/transit: Daily = 25%, AM Peak Hour = 26%, PM Peak Hour = 25%

For Saturday peak hour, reduction based on comparison of BATS 2000 data weekday and weekend data. Total Saturday Reduction = 25%

SOURCE: Fehr & Peers, 2013.

**TABLE X
BROADWAY VALDEZ DEVELOPMENT PROGRAM
2035 TRIP GENERATION SUMMARY (NO PROJECT ALTERNATIVE)**

Land Use	Units ^a	ITE Code	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Net New Uses												
Multi-Family Residential	1,400 DU	220 ^b	8,608	138	552	690	512	276	788	393	335	728
Retail	140 KSF	820 ^c	8,451	115	73	188	391	406	797	554	512	1,066
General Office	60 KSF	710 ^d	900	110	15	125	25	121	146	13	11	24
Medical Office	60 KSF	720 ^e	2,168	109	29	138	49	131	180	18	14	32
<i>Total</i>			20,127	472	669	1,141	977	934	1,911	978	872	1,850
Reduction^f												
Internal Capture (Non-Auto)			-2,288	-47	-66	-113	-108	-104	-212			
External Walk, Bike and Transit			-4,931	-135	-192	-327	-242	-231	-473			
<i>Total</i>			-7,219	-182	-258	-440	-350	-335	-685	-245	-218	-463
Net New Trips (No Project)			12,908	290	411	701	627	599	1,226	733	654	1,387
Net New Trips (Project)			40,301	1,151	829	1,980	1,701	2,007	3,709	2,166	1,948	4,114
Net New Trips (Difference)			-27,393	-861	-418	-1,279	-1,074	-1,408	-2,483	-1,433	-1,294	-2,727

^a DU = dwelling unit. KSF = 1,000 square feet.

^b ITE *Trip Generation (8th Edition)* land use category 220 (Apartments):

Daily: $T = 6.06(X) + 123.56$

AM Peak Hour: $T = 0.49(X) + 3.73$ (20% in, 80% out)

PM Peak Hour: $T = 0.55(X) + 17.65$ (65% in, 35% out)

Saturday: $T = 0.52(X)$ (54% in, 46% out)

^c ITE *Trip Generation (8th Edition)* land use category 820 (Shopping Center):

Daily: $\ln(T) = 0.65 \cdot \ln(X) + 5.83$

AM Peak Hour: $\ln(T) = 0.59 \cdot \ln(X) + 2.32$ (61% in, 39% out)

PM Peak Hour: $\ln(T) = 0.67 \cdot \ln(X) + 3.37$ (49% in, 51% out)

Saturday: $\ln(T) = 0.65 \cdot \ln(X) + 3.76$ (52% in, 48% out)

^d ITE *Trip Generation (8th Edition)* land use category 710 (General Office):

Daily: $\ln(T) = 0.77 \cdot \ln(X) + 3.65$

AM Peak Hour: $\ln(T) = 0.80 \cdot \ln(X) + 1.55$ (88% in, 12% out)

PM Peak Hour: $T = 1.12 \cdot (X) + 78.81$ (17% in, 83% out)

Saturday: $\ln(T) = 0.81 \cdot \ln(X) - 0.12$ (54% in, 46% out)

^e ITE *Trip Generation (8th Edition)* land use category 720 (Medical-Dental Office):

Daily: $T = 36.13(X)$

AM Peak Hour: $T = 2.3(X)$ (79% in, 21% out)

PM Peak Hour: $\ln(T) = 0.88 \cdot \ln(X) + 1.59$ (27% in, 73% out)

Saturday: Based on the ratio of weekday PM and Saturday peak-hour trips for general office, $T = 0.53(X)$ (57% in, 43% out)

^f For weekdays, reductions based on application of MXD model: Daily = 36%, AM Peak Hour = 39%, PM Peak Hour = 36%

Internal Capture (Non-Auto): Daily = 11%, AM Peak Hour = 10%, PM Peak Hour = 11%

External Walk/Bike/transit: Daily = 24%, AM Peak Hour = 29%, PM Peak Hour = 25%

For Saturday peak hour, reduction based on comparison of BATS 2000 data weekday and weekend data. Total Saturday Reduction = 25%

SOURCE: Fehr & Peers, 2013.

**TABLE Y
BROADWAY VALDEZ DEVELOPMENT PROGRAM
2035 TRIP GENERATION SUMMARY (MAXIMUM BUILDOUT ALTERNATIVE)**

Land Use	Units ^a	ITE Code	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Net New Uses												
Multi-Family Residential	5,400 DU	220 ^b	32,848	530	2,120	2,650	1,942	1,046	2,988	1,516	1,292	2,808
Retail	1,672 KSF	820 ^c	42,368	495	316	811	2,058	2,141	4,199	2,780	2,566	5,346
General Office	1,460.2 KSF	710 ^d	10,514	1,410	192	1,602	291	1,423	1,714	175	149	324
Medical Office	625.8 KSF	720 ^e	22,610	1,137	302	1,439	383	1,034	1,417	189	143	332
Hotel	540 rooms	310 ^f	4,817	227	164	391	197	206	403	263	207	470
<i>Total</i>			<i>113,157</i>	<i>3,799</i>	<i>3,094</i>	<i>6,893</i>	<i>4,871</i>	<i>5,850</i>	<i>10,721</i>	<i>4,923</i>	<i>4,357</i>	<i>9,280</i>
Reduction^g												
Internal Capture (Non-Auto)			-11,535	-279	-228	-507	-495	-594	-1,089			
External Walk, Bike and Transit			-35,669	-1,184	-965	-2,149	-1,493	-1,793	-3,286			
<i>Total</i>			<i>-47,204</i>	<i>-1,463</i>	<i>-1,193</i>	<i>-2,656</i>	<i>-1,988</i>	<i>-2,387</i>	<i>-4,375</i>	<i>-1,231</i>	<i>-1,089</i>	<i>-2,320</i>
Net New Trips (Maximum Buildout)			65,953	2,336	1,901	4,237	2,883	3,463	6,346	3,692	3,268	6,960
Net New Trips (Project)			40,301	1,151	829	1,980	1,701	2,007	3,709	2,166	1,948	4,114
Net New Trips (Difference)			+25,652	+1,185	+1,072	+2,257	+1,182	+1,456	+2,637	+1,526	+1,320	+2,846

^a DU = dwelling unit. KSF = 1,000 square feet.

^b ITE *Trip Generation (8th Edition)* land use category 220 (Apartments):

Daily: $T = 6.06(X) + 123.56$

AM Peak Hour: $T = 0.49(X) + 3.73$ (20% in, 80% out)

PM Peak Hour: $T = 0.55(X) + 17.65$ (65% in, 35% out)

Saturday: $T = 0.52(X)$ (54% in, 46% out)

^c ITE *Trip Generation (8th Edition)* land use category 820 (Shopping Center):

Daily: $\ln(T) = 0.65 \cdot \ln(X) + 5.83$

AM Peak Hour: $\ln(T) = 0.59 \cdot \ln(X) + 2.32$ (61% in, 39% out)

PM Peak Hour: $\ln(T) = 0.67 \cdot \ln(X) + 3.37$ (49% in, 51% out)

Saturday: $\ln(T) = 0.65 \cdot \ln(X) + 3.76$ (52% in, 48% out)

^d ITE *Trip Generation (8th Edition)* land use category 710 (General Office):

Daily: $\ln(T) = 0.77 \cdot \ln(X) + 3.65$

AM Peak Hour: $\ln(T) = 0.80 \cdot \ln(X) + 1.55$ (88% in, 12% out)

PM Peak Hour: $T = 1.12 \cdot (X) + 78.81$ (17% in, 83% out)

Saturday: $\ln(T) = 0.81 \cdot \ln(X) - 0.12$ (54% in, 46% out)

^e ITE *Trip Generation (8th Edition)* land use category 720 (Medical-Dental Office):

Daily: $T = 36.13(X)$

AM Peak Hour: $T = 2.3(X)$ (79% in, 21% out)

PM Peak Hour: $\ln(T) = 0.88 \cdot \ln(X) + 1.59$ (27% in, 73% out)

Saturday: Based on the ratio of weekday PM and Saturday peak-hour trips for general office, $T = 0.53(X)$ (57% in, 43% out)

^f ITE *Trip Generation (8th Edition)* land use category 310 (Hotel):

Daily: $T = 8.92(X)$

AM Peak Hour: $T = 0.78(X) - 29.8$ (58% in, 42% out)

PM Peak Hour: $\ln(T) = 1.2 \cdot \ln(X) - 1.55$ (49% in, 51% out)

Saturday: $T = 0.87(X)$ (56% in, 44% out)

^g For weekdays, reductions based on application of MXD model: Daily = 42%, AM Peak Hour = 39%, PM Peak Hour = 41%

Internal Capture (Non-Auto): Daily = 10%, AM Peak Hour = 7%, PM Peak Hour = 10%

External Walk/Bike/transit: Daily = 32%, AM Peak Hour = 31%, PM Peak Hour = 31%

For Saturday peak hour, reduction based on comparison of BATS 2000 data weekday and weekend data. Total Saturday Reduction = 25%

SOURCE: Fehr & Peers, 2013.

**TABLE Z
BROADWAY VALDEZ DEVELOPMENT PROGRAM
2035 TRIP GENERATION SUMMARY (MITIGATED PROJECT ALTERNATIVE)**

Land Use	Units ^a	ITE Code	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Net New Uses												
Multi-Family Residential	1,797 DU	220 ^b	11,007	177	707	884	653	352	1,005	504	430	934
Retail	150 KSF	820 ^c	8,839	120	76	196	409	426	835	580	535	1,115
General Office	144 KSF	710 ^d	1,767	221	30	251	41	199	240	27	23	50
Medical Office	156 KSF	720 ^e	5,636	284	75	359	113	304	417	47	36	83
<i>Total</i>			<i>27,249</i>	<i>802</i>	<i>888</i>	<i>1,690</i>	<i>1,216</i>	<i>1,281</i>	<i>2,497</i>	<i>1,158</i>	<i>1,024</i>	<i>2,182</i>
Reduction^f												
Internal Capture (Non-Auto)			-2,960	-74	-82	-156	-130	-136	-266			
External Walk, Bike and Transit			-6,996	-230	-254	-484	-315	-331	-646			
<i>Total</i>			<i>-9,956</i>	<i>-304</i>	<i>-336</i>	<i>-640</i>	<i>-445</i>	<i>-467</i>	<i>-912</i>	<i>-290</i>	<i>-256</i>	<i>-546</i>
Net New Trips (Mitigated Project)			17,293	498	552	1,050	771	814	1,585	868	768	1,636
Net New Trips (Project)			40,301	1,151	829	1,980	1,701	2,007	3,709	2,166	1,948	4,114
Net New Trips (Difference)			-23,008	-653	-277	-930	-930	-1,193	-2,124	-1,298	-1,180	-2,478

^a DU = dwelling unit. KSF = 1,000 square feet.

^b ITE *Trip Generation (8th Edition)* land use category 220 (Apartments):

Daily: $T = 6.06(X) + 123.56$

AM Peak Hour: $T = 0.49(X) + 3.73$ (20% in, 80% out)

PM Peak Hour: $T = 0.55(X) + 17.65$ (65% in, 35% out)

Saturday: $T = 0.52(X)$ (54% in, 46% out)

^c ITE *Trip Generation (8th Edition)* land use category 820 (Shopping Center):

Daily: $\text{Ln}(T) = 0.65 \cdot \text{Ln}(X) + 5.83$

AM Peak Hour: $\text{Ln}(T) = 0.59 \cdot \text{Ln}(X) + 2.32$ (61% in, 39% out)

PM Peak Hour: $\text{Ln}(T) = 0.67 \cdot \text{Ln}(X) + 3.37$ (49% in, 51% out)

Saturday: $\text{Ln}(T) = 0.65 \cdot \text{Ln}(X) + 3.76$ (52% in, 48% out)

^d ITE *Trip Generation (8th Edition)* land use category 710 (General Office):

Daily: $\text{Ln}(T) = 0.77 \cdot \text{Ln}(X) + 3.65$

AM Peak Hour: $\text{Ln}(T) = 0.80 \cdot \text{Ln}(X) + 1.55$ (88% in, 12% out)

PM Peak Hour: $T = 1.12 \cdot (X) + 78.81$ (17% in, 83% out)

Saturday: $\text{Ln}(T) = 0.81 \cdot \text{Ln}(X) - 0.12$ (54% in, 46% out)

^e ITE *Trip Generation (8th Edition)* land use category 720 (Medical-Dental Office):

Daily: $T = 36.13(X)$

AM Peak Hour: $T = 2.3(X)$ (79% in, 21% out)

PM Peak Hour: $\text{Ln}(T) = 0.88 \cdot \text{Ln}(X) + 1.59$ (27% in, 73% out)

Saturday: Based on the ratio of weekday PM and Saturday peak-hour trips for general office, $T = 0.53(X)$ (57% in, 43% out)

^f For weekdays, reductions based on application of MXD model: Daily = 37%, AM Peak Hour = 38%, PM Peak Hour = 37%

Internal Capture (Non-Auto): Daily = 11%, AM Peak Hour = 9%, PM Peak Hour = 11%

External Walk/Bike/transit: Daily = 26%, AM Peak Hour = 29%, PM Peak Hour = 26%

For Saturday peak hour, reduction based on comparison of BATS 2000 data weekday and weekend data. Total Saturday Reduction = 25%

SOURCE: Fehr & Peers, 2013.