Appendix C

Air Quality Calculations

Green Hotel Apartments Project
Air Quality Analysis
Regional Emissions

Table 1. Operational Emissions Summary

Source	Winter Emissions (lbs/day)						Summer Emissions (lbs/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5	ROG	NOx	CO	SO2	PM10	PM2.5
Mobile	3.52	8.69	31.92	0.06	7.30	0.63	3.28	8.09	32.58	0.07	7.29	0.63
Natural Gas Combustion	0.02	0.18	0.07	0.00	0.01	0.01	0.02	0.18	0.07	0.00	0.01	0.01
Architectural Coatings	0.56	-	-	-	-	-	0.56	-	-	-	-	-
Consumer Products	2.68	-	-	-	-	-	2.68	-	-	-	-	-
Hearth	0.11	-	0.01	-	0.08	0.08	0.11	-	0.01	-	0.08	0.08
Landscaping	0.17	0.06	5.42	-	0.03	0.03	0.17	0.06	5.42	-	0.03	0.03
Total	**7.06**	**8.93**	**37.42**	**0.06**	**7.42**	**0.75**	**6.82**	**8.33**	**38.08**	**0.07**	**7.41**	**0.75**
CEQA Significance Thresholds	55	55	550	150	150	55	55	55	550	150	150	55
Significant?	No	No	No	No	No	No	No	No	No	No	No	No

Note: Totals may not add exactly due to rounding.

Table 2. Maximum Daily Construction Emissions by Phase

Phase	Winter Emissions (lbs/day)						Summer Emissions (lbs/day)					
	ROG	NOx	CO	SO2	PM10	PM2.5	ROG	NOx	CO	SO2	PM10	PM2.5
Demolition	3.18	26.06	15.65	0.04	5.59	1.35	3.17	25.85	15.56	0.04	5.58	1.35
Site Preparation	2.22	15.10	11.06	0.01	1.93	1.10	2.22	14.92	10.95	0.01	1.93	1.09
Grading	10.27	86.51	57.85	0.13	123.74	4.77	10.18	84.40	56.50	0.13	123.73	4.76
Building Construction	1.84	11.12	11.84	0.02	1.93	0.71	1.79	10.93	11.88	0.02	1.93	0.71
Architectural Coating	9.81	2.45	2.69	-	0.42	0.22	9.81	2.44	2.74	-	0.42	0.22
Paving	1.20	7.13	6.06	0.01	0.70	0.58	1.19	7.12	6.09	0.01	0.70	0.58
Maximum Daily	**11.37**	**86.51**	**57.85**	**0.13**	**123.74**	**4.77**	**11.32**	**84.40**	**56.50**	**0.13**	**123.73**	**4.76**
CEQA Significance Thresholds	75	100	550	150	150	55	75	100	550	150	150	55
Significant?	No	No	No	No	No	No	No	No	No	No	No	No

Source: http://www.aqmd.gov/ceqa/handbook/signthres.pdf

Note:

Maximum daily ROG emissions estimated from overlap between building construction (2016) and architectural coatings.

Table 3. Detailed Construction Emissions Summary

Phase	Year	Category	Location	Winter Emissions (lbs/day)						Summer Emissions (lbs/day)					
				ROG	NOx	CO	SO2	PM10	PM2.5	ROG	NOx	CO	SO2	PM10	PM2.5
Demolition	2014	Fugitive Dust	On-Site	-	-	-	-	0.48	-	-	-	-	-	0.48	-
		Off-Road	On-Site	2.74	22.27	12.84	0.03	1.16	1.16	2.74	22.27	12.84	0.03	1.16	1.16
		On-Site Subtotal		*2.74*	*22.27*	*12.84*	*0.03*	*1.64*	*1.16*	*2.74*	*22.27*	*12.84*	*0.03*	*1.64*	*1.16*
		Hauling	Off-Site	0.37	3.72	2.13	0.01	3.79	0.18	0.37	3.52	2.00	0.01	3.78	0.18
		Vendor	Off-Site	-	-	-	-	-	-	-	-	-	-	-	-
		Worker	Off-Site	0.07	0.07	0.68	-	0.16	0.01	0.06	0.06	0.72	-	0.16	0.01
		Off-Site Subtotal		*0.44*	*3.79*	*2.81*	*0.01*	*3.95*	*0.19*	*0.43*	*3.58*	*2.72*	*0.01*	*3.94*	*0.19*
Demolition Total				**3.18**	**26.06**	**15.65**	**0.04**	**5.59**	**1.35**	**3.17**	**25.85**	**15.56**	**0.04**	**5.58**	**1.35**

Table 3. Detailed Construction Emissions Summary

Phase	Year	Category	Location	Winter Emissions (lbs/day)						Summer Emissions (lbs/day)					
				ROG	NOx	CO	SO2	PM10	PM2.5	ROG	NOx	CO	SO2	PM10	PM2.5
Site Preparation	2014	Fugitive Dust	On-Site	-	-	-	-	-	-	-	-	-	-	-	-
		Off-Road	On-Site	1.84	11.70	8.56	0.01	0.93	0.93	1.84	11.70	8.56	0.01	0.93	0.93
		On-Site Subtotal		*1.84*	*11.70*	*8.56*	*0.01*	*0.93*	*0.93*	*1.84*	*11.70*	*8.56*	*0.01*	*0.93*	*0.93*
		Hauling	Off-Site	0.30	3.02	1.73	-	0.84	0.15	0.30	2.86	1.62	-	0.84	0.14
		Vendor	Off-Site	0.03	0.32	0.23	-	0.03	0.01	0.03	0.31	0.20	-	0.03	0.01
		Worker	Off-Site	0.05	0.06	0.54	-	0.13	0.01	0.05	0.05	0.57	-	0.13	0.01
		Off-Site Subtotal		*0.38*	*3.40*	*2.50*	*-*	*1.00*	*0.17*	*0.38*	*3.22*	*2.39*	*-*	*1.00*	*0.16*
Site Preparation Total				**2.22**	**15.10**	**11.06**	**0.01**	**1.93**	**1.10**	**2.22**	**14.92**	**10.95**	**0.01**	**1.93**	**1.09**
Maximum Daily Combined Emissions from Phase Overlap (Demo + Prep)				**5.40**	**41.16**	**26.71**	**0.05**	**7.52**	**2.45**	**5.39**	**40.77**	**26.51**	**0.05**	**7.51**	**2.44**
Grading	2014	Fugitive Dust	On-Site	-	-	-	-	0.23	-	-	-	-	-	0.23	-
		Off-Road	On-Site	6.09	46.59	33.11	0.07	2.83	2.83	6.09	46.59	33.11	0.07	2.83	2.83
		On-Site Subtotal		*6.09*	*46.59*	*33.11*	*0.07*	*3.06*	*2.83*	*6.09*	*46.59*	*33.11*	*0.07*	*3.06*	*2.83*
		Hauling	Off-Site	3.96	39.40	22.61	0.06	120.21	1.90	3.89	37.33	21.18	0.06	120.20	1.89
		Vendor	Off-Site	0.03	0.32	0.23	-	0.03	0.01	0.03	0.31	0.20	-	0.03	0.01
		Worker	Off-Site	0.19	0.20	1.90	-	0.44	0.03	0.17	0.17	2.01	-	0.44	0.03
		Off-Site Subtotal		*4.18*	*39.92*	*24.74*	*0.06*	*120.68*	*1.94*	*4.09*	*37.81*	*23.39*	*0.06*	*120.67*	*1.93*
Grading Total				**10.27**	**86.51**	**57.85**	**0.13**	**123.74**	**4.77**	**10.18**	**84.40**	**56.50**	**0.13**	**123.73**	**4.76**
Building Construction	2014	Off-Road	On-Site	1.07	7.72	4.92	0.01	0.52	0.52	1.07	7.72	4.92	0.01	0.52	0.52
		Hauling	Off-Site	-	-	-	-	-	-	-	-	-	-	-	-
		Vendor	Off-Site	0.28	2.89	2.03	-	0.27	0.11	0.27	2.77	1.79	-	0.27	0.11
		Worker	Off-Site	0.49	0.51	4.89	0.01	1.14	0.08	0.45	0.44	5.17	0.01	1.14	0.08
		Off-Site Subtotal		*0.77*	*3.40*	*6.92*	*0.01*	*1.41*	*0.19*	*0.72*	*3.21*	*6.96*	*0.01*	*1.41*	*0.19*
Building Construction (2014) Total				**1.84**	**11.12**	**11.84**	**0.02**	**1.93**	**0.71**	**1.79**	**10.93**	**11.88**	**0.02**	**1.93**	**0.71**
Building Construction	2015	Off-Road	On-Site	0.98	7.06	4.87	0.01	0.46	0.46	0.98	7.06	4.87	0.01	0.46	0.46
		Hauling	Off-Site	-	-	-	-	-	-	-	-	-	-	-	-
		Vendor	Off-Site	0.25	2.62	1.85	-	0.26	0.10	0.24	2.51	1.62	-	0.26	0.10
		Worker	Off-Site	0.45	0.46	4.49	0.01	1.14	0.08	0.42	0.40	4.76	0.01	1.14	0.08
		Off-Site Subtotal		*0.70*	*3.08*	*6.34*	*0.01*	*1.40*	*0.18*	*0.66*	*2.91*	*6.38*	*0.01*	*1.40*	*0.18*
Building Construction (2015) Total				**1.68**	**10.14**	**11.21**	**0.02**	**1.86**	**0.64**	**1.64**	**9.97**	**11.25**	**0.02**	**1.86**	**0.64**
Building Construction	2016	Off-Road	On-Site	0.90	6.45	4.82	0.01	0.40	0.40	0.90	6.45	4.82	0.01	0.40	0.40
		Hauling	Off-Site	-	-	-	-	-	-	-	-	-	-	-	-
		Vendor	Off-Site	0.23	2.42	1.72	-	0.25	0.09	0.22	2.33	1.49	-	0.25	0.09
		Worker	Off-Site	0.43	0.43	4.16	0.01	1.15	0.08	0.39	0.37	4.43	0.01	1.15	0.08
		Off-Site Subtotal		*0.66*	*2.85*	*5.88*	*0.01*	*1.40*	*0.17*	*0.61*	*2.70*	*5.92*	*0.01*	*1.40*	*0.17*
Building Construction (2016) Total				**1.56**	**9.30**	**10.70**	**0.02**	**1.80**	**0.57**	**1.51**	**9.15**	**10.74**	**0.02**	**1.80**	**0.57**
Architectural Coating	2016	Archit. Coating	On-Site	9.36	-	-	-	-	-	9.36	-	-	-	-	-
		Off-Road	On-Site	0.37	2.37	1.88	-	0.20	0.20	0.37	2.37	1.88	-	0.20	0.20
		On-Site Subtotal		*9.73*	*2.37*	*1.88*	*-*	*0.20*	*0.20*	*9.73*	*2.37*	*1.88*	*-*	*0.20*	*0.20*
		Hauling	Off-Site	-	-	-	-	-	-	-	-	-	-	-	-
		Vendor	Off-Site	-	-	-	-	-	-	-	-	-	-	-	-
		Worker	Off-Site	0.08	0.08	0.81	-	0.22	0.02	0.08	0.07	0.86	-	0.22	0.02
		Off-Site Subtotal		*0.08*	*0.08*	*0.81*	*-*	*0.22*	*0.02*	*0.08*	*0.07*	*0.86*	*-*	*0.22*	*0.02*
Architectural Coating Total				**9.81**	**2.45**	**2.69**	**-**	**0.42**	**0.22**	**9.81**	**2.44**	**2.74**	**-**	**0.42**	**0.22**
Maximum Daily Combined Emissions from Phase Overlap (Bldg + Coat)				**11.37**	**11.75**	**13.39**	**0.02**	**2.22**	**0.79**	**11.32**	**11.59**	**13.48**	**0.02**	**2.22**	**0.79**

Table 3. Detailed Construction Emissions Summary

Phase	Year	Category	Location	Winter Emissions (lbs/day)						Summer Emissions (lbs/day)					
				ROG	NOx	CO	SO2	PM10	PM2.5	ROG	NOx	CO	SO2	PM10	PM2.5
Paving	2016	Off-Road	On-Site	1.12	7.08	5.60	0.01	0.57	0.57	1.12	7.08	5.60	0.01	0.57	0.57
		Paving	On-Site	0.03	-	-	-	-	-	0.03	-	-	-	-	-
		On-Site Subtotal		*1.15*	*7.08*	*5.60*	*0.01*	*0.57*	*0.57*	*1.15*	*7.08*	*5.60*	*0.01*	*0.57*	*0.57*
		Hauling	Off-Site	-	-	-	-	-	-	-	-	-	-	-	-
		Vendor	Off-Site	-	-	-	-	-	-	-	-	-	-	-	-
		Worker	Off-Site	0.05	0.05	0.46	-	0.13	0.01	0.04	0.04	0.49	-	0.13	0.01
		Off-Site Subtotal		*0.05*	*0.05*	*0.46*	*-*	*0.13*	*0.01*	*0.04*	*0.04*	*0.49*	*-*	*0.13*	*0.01*
Paving Total				**1.20**	**7.13**	**6.06**	**0.01**	**0.70**	**0.58**	**1.19**	**7.12**	**6.09**	**0.01**	**0.70**	**0.58**
Maximum Daily Combined Emissions from Phase Overlap (Coat + Pave)				**11.01**	**9.58**	**8.75**	**0.01**	**1.12**	**0.80**	**11.00**	**9.56**	**8.83**	**0.01**	**1.12**	**0.80**
Maximum Daily				**11.37**	**86.51**	**57.85**	**0.13**	**123.74**	**4.77**	**11.32**	**84.40**	**56.50**	**0.13**	**123.73**	**4.76**
CEQA Significance Thresholds				75	100	550	150	150	55	75	100	550	150	150	55
Significant?				No	No	No	No	No	No	No	No	No	No	No	No

Source: http://www.aqmd.gov/ceqa/handbook/signthres.pdf

Green Hotel Apartments Project
Air Quality Analysis
Localized Significance Thresholds

Table 4. Maximum Number of Acres Disturbed by Equipment

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

Source: http://www.aqmd.gov/ceqa/handbook/LST/CalEEModguidance.pdf

Table 5. Maximum Acres Disturbed per Day by Phase

	Quantity			Maximum Daily Acres Disturbed		
Equipment Type	**Demolition**	**Site Grading**	**Building Construction**	**Demolition**	**Site Grading**	**Building Construction**
Bore/Drill rig	-	2	-	-	-	-
Concrete/industrial saws	1	1	-	-	-	-
Cranes	-	-	1	-	-	-
Crawler Tractors	-	1	-	-	0.5	-
Excavators	1	2	-	-	-	-
Other Equipment	1	1	-	-	-	-
Paving Equipment	-	-	1	-	-	-
Rollers	-	1	1	-	-	-
Rough Terrain Forklifts	-	1	1	-	-	-
Rubber Tired Loaders	-	1	-	-	-	-
Tractors/Loaders/Backhoes	1	1	1	-	-	-
Total	**4**	**11**	**5**	**-**	**0.5**	**-**

Table 6. LST Construction Evaluation (Onsite Emissions)

	Maximum Daily Onsite Emissions (lbs/day)					
Phase	**ROG**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Demolition	3	22	13	0.03	2	1
Site Preparation	2	12	9	0.01	1	1
Grading	6	47	33	0.07	3	3
Building Construction	1	8	5	0.01	1	1
Architectural Coatings	10	2	2	-	0.2	0.2
Paving	1	7	6	0.01	1	1
Combined Phases						
Demo + Prep	5	34	21	0.04	3	2
Building + Coatings (2016)	11	9	7	0.01	1	1
Coatings + Paving	11	9	7	0.01	1	1
Maximum	**11**	**47**	**33**	**0.07**	**3**	**3**
LST (Construction)	n/a	69	535	n/a	4	3
Significant?	n/a	No	No	n/a	No	No

Source: http://www.aqmd.gov/ceqa/handbook/LST/appC.pdf

Table 7. LST Operation Evaluation (Onsite Emissions)

	Maximum Daily Onsite Emissions (lbs/day)					
Phase	**ROG**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Natural Gas Combustion	0.02	0.18	0.07	0.00	0.01	0.01
Architectural Coatings	0.56	0.00	0.00	0.00	0.00	0.00
Consumer Products	2.68	0.00	0.00	0.00	0.00	0.00
Hearth	0.11	0.00	0.01	0.00	0.08	0.08
Landscaping	0.17	0.06	5.42	0.00	0.03	0.03
Total Emissions	**3.52**	**0.06**	**5.43**	**0.00**	**0.11**	**0.11**
LST (Operations)	n/a	69	535	n/a	1	1
Significant?	n/a	No	No	n/a	No	No

Source: http://www.aqmd.gov/ceqa/handbook/LST/appC.pdf

Source Receptor Area 8 (Pasadena)

Source: http://www.aqmd.gov/ceqa/handbook/LST/SRA_City.xls

Distance to Closest Receptor 25 meters

Acreage 1

Green Hotel Apartments
CalEEMod Input

Legend

Comments in CalEEMod
Value changed from CalEEMod default

Project Characteristics

Project Name	Pasadena Green Hotels Apartment Project
Project Location	Los Angeles County - South Coast
Climate Zone	12 *(zip code = 91105)*
Land Use Setting	Urban
Operational Year	2016
Utility Company	Pasadena Water & Power

Climate zone baesd on 91105 zip code (CalEEMod User's Guide, Appendix F: Climate Zone Lookup)

Land Use

Land Use Type	Retail	Residential	Parking	Parking
Land Use Subtype	Strip Mall	Apartment Mid Rise	Parking Lot	Parking Structure
Unit Amount	5	64	0.5	146
Size Metric	1000 square feet	Dwelling Unit	Acre	Space
Lot Acreage	0.00	0.24	0.50	0.00
Square Feet	5,000	71,980	0	58,400
Population	0	183	0	0

Project site is 32,362 square feet; lot acreage for residential land use modified so total area = 0.74 acres (32,362 sf). Parking structure is underground and does not contribute to total graded area.

Construction

Construction Phase

Phase Name	Phase Type	Start Date	End Date	Total Days	Phase Description
Demolition	Demolition	8/1/2014	8/31/2014	21	
Site Preparation	Site Preparation	8/1/2014	8/7/2014	5	Clearing and grubbing
Grading	Grading	9/1/2014	11/30/2014	65	
Building Construction	Building Construction	12/1/2014	3/31/2016	349	
Paving	Paving	10/1/2016	11/30/2016	43	
Architectural Coating	Architectural Coating	1/1/2016	10/31/2016	217	

Construction schedule provided by developer.

Off-Road Equipment

Equipment Type	Unit Amount	Hours per Day	HP	Load Factor	*CARB Adjusted*
Site Preparation					
Graders	0	8	162	0.41	*0.4087*
Tractors/Loaders/Backhoes	0	8	75	0.37	*0.3685*
Aerial Lifts	1	8	34	0.31	*0.3082*
Concrete/Industrial Saws	2	8	81	0.73	*n/a*
Demolition					
Concrete/Industrial Saws	1	8	81	0.73	*n/a*
Rubber Tired Dozers	0	1	358	0.40	*0.3953*
Tractors/Loaders/Backhoes	1	6	75	0.37	*0.3685*
Excavators	1	8	157	0.38	*0.3819*
Other Equipment	1	8	327	0.62	*n/a*
Grading					
Concrete/Industrial Saws	1	8	81	0.73	*n/a*
Rubber Tired Dozers	0	1	358	0.40	*0.3953*
Tractors/Loaders/Backhoes	1	6	75	0.37	*0.3685*
Bore/Drill rig	2	8	82	0.75	*n/a*
Crawler Tractors	1	8	82	0.43	*0.4288*
Excavators	2	8	157	0.38	*0.3819*
Other Equipment	1	8	327	0.62	*n/a*
Rollers	1	8	84	0.38	*0.3752*
Rough Terrain Forklifts	1	8	83	0.40	*0.402*
Rubber Tired Loaders	1	8	87	0.36	*0.3618*
Building Construction					
Cranes	1	4	208	0.29	*0.2881*
Forklifts	0	6	149	0.20	*0.201*
Tractors/Loaders/Backhoes	1	8	75	0.37	*0.3685*
Rough Terrain Forklifts	1	8	83	0.40	*0.402*
Architectural Coatings					
Air Compressors	1	6	78	0.48	*n/a*
Paving					
Cement and Mortar Mixers	0	6	9	0.56	*n/a*
Pavers	0	7	89	0.42	*0.4154*
Rollers	1	7	84	0.38	*0.3752*
Tractors/Loaders/Backhoes	1	7	75	0.37	*0.3685*
Paving Equipment	1	8	82	0.36	*0.3551*

Construction equipment provided by developer.

Dust from Material Movement

	Site Prepar	Grading	
Material Imported	0	500	
Material Exported	240	30,000	*<--site preparation truck trips based on 20-ton haul truck*
Size Metric	tons	cubic yards	*(CalEEMod haul truck) for 12 total trips.*
Total Acres Disturbed	0	32.5	

Demolition

1,214 tons of debris

(debris removed includes sidewalks, curbs, and gutters)

Concrete density *145* *lb/cf*

1.9575 *tons/cy*

http://www.engineeringtoolbox.com/concrete-properties-d_1223.html

Trips and VMT

Phase Name	# Trips Worker (/day)	# Trips Vendor (/day)	Total # Trips Hauling	TripLength Worker (miles)	TripLength Vendor (miles)	TripLength Hauling (miles)	
Demolition	10	0	124	12.7	7.4	25	
Site Preparation	8	2	24	12.7	7.4	25	*<--vendor trips = water trucks*
Grading	28	2	4068	12.7	7.4	25	*<--vendor trips = water trucks*
Building Construction	72	18	0	12.7	7.4	25	
Architectural Coating	14	0	0	12.7	7.4	25	
Paving	8	0	0	12.7	7.4	25	

Operational Trips

626 trips per day *(Source: email from J. Iturrizaga, City of Pasadena, to K. Johnson, City of Pasadena, 4/11/2013 8:48 AM)*

9.78 trips/1000 sq. ft.

Project will generate 626 additional trips per day; all trips included with apartments.

Conversions

43,560 square feet per acre

Green Hotel Apartments
Construction Details

Site Preparation - Clearing and Grubbing

Start Month	8/1/2014	
Duration	5 days	(concurrent with demolition)

Equipment

1	Man-Lift	
2	Chainsaws	*(quantity estimated)*

Truck trips	12	total truckloads
	4	truckloads per day

Demolition

Start Month	Aug-14	
Duration	1	month

Total volume of building to be demolished	620	cubic yards
Maximum daily volume of building demolition	50	cubic yards
Truck capacity	10	cubic yards
Round trip distance	50	miles

Equipment

	Bore/Drill rig
1	Concrete/industrial saws
	Cranes
	Crawler Tractors
	Crushing/Processing Equipment
1	Excavators
	Graders
	Off Highway Tractors
	Off Highway Trucks
1	Other Equipment
	Pavers
	Paving Equipment
	Rollers
	Rough Terrain Forklifts
	Rubber Tired Dozers
	Rubber Tired Loaders
	Scrapers
	Signal Boards
	Skid Steer Loaders
	Surfacing Equipment
1	Tractors/Loaders/Backhoes
	Trenchers

Site Grading

Start Month	Sep-14	
Duration	3	month

Maximum daily acreage disturbed	0.25	cubic yards

Total amount of soil to import	500	cubic yards
Total amount of soil to export	30,000	cubic yards
Haul truck capacity	15	cubic yards
Hauling duration	40	days
Round trips/day	6	days
Round trip distancd	50	miles

Equipment

2	Bore/Drill rig
1	Concrete/industrial saws
	Cranes
1	Crawler Tractors
	Crushing/Processing Equipment
2	Excavators
	Graders
	Off Highway Tractors
	Off Highway Trucks
1	Other Equipment
	Pavers
	Paving Equipment
1	Rollers
1	Rough Terrain Forklifts
	Rubber Tired Dozers
1	Rubber Tired Loaders
	Scrapers
	Signal Boards
	Skid Steer Loaders
	Surfacing Equipment
1	Tractors/Loaders/Backhoes
	Trenchers

Building Construction

Total building phase start month	Dec-14	
Total building phase duration	24	months
Building construction phase start month	Dec-14	
Building construction phase duration	16	months
Architectural coatings phase start month	Dec-15	
Architectural coatings phase duration	10	months
Paving phase start month	Oct-16	
Paving phase duration	2	months
Operation start	Dec-16	
Area to be paved	0.5	acres

Phase Overlap Assumptions

			Bldg	Coat	Pave
months -->		*24*	*16*	*10*	*2*
1	Dec-14		X		
2	Jan-15		X		
3	Feb-15		X		
4	Mar-15		X		
5	Apr-15		X		
6	May-15		X		
7	Jun-15		X		
8	Jul-15		X		
9	Aug-15		X		
10	Sep-15		X		
11	Oct-15		X		
12	Nov-15		X		
13	Dec-15		X		
14	Jan-16		X	X	
15	Feb-16		X	X	
16	Mar-16		X	X	
17	Apr-16			X	
18	May-16			X	
19	Jun-16			X	
20	Jul-16			X	
21	Aug-16			X	
22	Sep-16			X	
23	Oct-16			X	X
24	Nov-16				X

Equipment

	Bore/Drill rig
	Concrete/industrial saws
1	Cranes
	Crawler Tractors
	Crushing/Processing Equipment
	Excavators
	Graders
	Off Highway Tractors
	Off Highway Trucks
	Other Equipment
	Pavers
1	Paving Equipment
1	Rollers
1	Rough Terrain Forklifts
	Rubber Tired Dozers
	Rubber Tired Loaders
	Scrapers
	Signal Boards
	Skid Steer Loaders
	Surfacing Equipment
1	Tractors/Loaders/Backhoes
	Trenchers

Duration confirmed from email to N. Cobleigh (CDM Smith) from K. Johnson (City of Pasadena), April 12, 2013

Miscellaneous Data from Initial Study

64 residential units

Floor 1 Details			
Commercial Space	5,000	sf	
Gym	1,050	sf	
Lobby			
Swimming Pool	2,880	sf	
Patio/Seating Area	5,670	sf	
Parking Spaces	20		*11 of the 20 parking spaces "tucked under" the building*
Bicycle Spaces	15		
Total Commercial	5,000	sf	
Total Open Space	9,600	sf	
Total Nonresidential	14,600	sf	
Project site	32,362	sf	
Building size	76,980	sf	

Pasadena Green Hotel Apartments

Table 8. Summary of Estimated Carbon Monoxide Concentrations at Intersections

		AM Peak Hour				PM Peak Hour			
		1-Hour CO		8-Hour CO		1-Hour CO		8-Hour CO	
North/South Street	East/West Street	Existing (2013)	Future (2016)	Existing (2013)	Future (2016)	Existing (2013)	Future (2016)	Existing (2013)	Future (2016)
No. Fair Oaks Boulevard	Colorado Blvd	7.4	7.5	5.5	5.4	7.6	7.7	5.6	5.6
So. Fair Oaks Boulevard	W Dayton Street	7.4	7.4	5.4	5.4	7.4	7.5	5.5	5.5
So. Fair Oaks Boulevard	Del Mar Boulevard	7.8	7.7	5.8	5.6	7.8	7.8	5.8	5.7
No. Raymond Avenue	Colorado Blvd	7.1	7.1	5.3	5.2	7.4	7.4	5.5	5.4
So. Raymond Avenue	E. Dayton Street	6.8	6.8	5.0	5.0	6.9	6.9	5.1	5.1
So. Raymond Avenue	Del Mar Boulevard	7.5	7.4	5.5	5.4	7.6	7.6	5.6	5.5
Exceeds State 1-Hour Standard (20 ppm)?		**No**	**No**	--	--	**No**	**No**	--	--
Exceeds Federal 1-Hour Standard (35 ppm)?		**No**	**No**	--	--	**No**	**No**	--	--
Exceeds State 8-Hour Standard (9.0 ppm)?		--	--	**No**	**No**	--	--	**No**	**No**
Exceeds Federal 8-Hour Standard (9 ppm)?		--	--	**No**	**No**	--	--	**No**	**No**

Pasadena Green Hotel Apartments

Intersection		Lanes
N/S	No. Fair Oaks Boulevard	4
E/W	Colorado Blvd	4

Table 9. Traffic Counts (Existing Conditions)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour	0800-0900	22	765	6	66	310	65	67	369	0	69	356	53	2,148	1,229	919
PM Peak Hour	0500-0600	57	677	9	78	566	111	96	623	0	81	465	61	2,824	1,462	1,362

Table 10. Traffic Counts (Cumulative Projects)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		20	89	21	7	15	21	23	188	1	5	29	47	466	342	124
PM Peak Hour		51	201	12	26	163	68	19	124	7	4	22	23	720	414	306

Table 11. Traffic Counts (With Cumulative and Project)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		42	854	27	73	325	86	90	557	1	74	385	100	2,614	1,591	1,063
PM Peak Hour		108	878	21	104	729	179	115	747	7	85	487	84	3,544	1,905	1,697

Project Trips

39 peak AM trips

58 peak PM trips

Note: trips are distributed by 25% for north, south, east, and west.

Roadway CO Concentrations for Peak Hour

$$C_i = \frac{C_{ri} \times V_i \times EF_i}{100{,}000}$$

where:

C_{ri} = reference case concentration for the i-th roadway,

V_i = traffic volume for the i-th roadway,

EF_i = emission factor for the i-th roadway,

Table 12. Estimated Carbon Monoxide Concentrations - Existing Conditions

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
No. Fair Oaks Boulevard	11.9	1,229	5.2	0.8	11.9	1,462	5.2	0.9
Colorado Blvd	3.3	919	5.2	0.2	3.3	1,362	5.2	0.2
Total 1-Hour Contribution (ppm)				**0.9**				**1.1**
1-Hour Background Concentration (ppm)				6.5				6.5
Total 1-Hour Concentration with Background (ppm)				7.4				7.6
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.5				5.6

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Table 13. Estimated Carbon Monoxide Concentrations - With Cumulative and Project Traffic

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
No. Fair Oaks Boulevard	11.9	1,591	3.8	0.7	11.9	1,905	3.8	0.9
Colorado Blvd	3.3	1,063	3.8	0.1	3.3	1,697	3.8	0.2
Total 1-Hour Contribution (ppm)				**0.9**				**1.1**
1-Hour Background Concentration (ppm)				6.6				6.6
Total 1-Hour Concentration with Background (ppm)				7.5				7.7
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.4				5.6

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Pasadena Green Hotel Apartments

Intersection		Lanes
N/S	So. Fair Oaks Boulevard	4
E/W	W Dayton Street	2

Table 14. Traffic Counts (Existing Conditions)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour	0745-0845	18	801	10	7	3	6	8	541	11	16	2	3	1,426	1,389	37
PM Peak Hour	0500-0600	33	689	21	29	12	9	17	736	21	22	1	7	1,597	1,517	80

Table 15. Traffic Counts (Cumulative Projects)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		18	84	0	0	0	0	0	170	9	33	0	33	347	281	66
PM Peak Hour		77	212	0	0	0	0	0	95	39	22	0	22	467	423	44

Table 16. Traffic Counts (With Cumulative and Project)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		36	885	10	7	3	6	8	711	20	49	2	36	1,773	1,690	123
PM Peak Hour		110	901	21	29	12	9	17	831	60	44	1	29	2,064	1,969	153

Project Trips

39 peak AM trips

58 peak PM trips

Note: trips are distributed by 25% for north, south, east, and west.

Roadway CO Concentrations

$$C_i = \frac{C_{ri} \times V_i \times EF_i}{100{,}000}$$

where:

C_{ri} = reference case concentration for the i-th roadway,

V_i = traffic volume for the i-th roadway,

EF_i = emission factor for the i-th roadway,

Table 17. Estimated Carbon Monoxide Concentrations - Existing Conditions

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
So. Fair Oaks Boulevard	11.9	1,389	5.2	0.9	11.9	1,517	5.2	0.9
W Dayton Street	3.7	37	5.2	0.0	3.7	80	5.2	0.0
Total 1-Hour Contribution (ppm)				**0.9**				**0.9**
1-Hour Background Concentration (ppm)				6.5				6.5
Total 1-Hour Concentration with Background (ppm)				7.4				7.4
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.4				5.5

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Table 18. Estimated Carbon Monoxide Concentrations - With Cumulative and Project

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
So. Fair Oaks Boulevard	11.9	1,690	3.8	0.8	11.9	1,969	3.8	0.9
W Dayton Street	3.7	123	3.8	0.0	3.7	153	3.8	0.0
Total 1-Hour Contribution (ppm)				**0.8**				**0.9**
1-Hour Background Concentration (ppm)				6.6				6.6
Total 1-Hour Concentration with Background (ppm)				7.4				7.5
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.4				5.5

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Pasadena Green Hotel Apartments

Intersection		Lanes
N/S	So. Fair Oaks Boulevard	4
E/W	Del Mar Boulevard	4

Table 19. Traffic Counts (Existing Conditions)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour	0745-0845	28	716	58	41	661	118	62	450	150	386	491	46	3,207	1,464	1,743
PM Peak Hour	0500-0600	32	610	98	47	771	104	74	653	207	181	513	53	3,343	1,674	1,669

Table 20. Traffic Counts (Cumulative Projects)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		20	60	37	52	30	6	3	80	14	0	49	47	398	214	184
PM Peak Hour		55	112	66	43	195	3	6	67	12	0	22	23	604	318	286

Table 21. Traffic Counts (With Cumulative and Project)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		48	776	95	93	691	124	65	530	164	386	540	93	3,605	1,698	1,947
PM Peak Hour		87	722	164	90	966	107	80	720	219	181	535	76	3,947	2,021	1,984

Project Trips

39 peak AM trips

58 peak PM trips

Note: trips are distributed by 25% for north, south, east, and west.

Roadway CO Concentrations

$$C_i = \frac{C_{ri} \times V_i \times EF_i}{100{,}000}$$

where:

C_{ri} = reference case concentration for the i-th roadway,

V_i = traffic volume for the i-th roadway,

EF_i = emission factor for the i-th roadway,

Table 22. Estimated Carbon Monoxide Concentrations - Existing Conditions

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
So. Fair Oaks Boulevard	3.3	1,464	5.2	0.2	11.9	1,674	5.2	1.0
Del Mar Boulevard	11.9	1,743	5.2	1.1	3.3	1,669	5.2	0.3
Total 1-Hour Contribution (ppm)				**1.3**				**1.3**
1-Hour Background Concentration (ppm)				6.5				6.5
Total 1-Hour Concentration with Background (ppm)				7.8				7.8
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.8				5.8

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Table 23. Estimated Carbon Monoxide Concentrations - With Cumulative and Project

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
So. Fair Oaks Boulevard	3.3	1,698	3.8	0.2	11.9	2,021	3.8	0.9
Del Mar Boulevard	11.9	1,947	3.8	0.9	3.3	1,984	3.8	0.3
Total 1-Hour Contribution (ppm)				**1.1**				**1.2**
1-Hour Background Concentration (ppm)				6.6				6.6
Total 1-Hour Concentration with Background (ppm)				7.7				7.8
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.6				5.7

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Pasadena Green Hotel Apartments

Intersection		Lanes
N/S	No. Raymond Avenue	4
E/W	Colorado Blvd	4

Table 24. Traffic Counts (Existing Conditions)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour	0800-0900	24	172	9	38	415	42	26	106	15	33	382	26	1,288	352	936
PM Peak Hour	0500-0600	48	220	25	50	653	63	42	190	37	51	475	34	1,888	562	1,326

Table 25. Traffic Counts (Cumulative Projects)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		0	13	0	0	43	7	21	7	1	1	72	0	165	42	123
PM Peak Hour		0	9	0	0	256	26	12	13	1	1	52	0	370	35	335

Table 26. Traffic Counts (With Cumulative and Project)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		24	185	9	38	458	49	47	113	16	34	454	26	1,453	414	1,079
PM Peak Hour		48	229	25	50	909	89	54	203	38	52	527	34	2,258	626	1,690

Project Trips

39 peak AM trips

58 peak PM trips

Note: trips are distributed by 25% for north, south, east, and west.

Roadway CO Concentrations

$$C_i = \frac{C_{ri} \times V_i \times EF_i}{100{,}000}$$

where:

C_{ri} = reference case concentration for the i-th roadway,

V_i = traffic volume for the i-th roadway,

EF_i = emission factor for the i-th roadway,

Table 27. Estimated Carbon Monoxide Concentrations - Existing Conditions

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
No. Raymond Avenue	3.3	352	5.2	0.1	3.3	562	5.2	0.1
Colorado Blvd	11.9	936	5.2	0.6	11.9	1,326	5.2	0.8
Total 1-Hour Contribution (ppm)				**0.6**				**0.9**
1-Hour Background Concentration (ppm)				6.5				6.5
Total 1-Hour Concentration with Background (ppm)				7.1				7.4
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.3				5.5

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Table 28. Estimated Carbon Monoxide Concentrations - With Cumulative and Project

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
No. Raymond Avenue	3.3	414	3.8	0.1	3.3	626	3.8	0.1
Colorado Blvd	11.9	1,079	3.8	0.5	11.9	1,690	3.8	0.8
Total 1-Hour Contribution (ppm)				**0.5**				**0.8**
1-Hour Background Concentration (ppm)				6.6				6.6
Total 1-Hour Concentration with Background (ppm)				7.1				7.4
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.2				5.4

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Pasadena Green Hotel Apartments

Intersection		Lanes
N/S	So. Raymond Avenue	4
E/W	E. Dayton Street	2

Table 29. Traffic Counts (Existing Conditions)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour	0800-0900	3	207	0	0	0	0	0	207	21	16	0	6	460	438	22
PM Peak Hour	0500-0600	20	288	0	0	0	0	0	319	30	24	0	10	691	657	34

Table 30. Traffic Counts (Cumulative Projects)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		0	20	0	0	0	0	0	29	0	0	0	0	49	49	0
PM Peak Hour		0	35	0	0	0	0	0	25	0	0	0	0	60	60	0

Table 31. Traffic Counts (With Cumulative and Project)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		3	227	0	0	0	0	0	236	21	16	0	6	509	507	42
PM Peak Hour		20	323	0	0	0	0	0	344	30	24	0	10	751	746	63

Project Trips

39 peak AM trips

58 peak PM trips

Note: trips are distributed by 25% for north, south, east, and west.

Roadway CO Concentrations

$$C_i = \frac{C_{ri} \times V_i \times EF_i}{100{,}000}$$

where:

C_{ri} = reference case concentration for the i-th roadway,

V_i = traffic volume for the i-th roadway,

EF_i = emission factor for the i-th roadway,

Table 32. Estimated Carbon Monoxide Concentrations - Existing Conditions

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
So. Raymond Avenue	11.9	438	5.2	0.3	11.9	657	5.2	0.4
E. Dayton Street	3.7	22	5.2	0.0	3.7	34	5.2	0.0
Total 1-Hour Contribution (ppm)				**0.3**				**0.4**
1-Hour Background Concentration (ppm)				6.5				6.5
Total 1-Hour Concentration with Background (ppm)				6.8				6.9
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.0				5.1

Note:
Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Table 33. Estimated Carbon Monoxide Concentrations - With Cumulative and Project

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
So. Raymond Avenue	11.9	507	3.8	0.2	11.9	746	3.8	0.3
E. Dayton Street	3.7	42	3.8	0.0	3.7	63	3.8	0.0
Total 1-Hour Contribution (ppm)				**0.2**				**0.3**
1-Hour Background Concentration (ppm)				6.6				6.6
Total 1-Hour Concentration with Background (ppm)				6.8				6.9
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.0				5.1

Note:
Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Pasadena Green Hotel Apartments

Intersection		Lanes
N/S	So. Raymond Avenue	4
E/W	Del Mar Boulevard	4

Table 34. Traffic Counts (Existing Conditions)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour	0745-0845	34	203	11	4	730	86	44	127	79	75	505	65	1,963	498	1,465
PM Peak Hour	0500-0600	61	240	25	57	715	49	150	226	169	64	584	56	2,396	871	1,525

Table 35. Traffic Counts (Cumulative Projects)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		0	19	1	1	29	0	0	28	0	0	89	0	167	48	119
PM Peak Hour		0	34	1	1	241	0	0	24	0	0	109	0	410	59	351

Table 36. Traffic Counts (With Cumulative and Project)

Type	Hour	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	Total	N/S	E/W
AM Peak Hour		34	222	12	5	759	86	44	155	79	75	594	65	2,130	566	1,604
PM Peak Hour		61	274	26	58	956	49	150	250	169	64	693	56	2,806	959	1,905

Project Trips

39 peak AM trips

58 peak PM trips

Note: trips are distributed by 25% for north, south, east, and west.

Roadway CO Concentrations

$$C_i = \frac{C_{ri} \times V_i \times EF_i}{100{,}000}$$

where:

C_{ri} = reference case concentration for the i-th roadway,

V_i = traffic volume for the i-th roadway,

EF_i = emission factor for the i-th roadway,

Table 37. Estimated Carbon Monoxide Concentrations - Existing Conditions

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
So. Raymond Avenue	3.3	498	5.2	0.1	3.3	871	5.2	0.1
Del Mar Boulevard	11.9	1,465	5.2	0.9	11.9	1,525	5.2	0.9
Total 1-Hour Contribution (ppm)				**1.0**				**1.1**
1-Hour Background Concentration (ppm)				6.5				6.5
Total 1-Hour Concentration with Background (ppm)				7.5				7.6
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.5				5.6

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Table 38. Estimated Carbon Monoxide Concentrations - With Cumulative and Project

	AM Peak Hour				PM Peak Hour			
Contributing Roadway	**C_{ri}**	**V_i**	**EF_i**	**C_i**	**C_{ri}**	**V_i**	**EF_i**	**C_i**
So. Raymond Avenue	3.3	566	3.8	0.1	3.3	959	3.8	0.1
Del Mar Boulevard	11.9	1,604	3.8	0.7	11.9	1,905	3.8	0.9
Total 1-Hour Contribution (ppm)				**0.8**				**1.0**
1-Hour Background Concentration (ppm)				6.6				6.6
Total 1-Hour Concentration with Background (ppm)				7.4				7.6
8-Hour Background Concentration (ppm)				4.8				4.8
Total 8-Hour Concentration with Background (ppm)				5.4				5.5

Note:

Assumed that all roadways are at grade; concentrations estimated for receptors at edge of roadway (worst-case).

Pasadena Green Hotel Apartments

Table 39. Projected Future Year 1-Hour CO Concentrations (ppm)

		YEAR				
Monitoring Site Location		**1999**	**2000**	**2010**	**2015**	**2020**
1	Central LA	7	6.7	5.1	5.1	5.1
2	West LA	6	5.8	4.4	4.4	4.4
3	Hawthorne	10	9.6	7.3	7.3	7.3
4	Long Beach	7	6.7	5.1	5.1	5.1
6	Reseda	9	8.6	6.5	6.6	6.6
7	Burbank	9	8.6	6.5	6.6	6.6
8	Pasadena	9	8.6	6.5	6.6	6.6
9	Azusa	5	4.8	3.6	3.6	3.6
10	Pomona	10	9.6	7.3	7.3	7.3
11	Pico Rivera	7	6.7	5.1	5.1	5.1
12	Lynwood	19	18.2	13.8	13.8	13.9
12	Compton	19	18.2	13.8	13.8	13.9
13	Santa Clarita	7	6.7	5.1	5.1	5.1
16	La Habra	11	10.5	8	8	8
17	Anaheim*	8	7.7	5.8	5.8	5.8
18	Costa Mesa	8	7.7	5.8	5.8	5.8
19	El Toro	4	3.8	2.9	2.9	2.9
23	Rubidoux	7	6.7	5.1	5.1	5.1
23	Banning AP**	7	6.7	5.1	5.1	5.1
30	Palm Springs	3	2.9	2.2	2.2	2.2
34	San Bernardino	5	4.8	3.6	3.6	3.6

Source: http://www.aqmd.gov/ceqa/handbook/CO/co_table2.doc

Notes:

*Anaheim data recovery rate: 33.7%

**Banning AP data recovery rate: 82.2%

Table 40. Projected Future Year 8-Hour CO Concentrations (ppm)

		YEAR				
Monitoring Site Location		**1999**	**2000**	**2010**	**2015**	**2020**
1	Central LA	6.3	6	4.6	4.6	4.6
2	West LA	3.8	3.6	2.8	2.8	2.8
3	Hawthorne	8.4	8.1	6.1	6.1	6.1
4	Long Beach	5.4	5.2	3.9	3.9	3.9
6	Reseda	7.6	7.3	5.5	5.5	5.5
7	Burbank	9	8.6	6.5	6.6	6.6
8	Pasadena	6.6	6.3	4.8	4.8	4.8
9	Azusa	3.9	3.7	2.8	2.8	2.8
10	Pomona	6.7	6.4	4.9	4.9	4.9
11	Pico Rivera	5.6	5.4	4.1	4.1	4.1
12	Lynwood	11	10.5	8	8	8
12	Compton	11.7	11.2	8.5	8.5	8.5
13	Santa Clarita	3.6	3.5	2.6	2.6	2.6
16	La Habra	5.3	5.1	3.9	3.9	3.9
17	Anaheim*	5.3	5.1	3.9	3.9	3.9
18	Costa Mesa	6.4	6.1	4.7	4.7	4.7
19	El Toro	2.5	2.4	1.8	1.8	1.8
23	Rubidoux	4.4	4.2	3.2	3.2	3.2
23	Banning AP**	4.1	3.9	3	3	3
30	Palm Springs	1.8	1.7	1.3	1.3	1.3
34	San Bernardino	4	3.8	2.9	2.9	2.9

Source: http://www.aqmd.gov/ceqa/handbook/CO/co_table3.doc

Notes:

*Anaheim data recovery rate: 33.7%

**Banning AP data recovery rate: 82.2%

Table 41. Background Concentration

Year	Concentration (ppm)		
	1-Hr	8-hr	Ratio
2012	2.4	1.58	0.7
2011	2.9	2.15	0.7
2010	2.4	1.94	0.8
Persistence Factor	0.7		

Source: CARB. 2013. iADAM: Air Quality Data Statistics; Top 4 Summary. Available online at: http://www.arb.ca.gov/adam/ [Accessed on June 11, 2013].

U.S. EPA. 2013. Air Data: Monitor Values Report. Available online at: http://www.epa.gov/airdata/ad_reports.html [Accessed on June 11, 2013].

Note:

SCAQMD CEQA Guidelines (1993) state that the persistence factor is the ratio over the most recent three years between the highest annual max 1-hour and 8-hour CO concentrations

Monitoring Station: Pasadena-S Wilson Avenue

Pasadena Green Hotel Apartments

Table 42. Reference Carbon Monoxide Concentrations (ppm)

Roadway Type	Primary Road (Highest Volume Road)						Secondary Road (Intersecting Road)					
	(receptor distance from edige -- in feet)											
At Grade	**At Edge**	**25'**	**50'**	**100'**	**300'**	**500'**	**At Edge**	**25'**	**50'**	**100'**	**300'**	**500'**
2 lane	14.0	7.6	5.7	4.0	1.7	0.9	3.7	2.7	2.2	1.7	1.0	0.8
4 lane	11.9	7.0	5.4	3.8	1.6	0.9	3.3	2.6	2.2	1.7	1.1	0.8
6 lane	9.5	6.1	4.9	3.5	1.6	0.8	2.8	2.3	2.0	1.7	1.1	0.9
8 lane	8.5	5.7	4.6	3.4	1.5	0.8	2.6	2.2	1.9	1.6	1.1	0.9
Depressed 15 feet												
2 lane	20.9	8.2	4.7	3.3	1.5	0.8	4.8	2.4	1.4	1.1	0.8	0.5
8 lane	15.4	6.3	3.6	2.7	1.3	0.7	3.7	1.9	1.1	1.0	0.7	0.6
Depressed 30 feet												
2 lane	26.8	7.9	3.4	1.7	0.8	0.3	5.2	3.2	2.0	0.8	0.4	0.3
8 lane	21.3	6.0	2.3	1.1	0.6	0.2	4.1	2.7	1.7	0.7	0.5	0.4
Elevated 15 feet												
2 lane	14.0	7.3	5.7	4.0	1.7	0.9	3.7	2.6	2.2	1.7	1.0	0.8
8 lane	8.5	5.4	4.6	3.4	1.5	0.8	2.6	2.1	1.9	1.6	1.1	0.9
Elevated 30 feet												
2 lane	14.0	7.3	5.4	4.0	1.7	0.9	3.6	2.6	2.2	1.7	1.0	0.8
8 lane	8.5	5.4	4.3	3.4	1.5	0.8	2.5	2.1	1.9	1.6	1.1	0.9

Source: BAAQMD CEQA Guidelines. 1999. Available online at:
http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Plans/CEQA%20Guide/ceqa_guide.ashx [Accessed on 6/10/2013].

Pasadena Green Hotel Apartments

Table 43. EMFAC2011 Emission Rates for Los Angeles County (All Vehicles Classes, Fuels, and Model Years) - 2013

Speed	VMT	Emission Rates (grams per mile)							
(miles/hr)	(miles/day)	ROG	TOG	CO	NOX	CO2	CO2 (Pavley I+LCFS)	PM10	PM2.5
5	666,341	0.491	0.634	5.159	1.200	1391.309	1310.509	0.036	0.033
10	2,694,008	0.331	0.423	4.216	0.956	1054.300	995.425	0.026	0.024
15	6,140,035	0.219	0.279	3.433	0.755	811.308	766.290	0.018	0.017
20	18,382,362	0.150	0.192	2.918	0.640	649.165	613.127	0.014	0.013
25	38,545,950	0.112	0.144	2.577	0.499	531.535	501.390	0.009	0.008
30	43,919,955	0.093	0.119	2.329	0.502	464.577	438.660	0.009	0.008
35	26,966,898	0.085	0.108	2.183	0.578	431.234	408.110	0.009	0.009
40	20,966,695	0.080	0.101	2.091	0.633	412.568	391.102	0.010	0.010
45	16,787,870	0.075	0.094	1.959	0.675	405.094	384.810	0.012	0.011
50	14,608,291	0.073	0.091	1.887	0.692	404.677	384.553	0.013	0.012
55	12,978,961	0.076	0.094	1.877	0.779	424.684	404.077	0.017	0.015
60	18,612,349	0.085	0.105	1.908	1.013	470.403	448.967	0.024	0.022
65	10,105,685	0.106	0.129	2.126	1.411	554.236	531.631	0.040	0.037
70	211,497	0.143	0.172	3.150	1.337	537.897	509.950	0.020	0.019
Average	**231,586,898**	**0.102**	**0.130**	**2.316**	**0.669**	**494.623**	**468.454**	**0.014**	**0.012**

Pasadena Green Hotel Apartments

Table 44. EMFAC2011 Emission Rates for Los Angeles County (All Vehicles Classes, Fuels, and Model Years) - 2016

Speed	VMT	Emission Rates (grams per mile)							
(miles/hr)	(miles/day)	ROG	TOG	CO	NOX	CO2	CO2 (Pavley I+LCFS)	PM10	PM2.5
5	643,926	0.356	0.471	3.830	1.019	1407.658	1222.769	0.024	0.022
10	2,537,458	0.236	0.309	3.121	0.796	1061.103	925.623	0.017	0.016
15	6,968,325	0.154	0.202	2.571	0.595	816.339	712.239	0.011	0.010
20	19,133,193	0.102	0.136	2.170	0.493	652.381	569.159	0.008	0.007
25	39,489,499	0.078	0.103	1.937	0.385	534.922	465.498	0.006	0.005
30	45,085,192	0.065	0.085	1.759	0.390	469.068	409.226	0.005	0.005
35	27,037,075	0.059	0.077	1.641	0.442	434.912	381.387	0.005	0.005
40	21,247,783	0.057	0.072	1.567	0.488	419.147	369.416	0.006	0.005
45	16,742,803	0.053	0.067	1.461	0.509	411.658	364.371	0.007	0.006
50	15,062,699	0.051	0.065	1.412	0.513	410.739	363.609	0.007	0.006
55	12,335,592	0.053	0.067	1.381	0.588	431.774	383.499	0.009	0.008
60	19,782,052	0.059	0.074	1.391	0.774	482.277	431.719	0.013	0.012
65	9,895,751	0.071	0.088	1.520	1.084	573.968	520.060	0.020	0.019
70	222,711	0.103	0.126	2.234	1.011	544.214	481.133	0.011	0.010
Average	**236,184,060**	**0.071**	**0.093**	**1.732**	**0.513**	**501.528**	**440.691**	**0.008**	**0.007**

Pasadena Green Hotels Apartments Project

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	0.5	Acre
Parking Structure	146	Space
Apartments Mid Rise	64	Dwelling Unit
Strip Mall	5	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Pasadena Water & Power
Climate Zone	12	**Precipitation Freq (Days)**	33		

1.3 User Entered Comments

Project Characteristics - Climate zone based on 91105 zip code (CalEEMod User's Guide, Appendix F: Climate Zone Lookup)

Land Use - Project site is 32,362 square feet; lot acreage for residential land use modified so total area = 0.74 acres (32,362 sf). Parking structure is underground and does not contribute to total graded area.

Construction Phase - Construction schedule provided by developer

Off-road Equipment - .

Off-road Equipment - Equipment list provided by developer.

Off-road Equipment - Construction equipment data provided by project developer.

Off-road Equipment - Construction equipment data provided by project developer.

Off-road Equipment - Construction equipment provided by project developer.

Off-road Equipment - construction equipment provided by project developer

Trips and VMT - 15-cy haul trucks assumed with 50-mile round trip distance

Demolition -

Grading -

Vehicle Trips - Project will generate 626 additional trips per day; all trips included with apartments.

Road Dust -

Energy Use -

Land Use Change -

Construction Off-road Equipment Mitigation - Watering required for Rule 403 compliance

Area 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					
2014	10.18	84.40	56.49	0.13	119.57	4.53	124.09	0.24	4.53	4.77	0.00	13,535.55	0.00	0.75	0.00	13,551.37
2015	1.64	9.97	11.25	0.02	1.27	0.59	1.86	0.05	0.59	0.64	0.00	2,304.62	0.00	0.15	0.00	2,307.74
2016	11.32	11.59	13.48	0.03	1.49	0.78	2.21	0.06	0.78	0.79	0.00	2,744.82	0.00	0.18	0.00	2,748.59
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2014	10.18	84.40	56.49	0.13	119.21	4.53	123.74	0.24	4.53	4.77	0.00	13,535.55	0.00	0.75	0.00	13,551.37
2015	1.64	9.97	11.25	0.02	1.27	0.59	1.86	0.05	0.59	0.64	0.00	2,304.62	0.00	0.15	0.00	2,307.74
2016	11.32	11.59	13.48	0.03	1.49	0.78	2.21	0.06	0.78	0.79	0.00	2,744.82	0.00	0.18	0.00	2,748.59
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	10.22	0.38	26.60	0.05		0.00	3.41		0.00	3.41	451.63	1,161.62		1.80	0.03	1,659.57
Energy	0.02	0.18	0.08	0.00		0.00	0.01		0.00	0.01		226.99		0.00	0.00	228.37
Mobile	3.28	8.09	32.58	0.07	6.90	0.39	7.29	0.24	0.39	0.63		6,351.10		0.23		6,355.97
Total	**13.52**	**8.65**	**59.26**	**0.12**	**6.90**	**0.39**	**10.71**	**0.24**	**0.39**	**4.05**	**451.63**	**7,739.71**		**2.03**	**0.03**	**8,243.91**

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	3.52	0.06	5.42	0.00		0.00	0.11		0.00	0.11	0.00	1,229.39		0.03	0.02	1,237.02
Energy	0.02	0.18	0.08	0.00		0.00	0.01		0.00	0.01		226.99		0.00	0.00	228.37
Mobile	3.28	8.09	32.58	0.07	6.90	0.39	7.29	0.24	0.39	0.63		6,351.10		0.23		6,355.97
Total	**6.82**	**8.33**	**38.08**	**0.07**	**6.90**	**0.39**	**7.41**	**0.24**	**0.39**	**0.75**	**0.00**	**7,807.48**		**0.26**	**0.02**	**7,821.36**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.24	0.00	1.24	0.00	0.00	0.00						0.00
Off-Road	2.74	22.27	12.84	0.03		1.16	1.16		1.16	1.16		3,428.18		0.24		3,433.28
Total	**2.74**	**22.27**	**12.84**	**0.03**	**1.24**	**1.16**	**2.40**	**0.00**	**1.16**	**1.16**		**3,428.18**		**0.24**		**3,433.28**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.37	3.52	2.00	0.01	3.63	0.16	3.78	0.02	0.16	0.18		617.98		0.02		618.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.06	0.72	0.00	0.15	0.01	0.16	0.01	0.01	0.01		126.41		0.01		126.56
Total	**0.43**	**3.58**	**2.72**	**0.01**	**3.78**	**0.17**	**3.94**	**0.03**	**0.17**	**0.19**		**744.39**		**0.03**		**744.92**

3.2 Demolition - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.48	0.00	0.48	0.00	0.00	0.00						0.00
Off-Road	2.74	22.27	12.84	0.03		1.16	1.16		1.16	1.16	0.00	3,428.18		0.24		3,433.28
Total	**2.74**	**22.27**	**12.84**	**0.03**	**0.48**	**1.16**	**1.64**	**0.00**	**1.16**	**1.16**	**0.00**	**3,428.18**		**0.24**		**3,433.28**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.37	3.52	2.00	0.01	3.63	0.16	3.78	0.02	0.16	0.18		617.98		0.02		618.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.06	0.72	0.00	0.15	0.01	0.16	0.01	0.01	0.01		126.41		0.01		126.56
Total	**0.43**	**3.58**	**2.72**	**0.01**	**3.78**	**0.17**	**3.94**	**0.03**	**0.17**	**0.19**		**744.39**		**0.03**		**744.92**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	1.84	11.70	8.56	0.01		0.93	0.93		0.93	0.93		1,289.79		0.16		1,293.25
Total	**1.84**	**11.70**	**8.56**	**0.01**	**0.00**	**0.93**	**0.93**	**0.00**	**0.93**	**0.93**		**1,289.79**		**0.16**		**1,293.25**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.30	2.86	1.62	0.00	0.71	0.13	0.84	0.02	0.13	0.14		502.36		0.01		502.66
Vendor	0.03	0.31	0.20	0.00	0.02	0.01	0.03	0.00	0.01	0.01		55.46		0.00		55.49
Worker	0.05	0.05	0.57	0.00	0.12	0.00	0.13	0.00	0.00	0.01		101.13		0.01		101.25
Total	**0.38**	**3.22**	**2.39**	**0.00**	**0.85**	**0.14**	**1.00**	**0.02**	**0.14**	**0.16**		**658.95**		**0.02**		**659.40**

3.3 Site Preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	1.84	11.70	8.56	0.01		0.93	0.93		0.93	0.93	0.00	1,289.79		0.16		1,293.25
Total	**1.84**	**11.70**	**8.56**	**0.01**	**0.00**	**0.93**	**0.93**	**0.00**	**0.93**	**0.93**	**0.00**	**1,289.79**		**0.16**		**1,293.25**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.30	2.86	1.62	0.00	0.71	0.13	0.84	0.02	0.13	0.14		502.36		0.01		502.66
Vendor	0.03	0.31	0.20	0.00	0.02	0.01	0.03	0.00	0.01	0.01		55.46		0.00		55.49
Worker	0.05	0.05	0.57	0.00	0.12	0.00	0.13	0.00	0.00	0.01		101.13		0.01		101.25
Total	**0.38**	**3.22**	**2.39**	**0.00**	**0.85**	**0.14**	**1.00**	**0.02**	**0.14**	**0.16**		**658.95**		**0.02**		**659.40**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.58	0.00	0.58	0.01	0.00	0.01						0.00
Off-Road	6.09	46.59	33.11	0.07		2.83	2.83		2.83	2.83		6,576.15		0.54		6,587.56
Total	**6.09**	**46.59**	**33.11**	**0.07**	**0.58**	**2.83**	**3.41**	**0.01**	**2.83**	**2.84**		**6,576.15**		**0.54**		**6,587.56**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.89	37.33	21.18	0.06	118.53	1.67	120.20	0.22	1.67	1.89		6,550.00		0.19		6,553.95
Vendor	0.03	0.31	0.20	0.00	0.02	0.01	0.03	0.00	0.01	0.01		55.46		0.00		55.49
Worker	0.17	0.17	2.01	0.00	0.43	0.02	0.44	0.02	0.02	0.03		353.94		0.02		354.37
Total	**4.09**	**37.81**	**23.39**	**0.06**	**118.98**	**1.70**	**120.67**	**0.24**	**1.70**	**1.93**		**6,959.40**		**0.21**		**6,963.81**

3.4 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.23	0.00	0.23	0.00	0.00	0.00						0.00
Off-Road	6.09	46.59	33.11	0.07		2.83	2.83		2.83	2.83	0.00	6,576.15		0.54		6,587.56
Total	**6.09**	**46.59**	**33.11**	**0.07**	**0.23**	**2.83**	**3.06**	**0.00**	**2.83**	**2.83**	**0.00**	**6,576.15**		**0.54**		**6,587.56**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.89	37.33	21.18	0.06	118.53	1.67	120.20	0.22	1.67	1.89		6,550.00		0.19		6,553.95
Vendor	0.03	0.31	0.20	0.00	0.02	0.01	0.03	0.00	0.01	0.01		55.46		0.00		55.49
Worker	0.17	0.17	2.01	0.00	0.43	0.02	0.44	0.02	0.02	0.03		353.94		0.02		354.37
Total	**4.09**	**37.81**	**23.39**	**0.06**	**118.98**	**1.70**	**120.67**	**0.24**	**1.70**	**1.93**		**6,959.40**		**0.21**		**6,963.81**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.07	7.72	4.92	0.01		0.52	0.52		0.52	0.52		912.37		0.10		914.38
Total	**1.07**	**7.72**	**4.92**	**0.01**		**0.52**	**0.52**		**0.52**	**0.52**		**912.37**		**0.10**		**914.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.27	2.77	1.79	0.00	0.17	0.10	0.27	0.01	0.10	0.11		499.14		0.01		499.42
Worker	0.45	0.44	5.17	0.01	1.11	0.04	1.14	0.04	0.04	0.08		910.14		0.05		911.23
Total	**0.72**	**3.21**	**6.96**	**0.01**	**1.28**	**0.14**	**1.41**	**0.05**	**0.14**	**0.19**		**1,409.28**		**0.06**		**1,410.65**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.07	7.72	4.92	0.01		0.52	0.52		0.52	0.52	0.00	912.37		0.10		914.38
Total	**1.07**	**7.72**	**4.92**	**0.01**		**0.52**	**0.52**		**0.52**	**0.52**	**0.00**	**912.37**		**0.10**		**914.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.27	2.77	1.79	0.00	0.17	0.10	0.27	0.01	0.10	0.11		499.14		0.01		499.42
Worker	0.45	0.44	5.17	0.01	1.11	0.04	1.14	0.04	0.04	0.08		910.14		0.05		911.23
Total	**0.72**	**3.21**	**6.96**	**0.01**	**1.28**	**0.14**	**1.41**	**0.05**	**0.14**	**0.19**		**1,409.28**		**0.06**		**1,410.65**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.98	7.06	4.87	0.01		0.46	0.46		0.46	0.46		912.36		0.09		914.22
Total	**0.98**	**7.06**	**4.87**	**0.01**		**0.46**	**0.46**		**0.46**	**0.46**		**912.36**		**0.09**		**914.22**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.24	2.51	1.62	0.00	0.17	0.09	0.26	0.01	0.09	0.10		500.38		0.01		500.63
Worker	0.42	0.40	4.76	0.01	1.11	0.04	1.14	0.04	0.04	0.08		891.88		0.05		892.89
Total	**0.66**	**2.91**	**6.38**	**0.01**	**1.28**	**0.13**	**1.40**	**0.05**	**0.13**	**0.18**		**1,392.26**		**0.06**		**1,393.52**

3.5 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.98	7.06	4.87	0.01		0.46	0.46		0.46	0.46	0.00	912.36		0.09		914.22
Total	**0.98**	**7.06**	**4.87**	**0.01**		**0.46**	**0.46**		**0.46**	**0.46**	**0.00**	**912.36**		**0.09**		**914.22**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.24	2.51	1.62	0.00	0.17	0.09	0.26	0.01	0.09	0.10		500.38		0.01		500.63
Worker	0.42	0.40	4.76	0.01	1.11	0.04	1.14	0.04	0.04	0.08		891.88		0.05		892.89
Total	**0.66**	**2.91**	**6.38**	**0.01**	**1.28**	**0.13**	**1.40**	**0.05**	**0.13**	**0.18**		**1,392.26**		**0.06**		**1,393.52**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.90	6.45	4.82	0.01		0.40	0.40		0.40	0.40		912.36		0.08		914.06
Total	**0.90**	**6.45**	**4.82**	**0.01**		**0.40**	**0.40**		**0.40**	**0.40**		**912.36**		**0.08**		**914.06**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.22	2.33	1.49	0.00	0.17	0.08	0.25	0.01	0.08	0.09		501.44		0.01		501.67
Worker	0.39	0.37	4.43	0.01	1.11	0.04	1.15	0.04	0.04	0.08		878.92		0.05		879.89
Total	**0.61**	**2.70**	**5.92**	**0.01**	**1.28**	**0.12**	**1.40**	**0.05**	**0.12**	**0.17**		**1,380.36**		**0.06**		**1,381.56**

3.5 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.90	6.45	4.82	0.01		0.40	0.40		0.40	0.40	0.00	912.36		0.08		914.06
Total	**0.90**	**6.45**	**4.82**	**0.01**		**0.40**	**0.40**		**0.40**	**0.40**	**0.00**	**912.36**		**0.08**		**914.06**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.22	2.33	1.49	0.00	0.17	0.08	0.25	0.01	0.08	0.09		501.44		0.01		501.67
Worker	0.39	0.37	4.43	0.01	1.11	0.04	1.15	0.04	0.04	0.08		878.92		0.05		879.89
Total	**0.61**	**2.70**	**5.92**	**0.01**	**1.28**	**0.12**	**1.40**	**0.05**	**0.12**	**0.17**		**1,380.36**		**0.06**		**1,381.56**

3.6 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.36					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20		281.19		0.03		281.89
Total	**9.73**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**		**281.19**		**0.03**		**281.89**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.86	0.00	0.21	0.01	0.22	0.01	0.01	0.02		170.90		0.01		171.09
Total	**0.08**	**0.07**	**0.86**	**0.00**	**0.21**	**0.01**	**0.22**	**0.01**	**0.01**	**0.02**		**170.90**		**0.01**		**171.09**

3.6 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.36					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20	0.00	281.19		0.03		281.89
Total	**9.73**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**281.19**		**0.03**		**281.89**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.86	0.00	0.21	0.01	0.22	0.01	0.01	0.02		170.90		0.01		171.09
Total	**0.08**	**0.07**	**0.86**	**0.00**	**0.21**	**0.01**	**0.22**	**0.01**	**0.01**	**0.02**		**170.90**		**0.01**		**171.09**

3.7 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.12	7.08	5.60	0.01		0.57	0.57		0.57	0.57		818.45		0.10		820.55
Paving	0.03					0.00	0.00		0.00	0.00						0.00
Total	**1.15**	**7.08**	**5.60**	**0.01**		**0.57**	**0.57**		**0.57**	**0.57**		**818.45**		**0.10**		**820.55**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.04	0.04	0.49	0.00	0.12	0.00	0.13	0.00	0.00	0.01		97.66		0.01		97.77
Total	**0.04**	**0.04**	**0.49**	**0.00**	**0.12**	**0.00**	**0.13**	**0.00**	**0.00**	**0.01**		**97.66**		**0.01**		**97.77**

3.7 Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.12	7.08	5.60	0.01		0.57	0.57		0.57	0.57	0.00	818.45		0.10		820.55
Paving	0.03					0.00	0.00		0.00	0.00						0.00
Total	**1.15**	**7.08**	**5.60**	**0.01**		**0.57**	**0.57**		**0.57**	**0.57**	**0.00**	**818.45**		**0.10**		**820.55**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.04	0.04	0.49	0.00	0.12	0.00	0.13	0.00	0.00	0.01		97.66		0.01		97.77
Total	**0.04**	**0.04**	**0.49**	**0.00**	**0.12**	**0.00**	**0.13**	**0.00**	**0.00**	**0.01**		**97.66**		**0.01**		**97.77**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.28	8.09	32.58	0.07	6.90	0.39	7.29	0.24	0.39	0.63		6,351.10		0.23		6,355.97
Unmitigated	3.28	8.09	32.58	0.07	6.90	0.39	7.29	0.24	0.39	0.63		6,351.10		0.23		6,355.97
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	625.92	625.92	625.92	2,084,673	2,084,673
Parking Lot	0.00	0.00	0.00		
Parking Structure	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Total	625.92	625.92	625.92	2,084,673	2,084,673

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Apartments Mid Rise	12.70	7.00	9.50	40.20	19.20	40.60

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00
Parking Structure	8.90	13.30	7.40	0.00	0.00	0.00
Strip Mall	8.90	13.30	7.40	16.60	64.40	19.00

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	lb/day										lb/day					
NaturalGas Mitigated	0.02	0.18	0.08	0.00		0.00	0.01		0.00	0.01		226.99		0.00	0.00	228.37
NaturalGas Unmitigated	0.02	0.18	0.08	0.00		0.00	0.01		0.00	0.01		226.99		0.00	0.00	228.37
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Mid Rise	1906.14	0.02	0.18	0.07	0.00		0.00	0.01		0.00	0.01		224.25		0.00	0.00	225.62
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Parking Structure	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Strip Mall	23.2877	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		2.74		0.00	0.00	2.76
Total		**0.02**	**0.18**	**0.07**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**		**226.99**		**0.00**	**0.00**	**228.38**

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	lb/day										lb/day					
Apartments Mid Rise	1.90614	0.02	0.18	0.07	0.00		0.00	0.01		0.00	0.01		224.25		0.00	0.00	225.62
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Parking Structure	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Strip Mall	0.0232877	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		2.74		0.00	0.00	2.76
Total		**0.02**	**0.18**	**0.07**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**		**226.99**		**0.00**	**0.00**	**228.38**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.52	0.06	5.42	0.00		0.00	0.11		0.00	0.11	0.00	1,229.39		0.03	0.02	1,237.02
Unmitigated	10.22	0.38	26.60	0.05		0.00	3.41		0.00	3.41	451.63	1,161.62		1.80	0.03	1,659.57
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Architectural Coating	0.56					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.68					0.00	0.00		0.00	0.00						0.00
Hearth	6.81	0.31	21.18	0.05		0.00	3.38		0.00	3.38	451.63	1,152.00		1.79	0.03	1,649.74
Landscaping	0.17	0.06	5.42	0.00		0.00	0.03		0.00	0.03		9.62		0.01		9.83
Total	**10.22**	**0.37**	**26.60**	**0.05**		**0.00**	**3.41**		**0.00**	**3.41**	**451.63**	**1,161.62**		**1.80**	**0.03**	**1,659.57**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.56					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.68					0.00	0.00		0.00	0.00						0.00
Hearth	0.11	0.00	0.01	0.00		0.00	0.08		0.00	0.08	0.00	1,219.76		0.02	0.02	1,227.19
Landscaping	0.17	0.06	5.42	0.00		0.00	0.03		0.00	0.03		9.62		0.01		9.83
Total	**3.52**	**0.06**	**5.43**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**0.00**	**1,229.38**		**0.03**	**0.02**	**1,237.02**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Pasadena Green Hotels Apartments Project

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	0.5	Acre
Parking Structure	146	Space
Apartments Mid Rise	64	Dwelling Unit
Strip Mall	5	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Pasadena Water & Power
Climate Zone	12	**Precipitation Freq (Days)**	33		

1.3 User Entered Comments

Project Characteristics - Climate zone based on 91105 zip code (CalEEMod User's Guide, Appendix F: Climate Zone Lookup)

Land Use - Project site is 32,362 square feet; lot acreage for residential land use modified so total area = 0.74 acres (32,362 sf). Parking structure is underground and does not contribute to total graded area.

Construction Phase - Construction schedule provided by developer

Off-road Equipment - .

Off-road Equipment - Equipment list provided by developer.

Off-road Equipment - Construction equipment data provided by project developer.

Off-road Equipment - Construction equipment data provided by project developer.

Off-road Equipment - Construction equipment provided by project developer.

Off-road Equipment - construction equipment provided by project developer

Trips and VMT - 15-cy haul trucks assumed with 50-mile round trip distance

Demolition -

Grading -

Vehicle Trips - Project will generate 626 additional trips per day; all trips included with apartments.

Road Dust -

Energy Use -

Land Use Change -

Construction Off-road Equipment Mitigation - Watering required for Rule 403 compliance

Area 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					
2014	10.28	86.51	57.85	0.13	119.57	4.54	124.11	0.24	4.54	4.79	0.00	13,483.88	0.00	0.76	0.00	13,499.77
2015	1.69	10.14	11.21	0.02	1.27	0.59	1.86	0.05	0.59	0.64	0.00	2,235.19	0.00	0.15	0.00	2,238.28
2016	11.37	11.75	13.39	0.03	1.49	0.78	2.22	0.06	0.78	0.79	0.00	2,663.68	0.00	0.18	0.00	2,667.41
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2014	10.28	86.51	57.85	0.13	119.21	4.54	123.75	0.24	4.54	4.78	0.00	13,483.88	0.00	0.76	0.00	13,499.77
2015	1.69	10.14	11.21	0.02	1.27	0.59	1.86	0.05	0.59	0.64	0.00	2,235.19	0.00	0.15	0.00	2,238.28
2016	11.37	11.75	13.39	0.03	1.49	0.78	2.22	0.06	0.78	0.79	0.00	2,663.68	0.00	0.18	0.00	2,667.41
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	10.22	0.38	26.60	0.05		0.00	3.41		0.00	3.41	451.63	1,161.62		1.80	0.03	1,659.57
Energy	0.02	0.18	0.08	0.00		0.00	0.01		0.00	0.01		226.99		0.00	0.00	228.37
Mobile	3.52	8.69	31.92	0.06	6.90	0.39	7.30	0.24	0.39	0.63		5,971.51		0.23		5,976.44
Total	**13.76**	**9.25**	**58.60**	**0.11**	**6.90**	**0.39**	**10.72**	**0.24**	**0.39**	**4.05**	**451.63**	**7,360.12**		**2.03**	**0.03**	**7,864.38**

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	3.52	0.06	5.42	0.00		0.00	0.11		0.00	0.11	0.00	1,229.39		0.03	0.02	1,237.02
Energy	0.02	0.18	0.08	0.00		0.00	0.01		0.00	0.01		226.99		0.00	0.00	228.37
Mobile	3.52	8.69	31.92	0.06	6.90	0.39	7.30	0.24	0.39	0.63		5,971.51		0.23		5,976.44
Total	**7.06**	**8.93**	**37.42**	**0.06**	**6.90**	**0.39**	**7.42**	**0.24**	**0.39**	**0.75**	**0.00**	**7,427.89**		**0.26**	**0.02**	**7,441.83**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.24	0.00	1.24	0.00	0.00	0.00						0.00
Off-Road	2.74	22.27	12.84	0.03		1.16	1.16		1.16	1.16		3,428.18		0.24		3,433.28
Total	**2.74**	**22.27**	**12.84**	**0.03**	**1.24**	**1.16**	**2.40**	**0.00**	**1.16**	**1.16**		**3,428.18**		**0.24**		**3,433.28**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.37	3.72	2.13	0.01	3.63	0.16	3.79	0.02	0.16	0.18		615.60		0.02		615.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.07	0.68	0.00	0.15	0.01	0.16	0.01	0.01	0.01		117.11		0.01		117.25
Total	**0.44**	**3.79**	**2.81**	**0.01**	**3.78**	**0.17**	**3.95**	**0.03**	**0.17**	**0.19**		**732.71**		**0.03**		**733.23**

3.2 Demolition - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.48	0.00	0.48	0.00	0.00	0.00						0.00
Off-Road	2.74	22.27	12.84	0.03		1.16	1.16		1.16	1.16	0.00	3,428.18		0.24		3,433.28
Total	**2.74**	**22.27**	**12.84**	**0.03**	**0.48**	**1.16**	**1.64**	**0.00**	**1.16**	**1.16**	**0.00**	**3,428.18**		**0.24**		**3,433.28**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.37	3.72	2.13	0.01	3.63	0.16	3.79	0.02	0.16	0.18		615.60		0.02		615.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.07	0.68	0.00	0.15	0.01	0.16	0.01	0.01	0.01		117.11		0.01		117.25
Total	**0.44**	**3.79**	**2.81**	**0.01**	**3.78**	**0.17**	**3.95**	**0.03**	**0.17**	**0.19**		**732.71**		**0.03**		**733.23**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	1.84	11.70	8.56	0.01		0.93	0.93		0.93	0.93		1,289.79		0.16		1,293.25
Total	**1.84**	**11.70**	**8.56**	**0.01**	**0.00**	**0.93**	**0.93**	**0.00**	**0.93**	**0.93**		**1,289.79**		**0.16**		**1,293.25**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.30	3.02	1.73	0.00	0.71	0.13	0.84	0.02	0.13	0.15		500.43		0.01		500.74
Vendor	0.03	0.32	0.23	0.00	0.02	0.01	0.03	0.00	0.01	0.01		55.06		0.00		55.09
Worker	0.05	0.06	0.54	0.00	0.12	0.00	0.13	0.00	0.00	0.01		93.69		0.01		93.80
Total	**0.38**	**3.40**	**2.50**	**0.00**	**0.85**	**0.14**	**1.00**	**0.02**	**0.14**	**0.17**		**649.18**		**0.02**		**649.63**

3.3 Site Preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	1.84	11.70	8.56	0.01		0.93	0.93		0.93	0.93	0.00	1,289.79		0.16		1,293.25
Total	**1.84**	**11.70**	**8.56**	**0.01**	**0.00**	**0.93**	**0.93**	**0.00**	**0.93**	**0.93**	**0.00**	**1,289.79**		**0.16**		**1,293.25**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.30	3.02	1.73	0.00	0.71	0.13	0.84	0.02	0.13	0.15		500.43		0.01		500.74
Vendor	0.03	0.32	0.23	0.00	0.02	0.01	0.03	0.00	0.01	0.01		55.06		0.00		55.09
Worker	0.05	0.06	0.54	0.00	0.12	0.00	0.13	0.00	0.00	0.01		93.69		0.01		93.80
Total	**0.38**	**3.40**	**2.50**	**0.00**	**0.85**	**0.14**	**1.00**	**0.02**	**0.14**	**0.17**		**649.18**		**0.02**		**649.63**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.58	0.00	0.58	0.01	0.00	0.01						0.00
Off-Road	6.09	46.59	33.11	0.07		2.83	2.83		2.83	2.83		6,576.15		0.54		6,587.56
Total	**6.09**	**46.59**	**33.11**	**0.07**	**0.58**	**2.83**	**3.41**	**0.01**	**2.83**	**2.84**		**6,576.15**		**0.54**		**6,587.56**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.96	39.40	22.61	0.06	118.53	1.68	120.21	0.22	1.68	1.90		6,524.78		0.19		6,528.82
Vendor	0.03	0.32	0.23	0.00	0.02	0.01	0.03	0.00	0.01	0.01		55.06		0.00		55.09
Worker	0.19	0.20	1.90	0.00	0.43	0.02	0.44	0.02	0.02	0.03		327.90		0.02		328.31
Total	**4.18**	**39.92**	**24.74**	**0.06**	**118.98**	**1.71**	**120.68**	**0.24**	**1.71**	**1.94**		**6,907.74**		**0.21**		**6,912.22**

3.4 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.23	0.00	0.23	0.00	0.00	0.00						0.00
Off-Road	6.09	46.59	33.11	0.07		2.83	2.83		2.83	2.83	0.00	6,576.15		0.54		6,587.56
Total	**6.09**	**46.59**	**33.11**	**0.07**	**0.23**	**2.83**	**3.06**	**0.00**	**2.83**	**2.83**	**0.00**	**6,576.15**		**0.54**		**6,587.56**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.96	39.40	22.61	0.06	118.53	1.68	120.21	0.22	1.68	1.90		6,524.78		0.19		6,528.82
Vendor	0.03	0.32	0.23	0.00	0.02	0.01	0.03	0.00	0.01	0.01		55.06		0.00		55.09
Worker	0.19	0.20	1.90	0.00	0.43	0.02	0.44	0.02	0.02	0.03		327.90		0.02		328.31
Total	**4.18**	**39.92**	**24.74**	**0.06**	**118.98**	**1.71**	**120.68**	**0.24**	**1.71**	**1.94**		**6,907.74**		**0.21**		**6,912.22**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.07	7.72	4.92	0.01		0.52	0.52		0.52	0.52		912.37		0.10		914.38
Total	**1.07**	**7.72**	**4.92**	**0.01**		**0.52**	**0.52**		**0.52**	**0.52**		**912.37**		**0.10**		**914.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.28	2.89	2.03	0.00	0.17	0.10	0.27	0.01	0.10	0.11		495.52		0.01		495.81
Worker	0.49	0.51	4.89	0.01	1.11	0.04	1.14	0.04	0.04	0.08		843.18		0.05		844.22
Total	**0.77**	**3.40**	**6.92**	**0.01**	**1.28**	**0.14**	**1.41**	**0.05**	**0.14**	**0.19**		**1,338.70**		**0.06**		**1,340.03**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.07	7.72	4.92	0.01		0.52	0.52		0.52	0.52	0.00	912.37		0.10		914.38
Total	**1.07**	**7.72**	**4.92**	**0.01**		**0.52**	**0.52**		**0.52**	**0.52**	**0.00**	**912.37**		**0.10**		**914.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.28	2.89	2.03	0.00	0.17	0.10	0.27	0.01	0.10	0.11		495.52		0.01		495.81
Worker	0.49	0.51	4.89	0.01	1.11	0.04	1.14	0.04	0.04	0.08		843.18		0.05		844.22
Total	**0.77**	**3.40**	**6.92**	**0.01**	**1.28**	**0.14**	**1.41**	**0.05**	**0.14**	**0.19**		**1,338.70**		**0.06**		**1,340.03**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.98	7.06	4.87	0.01		0.46	0.46		0.46	0.46		912.36		0.09		914.22
Total	**0.98**	**7.06**	**4.87**	**0.01**		**0.46**	**0.46**		**0.46**	**0.46**		**912.36**		**0.09**		**914.22**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.25	2.62	1.85	0.00	0.17	0.09	0.26	0.01	0.09	0.10		496.64		0.01		496.90
Worker	0.45	0.46	4.49	0.01	1.11	0.04	1.14	0.04	0.04	0.08		826.18		0.05		827.16
Total	**0.70**	**3.08**	**6.34**	**0.01**	**1.28**	**0.13**	**1.40**	**0.05**	**0.13**	**0.18**		**1,322.82**		**0.06**		**1,324.06**

3.5 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.98	7.06	4.87	0.01		0.46	0.46		0.46	0.46	0.00	912.36		0.09		914.22
Total	**0.98**	**7.06**	**4.87**	**0.01**		**0.46**	**0.46**		**0.46**	**0.46**	**0.00**	**912.36**		**0.09**		**914.22**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.25	2.62	1.85	0.00	0.17	0.09	0.26	0.01	0.09	0.10		496.64		0.01		496.90
Worker	0.45	0.46	4.49	0.01	1.11	0.04	1.14	0.04	0.04	0.08		826.18		0.05		827.16
Total	**0.70**	**3.08**	**6.34**	**0.01**	**1.28**	**0.13**	**1.40**	**0.05**	**0.13**	**0.18**		**1,322.82**		**0.06**		**1,324.06**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.90	6.45	4.82	0.01		0.40	0.40		0.40	0.40		912.36		0.08		914.06
Total	**0.90**	**6.45**	**4.82**	**0.01**		**0.40**	**0.40**		**0.40**	**0.40**		**912.36**		**0.08**		**914.06**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.23	2.42	1.72	0.00	0.17	0.08	0.25	0.01	0.08	0.09		497.60		0.01		497.84
Worker	0.43	0.43	4.16	0.01	1.11	0.04	1.15	0.04	0.04	0.08		814.20		0.04		815.13
Total	**0.66**	**2.85**	**5.88**	**0.01**	**1.28**	**0.12**	**1.40**	**0.05**	**0.12**	**0.17**		**1,311.80**		**0.05**		**1,312.97**

3.5 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.90	6.45	4.82	0.01		0.40	0.40		0.40	0.40	0.00	912.36		0.08		914.06
Total	**0.90**	**6.45**	**4.82**	**0.01**		**0.40**	**0.40**		**0.40**	**0.40**	**0.00**	**912.36**		**0.08**		**914.06**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.23	2.42	1.72	0.00	0.17	0.08	0.25	0.01	0.08	0.09		497.60		0.01		497.84
Worker	0.43	0.43	4.16	0.01	1.11	0.04	1.15	0.04	0.04	0.08		814.20		0.04		815.13
Total	**0.66**	**2.85**	**5.88**	**0.01**	**1.28**	**0.12**	**1.40**	**0.05**	**0.12**	**0.17**		**1,311.80**		**0.05**		**1,312.97**

3.6 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.36					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20		281.19		0.03		281.89
Total	**9.73**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**		**281.19**		**0.03**		**281.89**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.81	0.00	0.21	0.01	0.22	0.01	0.01	0.02		158.32		0.01		158.50
Total	**0.08**	**0.08**	**0.81**	**0.00**	**0.21**	**0.01**	**0.22**	**0.01**	**0.01**	**0.02**		**158.32**		**0.01**		**158.50**

3.6 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.36					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20	0.00	281.19		0.03		281.89
Total	**9.73**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**281.19**		**0.03**		**281.89**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.81	0.00	0.21	0.01	0.22	0.01	0.01	0.02		158.32		0.01		158.50
Total	**0.08**	**0.08**	**0.81**	**0.00**	**0.21**	**0.01**	**0.22**	**0.01**	**0.01**	**0.02**		**158.32**		**0.01**		**158.50**

3.7 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.12	7.08	5.60	0.01		0.57	0.57		0.57	0.57		818.45		0.10		820.55
Paving	0.03					0.00	0.00		0.00	0.00						0.00
Total	**1.15**	**7.08**	**5.60**	**0.01**		**0.57**	**0.57**		**0.57**	**0.57**		**818.45**		**0.10**		**820.55**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.05	0.46	0.00	0.12	0.00	0.13	0.00	0.00	0.01		90.47		0.00		90.57
Total	**0.05**	**0.05**	**0.46**	**0.00**	**0.12**	**0.00**	**0.13**	**0.00**	**0.00**	**0.01**		**90.47**		**0.00**		**90.57**

3.7 Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.12	7.08	5.60	0.01		0.57	0.57		0.57	0.57	0.00	818.45		0.10		820.55
Paving	0.03					0.00	0.00		0.00	0.00						0.00
Total	**1.15**	**7.08**	**5.60**	**0.01**		**0.57**	**0.57**		**0.57**	**0.57**	**0.00**	**818.45**		**0.10**		**820.55**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.05	0.46	0.00	0.12	0.00	0.13	0.00	0.00	0.01		90.47		0.00		90.57
Total	**0.05**	**0.05**	**0.46**	**0.00**	**0.12**	**0.00**	**0.13**	**0.00**	**0.00**	**0.01**		**90.47**		**0.00**		**90.57**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.52	8.69	31.92	0.06	6.90	0.39	7.30	0.24	0.39	0.63		5,971.51		0.23		5,976.44
Unmitigated	3.52	8.69	31.92	0.06	6.90	0.39	7.30	0.24	0.39	0.63		5,971.51		0.23		5,976.44
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	625.92	625.92	625.92	2,084,673	2,084,673
Parking Lot	0.00	0.00	0.00		
Parking Structure	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Total	625.92	625.92	625.92	2,084,673	2,084,673

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Apartments Mid Rise	12.70	7.00	9.50	40.20	19.20	40.60

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Parking Lot	8.90	13.30	7.40	0.00	0.00	0.00
Parking Structure	8.90	13.30	7.40	0.00	0.00	0.00
Strip Mall	8.90	13.30	7.40	16.60	64.40	19.00

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	lb/day										lb/day					
NaturalGas Mitigated	0.02	0.18	0.08	0.00		0.00	0.01		0.00	0.01		226.99		0.00	0.00	228.37
NaturalGas Unmitigated	0.02	0.18	0.08	0.00		0.00	0.01		0.00	0.01		226.99		0.00	0.00	228.37
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Apartments Mid Rise	1906.14	0.02	0.18	0.07	0.00		0.00	0.01		0.00	0.01		224.25		0.00	0.00	225.62
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Parking Structure	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Strip Mall	23.2877	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		2.74		0.00	0.00	2.76
Total		**0.02**	**0.18**	**0.07**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**		**226.99**		**0.00**	**0.00**	**228.38**

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	lb/day										lb/day					
Apartments Mid Rise	1.90614	0.02	0.18	0.07	0.00		0.00	0.01		0.00	0.01		224.25		0.00	0.00	225.62
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Parking Structure	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Strip Mall	0.0232877	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		2.74		0.00	0.00	2.76
Total		**0.02**	**0.18**	**0.07**	**0.00**		**0.00**	**0.01**		**0.00**	**0.01**		**226.99**		**0.00**	**0.00**	**228.38**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.52	0.06	5.42	0.00		0.00	0.11		0.00	0.11	0.00	1,229.39		0.03	0.02	1,237.02
Unmitigated	10.22	0.38	26.60	0.05		0.00	3.41		0.00	3.41	451.63	1,161.62		1.80	0.03	1,659.57
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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	lb/day										lb/day					
Architectural Coating	0.56					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.68					0.00	0.00		0.00	0.00						0.00
Hearth	6.81	0.31	21.18	0.05		0.00	3.38		0.00	3.38	451.63	1,152.00		1.79	0.03	1,649.74
Landscaping	0.17	0.06	5.42	0.00		0.00	0.03		0.00	0.03		9.62		0.01		9.83
Total	**10.22**	**0.37**	**26.60**	**0.05**		**0.00**	**3.41**		**0.00**	**3.41**	**451.63**	**1,161.62**		**1.80**	**0.03**	**1,659.57**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.56					0.00	0.00		0.00	0.00						0.00
Consumer Products	2.68					0.00	0.00		0.00	0.00						0.00
Hearth	0.11	0.00	0.01	0.00		0.00	0.08		0.00	0.08	0.00	1,219.76		0.02	0.02	1,227.19
Landscaping	0.17	0.06	5.42	0.00		0.00	0.03		0.00	0.03		9.62		0.01		9.83
Total	**3.52**	**0.06**	**5.43**	**0.00**		**0.00**	**0.11**		**0.00**	**0.11**	**0.00**	**1,229.38**		**0.03**	**0.02**	**1,237.02**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation