

Urbemis 2007 Version 9.2.0

Combined Annual Emissions Reports (Tons/Year)

File Name: I:\Projects\ENV Projects\500 Series\ENV-589 (Diamond Creek Villas CEQA)\Technical Reports and Project Info\AQ - CC\Diamond Cre Villas URBEMIS.urb9

Project Name: Diamond Creek Villas

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
2012 TOTALS (lbs/day unmitigated)	1,254.87	22.00	41.95	1.50	43.03	8.76	1.38	9.75
2013 TOTALS (lbs/day unmitigated)	267.90	34.78	41.96	1.67	43.63	8.76	1.53	10.30
2014 TOTALS (lbs/day unmitigated)	750.09	19.12	41.95	1.17	42.84	8.76	1.07	9.58
2015 TOTALS (lbs/day unmitigated)	750.07	17.54	41.95	1.09	42.77	8.76	1.01	9.51

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	1.31	0.34	0.00	0.00	435.59
TOTALS (tons/year, mitigated)	1.30	0.34	0.00	0.00	435.59
Percent Reduction	0.76	0.00	NaN	NaN	0.00

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CO2

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## OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	2.52	2.80	3.37	0.66	1,896.52
TOTALS (tons/year, mitigated)	2.52	2.80	3.37	0.66	1,896.52
Percent Reduction	0.00	0.00	0.00	0.00	0.00

## SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	3.83	3.14	3.37	0.66	2,332.11
TOTALS (tons/year, mitigated)	2.60	0.68	0.00	0.00	871.18
Percent Reduction	32.11	78.34	100.00	100.00	62.64

## Construction Unmitigated Detail Report:

## CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 5/1/2012-5/11/2012 Number Active Days: 9	1.08	7.82	1.36	0.53	1.89	0.28	0.49	0.77
Demolition 05/01/2012-05/11/2012	1.08	7.82	1.36	0.53	1.89	0.28	0.49	0.77
Fugitive Dust	0.00	0.00	1.34	0.00	1.34	0.28	0.00	0.28
Demo Off Road Diesel	0.98	6.77	0.00	0.49	0.49	0.00	0.45	0.45
Demo On Road Diesel	0.07	1.00	0.01	0.04	0.04	0.00	0.03	0.04
Demo Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00

CO2

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Time Slice 6/1/2012-6/15/2012 Number Active Days: 11	2.72	<u>22.00</u>	<u>41.95</u>	1.07	<u>43.03</u>	<u>8.76</u>	0.99	<u>9.75</u>
Mass Grading 06/01/2012-06/15/2012	2.72	22.00	41.95	1.07	43.03	8.76	0.99	9.75
Mass Grading Dust	0.00	0.00	41.95	0.00	41.95	8.76	0.00	8.76
Mass Grading Off Road Diesel	2.69	21.95	0.00	1.07	1.07	0.00	0.99	0.99
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 9/12/2012-9/21/2012 Number Active Days: 8	3.72	18.55	0.08	1.18	1.27	0.03	1.08	1.11
Building 09/12/2012-09/23/2012	3.72	18.55	0.08	1.18	1.27	0.03	1.08	1.11
Building Off Road Diesel	3.14	14.81	0.00	1.04	1.04	0.00	0.95	0.95
Building Vendor Trips	0.24	3.14	0.03	0.12	0.15	0.01	0.11	0.12
Building Worker Trips	0.35	0.60	0.06	0.03	0.08	0.02	0.02	0.04
Time Slice 10/3/2012-10/5/2012 Number Active Days: 3	<u>1,254.87</u>	21.27	0.12	<u>1.50</u>	1.62	0.04	<u>1.38</u>	1.42
Asphalt 10/03/2012-10/07/2012	4.63	20.48	0.05	1.46	1.51	0.02	1.34	1.36
Paving Off-Gas	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.35	0.00	1.24	1.24	0.00	1.14	1.14
Paving On Road Diesel	0.40	6.02	0.04	0.22	0.25	0.01	0.20	0.21
Paving Worker Trips	0.06	0.11	0.01	0.01	0.02	0.00	0.00	0.01
Coating 10/03/2012-10/05/2012	1,250.24	0.79	0.07	0.04	0.11	0.03	0.03	0.06
Architectural Coating	1,249.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.46	0.79	0.07	0.04	0.11	0.03	0.03	0.06

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Time Slice 5/1/2013-5/2/2013 Number Active Days: 2	4.32	<u>34.78</u>	<u>41.96</u>	<u>1.67</u>	<u>43.63</u>	<u>8.76</u>	<u>1.53</u>	<u>10.30</u>
Fine Grading 05/01/2013-05/18/2013	2.58	20.61	41.95	0.99	42.94	8.76	0.91	9.67
Fine Grading Dust	0.00	0.00	41.95	0.00	41.95	8.76	0.00	8.76
Fine Grading Off Road Diesel	2.55	20.56	0.00	0.99	0.99	0.00	0.91	0.91
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Trenching 05/01/2013-05/18/2013	1.74	14.17	0.00	0.68	0.68	0.00	0.63	0.63
Trenching Off Road Diesel	1.72	14.12	0.00	0.68	0.68	0.00	0.62	0.62
Trenching Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 5/3/2013-5/3/2013 Number Active Days: 1	2.58	20.61	41.95	0.99	42.94	8.76	0.91	9.67
Fine Grading 05/01/2013-05/18/2013	2.58	20.61	41.95	0.99	42.94	8.76	0.91	9.67
Fine Grading Dust	0.00	0.00	41.95	0.00	41.95	8.76	0.00	8.76
Fine Grading Off Road Diesel	2.55	20.56	0.00	0.99	0.99	0.00	0.91	0.91
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00

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Time Slice 5/6/2013-5/9/2013 Number Active Days: 4	4.32	<u>34.78</u>	<u>41.96</u>	<u>1.67</u>	<u>43.63</u>	<u>8.76</u>	<u>1.53</u>	<u>10.30</u>
Fine Grading 05/01/2013-05/18/2013	2.58	20.61	41.95	0.99	42.94	8.76	0.91	9.67
Fine Grading Dust	0.00	0.00	41.95	0.00	41.95	8.76	0.00	8.76
Fine Grading Off Road Diesel	2.55	20.56	0.00	0.99	0.99	0.00	0.91	0.91
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Trenching 05/01/2013-05/18/2013	1.74	14.17	0.00	0.68	0.68	0.00	0.63	0.63
Trenching Off Road Diesel	1.72	14.12	0.00	0.68	0.68	0.00	0.62	0.62
Trenching Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 5/10/2013-5/10/2013 Number Active Days: 1	2.58	20.61	41.95	0.99	42.94	8.76	0.91	9.67
Fine Grading 05/01/2013-05/18/2013	2.58	20.61	41.95	0.99	42.94	8.76	0.91	9.67
Fine Grading Dust	0.00	0.00	41.95	0.00	41.95	8.76	0.00	8.76
Fine Grading Off Road Diesel	2.55	20.56	0.00	0.99	0.99	0.00	0.91	0.91
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00

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Time Slice 5/13/2013-5/16/2013 Number Active Days: 4	4.32	<u>34.78</u>	<u>41.96</u>	<u>1.67</u>	<u>43.63</u>	<u>8.76</u>	<u>1.53</u>	<u>10.30</u>
Fine Grading 05/01/2013-05/18/2013	2.58	20.61	41.95	0.99	42.94	8.76	0.91	9.67
Fine Grading Dust	0.00	0.00	41.95	0.00	41.95	8.76	0.00	8.76
Fine Grading Off Road Diesel	2.55	20.56	0.00	0.99	0.99	0.00	0.91	0.91
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Trenching 05/01/2013-05/18/2013	1.74	14.17	0.00	0.68	0.68	0.00	0.63	0.63
Trenching Off Road Diesel	1.72	14.12	0.00	0.68	0.68	0.00	0.62	0.62
Trenching Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 5/17/2013-5/17/2013 Number Active Days: 1	2.58	20.61	41.95	0.99	42.94	8.76	0.91	9.67
Fine Grading 05/01/2013-05/18/2013	2.58	20.61	41.95	0.99	42.94	8.76	0.91	9.67
Fine Grading Dust	0.00	0.00	41.95	0.00	41.95	8.76	0.00	8.76
Fine Grading Off Road Diesel	2.55	20.56	0.00	0.99	0.99	0.00	0.91	0.91
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 6/3/2013-7/31/2013 Number Active Days: 43	3.36	17.15	0.07	1.06	1.13	0.03	0.97	1.00
Building 06/01/2013-07/31/2013	3.36	17.15	0.07	1.06	1.13	0.03	0.97	1.00
Building Off Road Diesel	2.88	13.91	0.00	0.93	0.93	0.00	0.86	0.86
Building Vendor Trips	0.22	2.79	0.03	0.10	0.13	0.01	0.10	0.11
Building Worker Trips	0.26	0.46	0.05	0.02	0.07	0.02	0.02	0.04

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Time Slice 8/1/2013-8/16/2013 Number Active Days: 12	2.80	15.03	0.02	1.20	1.22	0.01	1.10	1.11
Asphalt 08/01/2013-08/17/2013	2.80	15.03	0.02	1.20	1.22	0.01	1.10	1.11
Paving Off-Gas	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	0.00	1.15	1.15	0.00	1.05	1.05
Paving On Road Diesel	0.09	1.34	0.01	0.05	0.06	0.00	0.04	0.05
Paving Worker Trips	0.06	0.10	0.01	0.01	0.02	0.00	0.00	0.01
Time Slice 9/10/2013-9/27/2013 Number Active Days: 14	<u>267.90</u>	0.15	0.02	0.01	0.02	0.01	0.01	0.01
Coating 09/10/2013-09/28/2013	267.90	0.15	0.02	0.01	0.02	0.01	0.01	0.01
Architectural Coating	267.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.09	0.15	0.02	0.01	0.02	0.01	0.01	0.01
Time Slice 5/1/2014-5/9/2014 Number Active Days: 7	1.39	13.34	12.66	0.65	13.32	2.64	0.60	3.24
Demolition 05/01/2014-05/09/2014	1.39	13.34	12.66	0.65	13.32	2.64	0.60	3.24
Fugitive Dust	0.00	0.00	12.60	0.00	12.60	2.62	0.00	2.62
Demo Off Road Diesel	0.84	5.95	0.00	0.39	0.39	0.00	0.36	0.36
Demo On Road Diesel	0.52	7.35	0.06	0.26	0.32	0.02	0.24	0.26
Demo Worker Trips	0.03	0.04	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 5/20/2014-5/30/2014 Number Active Days: 9	1.07	9.01	0.00	0.37	0.38	0.00	0.34	0.34
Trenching 05/20/2014-05/30/2014	1.07	9.01	0.00	0.37	0.38	0.00	0.34	0.34
Trenching Off Road Diesel	1.05	8.97	0.00	0.37	0.37	0.00	0.34	0.34
Trenching Worker Trips	0.03	0.04	0.00	0.00	0.01	0.00	0.00	0.00

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Time Slice 6/2/2014-6/6/2014 Number Active Days: 5	2.44	<u>19.12</u>	<u>41.95</u>	0.89	<u>42.84</u>	<u>8.76</u>	0.82	<u>9.58</u>
Fine Grading 06/02/2014-06/06/2014	2.44	19.12	41.95	0.89	42.84	8.76	0.82	9.58
Fine Grading Dust	0.00	0.00	41.95	0.00	41.95	8.76	0.00	8.76
Fine Grading Off Road Diesel	2.41	19.08	0.00	0.89	0.89	0.00	0.82	0.82
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.04	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 6/16/2014-6/20/2014 Number Active Days: 5	3.41	15.81	0.03	<u>1.17</u>	1.20	0.01	<u>1.07</u>	1.08
Asphalt 06/16/2014-06/20/2014	3.41	15.81	0.03	1.17	1.20	0.01	1.07	1.08
Paving Off-Gas	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.06	12.89	0.00	1.06	1.06	0.00	0.98	0.98
Paving On Road Diesel	0.20	2.84	0.02	0.10	0.12	0.01	0.09	0.10
Paving Worker Trips	0.05	0.09	0.01	0.01	0.02	0.00	0.00	0.01
Time Slice 7/7/2014-7/31/2014 Number Active Days: 19	2.69	13.25	0.01	0.84	0.85	0.00	0.77	0.77
Building 07/07/2014-07/31/2014	2.69	13.25	0.01	0.84	0.85	0.00	0.77	0.77
Building Off Road Diesel	2.63	12.97	0.00	0.82	0.82	0.00	0.76	0.76
Building Vendor Trips	0.02	0.20	0.00	0.01	0.01	0.00	0.01	0.01
Building Worker Trips	0.04	0.08	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 8/11/2014-8/15/2014 Number Active Days: 5	<u>750.09</u>	0.39	0.04	0.02	0.07	0.02	0.02	0.03
Coating 08/11/2014-08/15/2014	750.09	0.39	0.04	0.02	0.07	0.02	0.02	0.03
Architectural Coating	749.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.22	0.39	0.04	0.02	0.07	0.02	0.02	0.03

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Time Slice 5/1/2015-5/8/2015 Number Active Days: 6	2.28	<u>17.54</u>	<u>41.95</u>	0.81	<u>42.77</u>	<u>8.76</u>	0.75	<u>9.51</u>
Fine Grading 05/01/2015-05/08/2015	2.28	17.54	41.95	0.81	42.77	8.76	0.75	9.51
Fine Grading Dust	0.00	0.00	41.95	0.00	41.95	8.76	0.00	8.76
Fine Grading Off Road Diesel	2.26	17.50	0.00	0.81	0.81	0.00	0.74	0.74
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 5/11/2015-5/14/2015 Number Active Days: 4	0.99	8.07	0.00	0.35	0.36	0.00	0.33	0.33
Trenching 05/11/2015-05/15/2015	0.99	8.07	0.00	0.35	0.36	0.00	0.33	0.33
Trenching Off Road Diesel	0.98	8.04	0.00	0.35	0.35	0.00	0.32	0.32
Trenching Worker Trips	0.02	0.03	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 6/1/2015-7/10/2015 Number Active Days: 30	2.79	14.44	0.07	0.86	0.94	0.03	0.79	0.82
Building 06/01/2015-07/10/2015	2.79	14.44	0.07	0.86	0.94	0.03	0.79	0.82
Building Off Road Diesel	2.40	12.04	0.00	0.76	0.76	0.00	0.70	0.70
Building Vendor Trips	0.17	2.02	0.03	0.08	0.10	0.01	0.07	0.08
Building Worker Trips	0.22	0.38	0.05	0.02	0.07	0.02	0.02	0.04
Time Slice 8/3/2015-8/7/2015 Number Active Days: 5	<u>750.07</u>	0.36	0.04	0.02	0.07	0.02	0.02	0.03
Coating 08/03/2015-08/07/2015	750.07	0.36	0.04	0.02	0.07	0.02	0.02	0.03
Architectural Coating	749.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.20	0.36	0.04	0.02	0.07	0.02	0.02	0.03

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2,349.50

2,349.50

0.00

2,247.32

0.00

102.18

1,244.19

1,244.19

1,167.55

76.64

3,271.53

3,271.53

1,621.20

701.25

949.09

894.25

894.25

0.00

894.25

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Time Slice 8/17/2015-8/20/2015 Number Active Days: 4	3.59	15.30	0.04	<u>1.09</u>	1.13	0.01	<u>1.01</u>	1.02
Asphalt 08/17/2015-08/20/2015	3.59	15.30	0.04	1.09	1.13	0.01	1.01	1.02
Paving Off-Gas	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.93	12.07	0.00	0.98	0.98	0.00	0.90	0.90
Paving On Road Diesel	0.23	3.14	0.03	0.11	0.14	0.01	0.10	0.11
Paving Worker Trips	0.05	0.08	0.01	0.01	0.02	0.00	0.00	0.01

Phase Assumptions

Phase: Demolition 5/1/2012 - 5/11/2012 - Residential Demolition Ph 1

Building Volume Total (cubic feet): 11000

Building Volume Daily (cubic feet): 3200

On Road Truck Travel (VMT): 44.44

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Demolition 5/1/2014 - 5/9/2014 - Comm Demolition

Building Volume Total (cubic feet): 85000

Building Volume Daily (cubic feet): 30000

On Road Truck Travel (VMT): 416.67

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 5/1/2013 - 5/18/2013 - Grading Ph 2

Total Acres Disturbed: 8.39

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2,285.32

2,285.32

0.00

1,272.04

808.92

204.37

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Maximum Daily Acreage Disturbed: 2.1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 6/2/2014 - 6/6/2014 - Comm Grading

Total Acres Disturbed: 8.39

Maximum Daily Acreage Disturbed: 2.1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 5/1/2015 - 5/8/2015 - Grading Ph 3

Total Acres Disturbed: 8.39

Maximum Daily Acreage Disturbed: 2.1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

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1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 6/1/2012 - 6/15/2012 - Residential Grading Ph 1

Total Acres Disturbed: 8.39

Maximum Daily Acreage Disturbed: 2.1

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 5/1/2013 - 5/18/2013 - Trenching Ph 2

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Trenching 5/20/2014 - 5/30/2014 - Comm Utilities

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 4 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Trenching 5/11/2015 - 5/15/2015 - Trenching Ph 3

Off-Road Equipment:

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- 1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 10/3/2012 - 10/7/2012 - Streets and Driveways Ph 1

Acres to be Paved: 2.1

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 8/1/2013 - 8/17/2013 - Streets and Driveways Ph 2

Acres to be Paved: 2.1

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 6/16/2014 - 6/20/2014 - Comm Paving

Acres to be Paved: 2.1

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Phase: Paving 8/17/2015 - 8/20/2015 - Street and Driveways Ph 3

Acres to be Paved: 2.1

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 9/12/2012 - 9/23/2012 - Residential Construction Ph 1

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Building Construction 6/1/2013 - 7/31/2013 - Residential Construction Ph 2

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Building Construction 7/7/2014 - 7/31/2014 - Comm Construction

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

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1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Building Construction 6/1/2015 - 7/10/2015 - Residential Construction Ph 3

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 10/3/2012 - 10/5/2012 - Painting Ph 1

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Phase: Architectural Coating 9/10/2013 - 9/28/2013 - Painting Ph 2

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Phase: Architectural Coating 8/11/2014 - 8/15/2014 - Comm Painting

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Phase: Architectural Coating 8/3/2015 - 8/7/2015 - Painting Ph 3

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.03	0.34	0.00	0.00	434.92
Hearth	0.00	0.00	0.00	0.00	0.16
Landscape	0.02	0.00	0.00	0.00	0.51
Consumer Products	1.15				
Architectural Coatings	0.11				
TOTALS (tons/year, unmitigated)	1.31	0.34	0.00	0.00	435.59

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Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.03	0.34	0.00	0.00	434.92
Hearth	0.00	0.00	0.00	0.00	0.16
Landscape	0.02	0.00	0.00	0.00	0.51
Consumer Products	1.15				
Architectural Coatings	0.10				
TOTALS (tons/year, mitigated)	1.30	0.34	0.00	0.00	435.59

Area Source Changes to Defaults

Percent residential using natural gas changed from 60% to 100%

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 35%

The residential percentage of surface area repainted each year changed from 10% to 5%

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	ROG	NOX	PM10	PM25	CO2
Condo/townhouse general	1.35	1.56	1.94	0.38	1,090.49
Strip mall	1.17	1.24	1.43	0.28	806.03
TOTALS (tons/year, unmitigated)	2.52	2.80	3.37	0.66	1,896.52
Less OnRoad Reduction	0.00	0.00	0.00	0.00	0.00
TOTALS (tons/year, unmitigated)	2.52	2.80	3.37	0.66	1,896.52

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

<u>Source</u>	ROG	NOX	PM10	PM25	CO2
Condo/townhouse general	1.35	1.56	1.94	0.38	1,090.49
Strip mall	1.17	1.24	1.43	0.28	806.03
TOTALS (tons/year, mitigated)	2.52	2.80	3.37	0.66	1,896.52
Less OnRoad Reduction	0.00	0.00	0.00	0.00	0.00
TOTALS (tons/year, mitigated)	2.52	2.80	3.37	0.66	1,896.52

Operational Settings:

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 5.02 Nonresidential Trip % Reduction: 3.75

Analysis Year: 2012 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

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Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	7.15	6.38	dwelling units	129.00	823.38	6,163.22
Strip mall		41.33	1000 sq ft	27.00	1,115.88	4,549.71
					1,939.26	10,712.93

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.0	2.0	97.6	0.4
Light Truck < 3750 lbs	10.9	3.7	90.8	5.5
Light Truck 3751-5750 lbs	21.7	0.9	98.6	0.5
Med Truck 5751-8500 lbs	9.5	1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	77.1	22.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	10.0	80.0	10.0

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.0

Combined Summer Emissions Reports (Pounds/Day)

File Name: I:\Projects\ENV Projects\500 Series\ENV-589 (Diamond Creek Villas CEQA)\Technical Reports and Project Info\AQ - CC\Diamond Cre Villas URBEMIS.urb9

Project Name: Diamond Creek Villas

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
2012 TOTALS (lbs/day unmitigated)	1,254.87	22.00	41.95	1.50	43.03	8.76	1.38	9.75
2013 TOTALS (lbs/day unmitigated)	267.90	34.78	41.96	1.67	43.63	8.76	1.53	10.30
2014 TOTALS (lbs/day unmitigated)	750.09	19.12	41.95	1.17	42.84	8.76	1.07	9.58
2015 TOTALS (lbs/day unmitigated)	750.07	17.54	41.95	1.09	42.77	8.76	1.01	9.51

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	7.29	1.92	0.01	0.01
TOTALS (lbs/day, mitigated)	7.23	1.92	0.01	0.01
Percent Reduction	0.82	0.00	0.00	0.00

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OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	13.14	13.27	18.50	3.58
TOTALS (lbs/day, mitigated)	13.14	13.27	18.50	3.58
Percent Reduction	0.00	0.00	0.00	0.00

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	20.43	15.19	18.51	3.59
TOTALS (lbs/day, mitigated)	14.46	3.84	0.02	0.02
Percent Reduction	29.22	74.72	99.89	99.44

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Urbemis 2007 Version 9.2.0

Combined Winter Emissions Reports (Pounds/Day)

File Name: I:\Projects\ENV Projects\500 Series\ENV-589 (Diamond Creek Villas CEQA)\Technical Reports and Project Info\AQ - CC\Diamond Cre Villas URBEMIS.urb9

Project Name: Diamond Creek Villas

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
2012 TOTALS (lbs/day unmitigated)	1,254.87	22.00	41.95	1.50	43.03	8.76	1.38	9.75
2013 TOTALS (lbs/day unmitigated)	267.90	34.78	41.96	1.67	43.63	8.76	1.53	10.30
2014 TOTALS (lbs/day unmitigated)	750.09	19.12	41.95	1.17	42.84	8.76	1.07	9.58
2015 TOTALS (lbs/day unmitigated)	750.07	17.54	41.95	1.09	42.77	8.76	1.01	9.51

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	7.05	2.13	0.02	0.02
TOTALS (lbs/day, mitigated)	6.99	2.13	0.02	0.02
Percent Reduction	0.85	0.00	0.00	0.00

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OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	15.13	19.41	18.50	3.58
TOTALS (lbs/day, mitigated)	15.13	19.41	18.50	3.58
Percent Reduction	0.00	0.00	0.00	0.00

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	22.18	21.54	18.52	3.60
TOTALS (lbs/day, mitigated)	13.98	4.26	0.04	0.04
Percent Reduction	36.97	80.22	99.78	98.89

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