

APPENDIX C

**Air Quality Technical Analyses
Lakeview Promenade Project**

Dudek

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: P:\300.Environmental\5936 - Lakeview Promenade\Technical Analysis-Reports\Air Quality\LakeviewProm_Finalw-Constr_3.5.08.urb924

Project Name: Lakeview Promenade

Project Location: Santa Barbara County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</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>	<u>CO2</u>
2008 TOTALS (lbs/day unmitigated)	1.95	18.68	9.47	0.01	8.55	1.04	9.59	1.78	0.96	2.74	1,918.08
2008 TOTALS (lbs/day mitigated)	1.95	16.27	9.47	0.01	8.55	0.41	8.96	1.78	0.38	2.16	1,918.08
2009 TOTALS (lbs/day unmitigated)	6.83	46.18	74.31	0.04	77.36	2.03	79.39	16.17	1.86	18.03	6,167.63
2009 TOTALS (lbs/day mitigated)	6.83	41.07	74.31	0.04	8.55	0.97	8.92	1.78	0.89	2.13	6,167.63
2010 TOTALS (lbs/day unmitigated)	305.91	27.38	74.30	0.05	0.24	1.54	1.78	0.09	1.40	1.49	6,464.40
2010 TOTALS (lbs/day mitigated)	156.24	22.79	74.30	0.05	0.24	0.43	0.68	0.09	0.38	0.47	6,464.40

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AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	17.86	4.42	10.81	0.00	0.03	0.03	5,363.19
TOTALS (lbs/day, mitigated)	15.83	3.53	8.64	0.00	0.03	0.03	4,290.55
Percent Reduction	11.37	20.14	20.07	NaN	0.00	0.00	20.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	49.43	71.10	553.99	0.32	64.66	12.70	34,632.08
TOTALS (lbs/day, mitigated)	47.54	68.13	530.67	0.31	61.93	12.17	33,178.36
Percent Reduction	3.82	4.18	4.21	3.13	4.22	4.17	4.20

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	67.29	75.52	564.80	0.32	64.69	12.73	39,995.27
TOTALS (lbs/day, mitigated)	63.37	71.66	539.31	0.31	61.96	12.20	37,468.91
Percent Reduction	5.83	5.11	4.51	3.13	4.22	4.16	6.32

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Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: P:\300.Environmental\5936 - Lakeview Promenade\Technical Analysis-Reports\Air Quality\LakeviewProm_Finalw-Constr_3.5.08.urb924

Project Name: Lakeview Promenade

Project Location: Santa Barbara County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>	<u>CO2</u>
Time Slice 12/1/2008-12/31/2008 Active Days: 23	1.95	18.68	9.47	0.01	8.55	1.04	9.59	1.78	0.96	2.74	1,918.08
Demolition 12/01/2008-02/02/2009	1.95	18.68	9.47	0.01	8.55	1.04	9.59	1.78	0.96	2.74	1,918.08
Fugitive Dust	0.00	0.00	0.00	0.00	8.51	0.00	8.51	1.77	0.00	1.77	0.00
Demo Off Road Diesel	1.31	8.68	4.91	0.00	0.00	0.68	0.68	0.00	0.62	0.62	700.30
Demo On Road Diesel	0.57	9.88	3.03	0.01	0.04	0.36	0.40	0.01	0.33	0.34	1,132.31
Demo Worker Trips	0.07	0.12	1.53	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.47
Time Slice 1/1/2009-2/2/2009 Active Days: 23	1.82	17.46	9.01	0.01	8.55	0.97	9.52	1.78	0.89	2.67	1,918.03
Demolition 12/01/2008-02/02/2009	1.82	17.46	9.01	0.01	8.55	0.97	9.52	1.78	0.89	2.67	1,918.03
Fugitive Dust	0.00	0.00	0.00	0.00	8.51	0.00	8.51	1.77	0.00	1.77	0.00
Demo Off Road Diesel	1.23	8.15	4.78	0.00	0.00	0.64	0.64	0.00	0.59	0.59	700.30
Demo On Road Diesel	0.53	9.19	2.79	0.01	0.04	0.32	0.36	0.01	0.30	0.31	1,132.31
Demo Worker Trips	0.06	0.11	1.43	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.42

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Time Slice 2/3/2009-5/4/2009 Active Days: 65	4.38	<u>46.18</u>	20.36	0.02	<u>77.36</u>	<u>2.03</u>	<u>79.39</u>	<u>16.17</u>	<u>1.86</u>	<u>18.03</u>	4,748.34
Mass Grading 02/03/2009-05/04/2009	4.38	46.18	20.36	0.02	77.36	2.03	79.39	16.17	1.86	18.03	4,748.34
Mass Grading Dust	0.00	0.00	0.00	0.00	77.27	0.00	77.27	16.14	0.00	16.14	0.00
Mass Grading Off Road Diesel	3.18	26.46	12.98	0.00	0.00	1.33	1.33	0.00	1.23	1.23	2,247.32
Mass Grading On Road Diesel	1.14	19.61	5.95	0.02	0.08	0.69	0.77	0.03	0.63	0.66	2,415.61
Mass Grading Worker Trips	0.06	0.11	1.43	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.42
Time Slice 5/5/2009-6/19/2009 Active Days: 34	3.16	17.61	12.31	0.00	0.01	1.48	1.49	0.00	1.36	1.37	1,510.92
Asphalt 05/05/2009-06/19/2009	3.16	17.61	12.31	0.00	0.01	1.48	1.49	0.00	1.36	1.37	1,510.92
Paving Off-Gas	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.81	16.83	9.27	0.00	0.00	1.46	1.46	0.00	1.34	1.34	1,272.04
Paving On Road Diesel	0.03	0.55	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	68.06
Paving Worker Trips	0.12	0.22	2.87	0.00	0.01	0.01	0.01	0.00	0.00	0.01	170.83
Time Slice 6/22/2009-12/31/2009 Active Days: 139	<u>6.83</u>	28.80	<u>74.31</u>	<u>0.04</u>	0.23	1.64	1.86	0.08	1.49	1.57	<u>6,167.63</u>
Building 06/22/2009-03/05/2010	6.83	28.80	74.31	0.04	0.23	1.64	1.86	0.08	1.49	1.57	6,167.63
Building Off Road Diesel	3.87	17.35	11.50	0.00	0.00	1.28	1.28	0.00	1.17	1.17	1,621.20
Building Vendor Trips	0.54	7.11	5.69	0.01	0.04	0.25	0.29	0.01	0.23	0.24	1,142.13
Building Worker Trips	2.41	4.34	57.12	0.03	0.18	0.11	0.30	0.07	0.09	0.16	3,404.31
Time Slice 1/1/2010-2/26/2010 Active Days: 41	6.38	27.03	69.64	0.04	0.23	1.53	1.75	0.08	1.39	1.47	6,166.14
Building 06/22/2009-03/05/2010	6.38	27.03	69.64	0.04	0.23	1.53	1.75	0.08	1.39	1.47	6,166.14
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10	1,621.20
Building Vendor Trips	0.51	6.48	5.31	0.01	0.04	0.22	0.27	0.01	0.21	0.22	1,142.19
Building Worker Trips	2.22	4.01	53.14	0.03	0.18	0.11	0.29	0.07	0.09	0.15	3,402.76

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Time Slice 3/1/2010-3/5/2010 Active Days: 5	<u>305.91</u>	<u>27.38</u>	<u>74.30</u>	<u>0.05</u>	<u>0.24</u>	<u>1.54</u>	<u>1.78</u>	<u>0.09</u>	<u>1.40</u>	<u>1.49</u>	<u>6,464.40</u>
Building 06/22/2009-03/05/2010	6.38	27.03	69.64	0.04	0.23	1.53	1.75	0.08	1.39	1.47	6,166.14
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10	1,621.20
Building Vendor Trips	0.51	6.48	5.31	0.01	0.04	0.22	0.27	0.01	0.21	0.22	1,142.19
Building Worker Trips	2.22	4.01	53.14	0.03	0.18	0.11	0.29	0.07	0.09	0.15	3,402.76
Coating 03/01/2010-04/30/2010	299.54	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26
Architectural Coating	299.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.19	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26
Time Slice 3/8/2010-4/30/2010 Active Days: 40	299.54	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26
Coating 03/01/2010-04/30/2010	299.54	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26
Architectural Coating	299.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.19	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26

Phase Assumptions

Phase: Demolition 12/1/2008 - 2/2/2009 - Default Demolition Grading Description

Building Volume Total (cubic feet): 890420

Building Volume Daily (cubic feet): 20250

On Road Truck Travel (VMT): 281.25

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: Mass Grading 2/3/2009 - 5/4/2009 - Default Mass Grading Description

Total Acres Disturbed: 10

Maximum Daily Acreage Disturbed: 2.5

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 443 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 600

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: Paving 5/5/2009 - 6/19/2009 - Default Paving Description

Acres to be Paved: 2.5

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 6/22/2009 - 3/5/2010 - Default Building Construction Description

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 3/1/2010 - 4/30/2010 - Default Architectural Coating Description

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

Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Mitigated Emissions (Pounds/Day)

File Name: P:\300.Environmental\5936 - Lakeview Promenade\Technical Analysis-Reports\Air Quality\LakeviewProm_Finalw-Constr_3.5.08.urb924

Project Name: Lakeview Promenade

Project Location: Santa Barbara County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Mitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>	<u>CO2</u>
Time Slice 12/1/2008-12/31/2008 Active Days: 23	<u>1.95</u>	<u>16.27</u>	<u>9.47</u>	<u>0.01</u>	<u>8.55</u>	<u>0.41</u>	<u>8.96</u>	<u>1.78</u>	<u>0.38</u>	<u>2.16</u>	<u>1,918.08</u>
Demolition 12/01/2008-02/02/2009	1.95	16.27	9.47	0.01	8.55	0.41	8.96	1.78	0.38	2.16	1,918.08
Fugitive Dust	0.00	0.00	0.00	0.00	8.51	0.00	8.51	1.77	0.00	1.77	0.00
Demo Off Road Diesel	1.31	6.27	4.91	0.00	0.00	0.05	0.05	0.00	0.05	0.05	700.30
Demo On Road Diesel	0.57	9.88	3.03	0.01	0.04	0.36	0.40	0.01	0.33	0.34	1,132.31
Demo Worker Trips	0.07	0.12	1.53	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.47
Time Slice 1/1/2009-2/2/2009 Active Days: 23	<u>1.82</u>	<u>15.19</u>	<u>9.01</u>	<u>0.01</u>	<u>8.55</u>	<u>0.37</u>	<u>8.92</u>	<u>1.78</u>	<u>0.34</u>	<u>2.13</u>	<u>1,918.03</u>
Demolition 12/01/2008-02/02/2009	1.82	15.19	9.01	0.01	8.55	0.37	8.92	1.78	0.34	2.13	1,918.03
Fugitive Dust	0.00	0.00	0.00	0.00	8.51	0.00	8.51	1.77	0.00	1.77	0.00
Demo Off Road Diesel	1.23	5.89	4.78	0.00	0.00	0.05	0.05	0.00	0.04	0.04	700.30
Demo On Road Diesel	0.53	9.19	2.79	0.01	0.04	0.32	0.36	0.01	0.30	0.31	1,132.31
Demo Worker Trips	0.06	0.11	1.43	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.42

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Time Slice 2/3/2009-5/4/2009 Active Days: 65	4.38	<u>41.07</u>	20.36	0.02	5.47	<u>0.97</u>	6.44	1.15	<u>0.89</u>	2.04	4,748.34
Mass Grading 02/03/2009-05/04/2009	4.38	41.07	20.36	0.02	5.47	0.97	6.44	1.15	0.89	2.04	4,748.34
Mass Grading Dust	0.00	0.00	0.00	0.00	5.38	0.00	5.38	1.12	0.00	1.12	0.00
Mass Grading Off Road Diesel	3.18	21.34	12.98	0.00	0.00	0.27	0.27	0.00	0.25	0.25	2,247.32
Mass Grading On Road Diesel	1.14	19.61	5.95	0.02	0.08	0.69	0.77	0.03	0.63	0.66	2,415.61
Mass Grading Worker Trips	0.06	0.11	1.43	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.42
Time Slice 5/5/2009-6/19/2009 Active Days: 34	3.16	13.57	12.31	0.00	0.01	0.13	0.15	0.00	0.12	0.13	1,510.92
Asphalt 05/05/2009-06/19/2009	3.16	13.57	12.31	0.00	0.01	0.13	0.15	0.00	0.12	0.13	1,510.92
Paving Off-Gas	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.81	12.79	9.27	0.00	0.00	0.11	0.11	0.00	0.10	0.10	1,272.04
Paving On Road Diesel	0.03	0.55	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	68.06
Paving Worker Trips	0.12	0.22	2.87	0.00	0.01	0.01	0.01	0.00	0.00	0.01	170.83
Time Slice 6/22/2009-12/31/2009 Active Days: 139	<u>6.83</u>	23.98	<u>74.31</u>	<u>0.04</u>	0.23	0.46	0.68	0.08	0.41	0.49	<u>6,167.63</u>
Building 06/22/2009-03/05/2010	6.83	23.98	74.31	0.04	0.23	0.46	0.68	0.08	0.41	0.49	6,167.63
Building Off Road Diesel	3.87	12.53	11.50	0.00	0.00	0.10	0.10	0.00	0.09	0.09	1,621.20
Building Vendor Trips	0.54	7.11	5.69	0.01	0.04	0.25	0.29	0.01	0.23	0.24	1,142.13
Building Worker Trips	2.41	4.34	57.12	0.03	0.18	0.11	0.30	0.07	0.09	0.16	3,404.31
Time Slice 1/1/2010-2/26/2010 Active Days: 41	6.38	22.44	69.64	0.04	0.23	0.42	0.65	0.08	0.38	0.46	6,166.14
Building 06/22/2009-03/05/2010	6.38	22.44	69.64	0.04	0.23	0.42	0.65	0.08	0.38	0.46	6,166.14
Building Off Road Diesel	3.65	11.95	11.20	0.00	0.00	0.09	0.09	0.00	0.08	0.08	1,621.20
Building Vendor Trips	0.51	6.48	5.31	0.01	0.04	0.22	0.27	0.01	0.21	0.22	1,142.19
Building Worker Trips	2.22	4.01	53.14	0.03	0.18	0.11	0.29	0.07	0.09	0.15	3,402.76

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Time Slice 3/1/2010-3/5/2010 Active Days: 5	<u>156.24</u>	<u>22.79</u>	<u>74.30</u>	<u>0.05</u>	<u>0.24</u>	<u>0.43</u>	<u>0.68</u>	<u>0.09</u>	<u>0.38</u>	<u>0.47</u>	<u>6,464.40</u>
Building 06/22/2009-03/05/2010	6.38	22.44	69.64	0.04	0.23	0.42	0.65	0.08	0.38	0.46	6,166.14
Building Off Road Diesel	3.65	11.95	11.20	0.00	0.00	0.09	0.09	0.00	0.08	0.08	1,621.20
Building Vendor Trips	0.51	6.48	5.31	0.01	0.04	0.22	0.27	0.01	0.21	0.22	1,142.19
Building Worker Trips	2.22	4.01	53.14	0.03	0.18	0.11	0.29	0.07	0.09	0.15	3,402.76
Coating 03/01/2010-04/30/2010	149.87	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26
Architectural Coating	149.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.19	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26
Time Slice 3/8/2010-4/30/2010 Active Days: 40	149.87	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26
Coating 03/01/2010-04/30/2010	149.87	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26
Architectural Coating	149.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.19	0.35	4.66	0.00	0.02	0.01	0.03	0.01	0.01	0.01	298.26

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 12/1/2008 - 2/2/2009 - Default Demolition Grading Description

For Concrete/Industrial Saws, the Use Aqueous Diesel Fuel mitigation reduces emissions by:
 NOX: 15% PM10: 50% PM25: 50%

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:
 PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:
 NOX: 15%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:
 NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:
 PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:
 NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:
 NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:
 PM10: 85% PM25: 85%

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For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Mass Grading 2/3/2009 - 5/4/2009 - Default Mass Grading Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Graders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Paving 5/5/2009 - 6/19/2009 - Default Paving Description

For Cement and Mortar Mixers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

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NOX: 15% PM10: 50% PM25: 50%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 6/22/2009 - 3/5/2010 - Default Building Construction
Description

For Cranes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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For Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Generator Sets, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Generator Sets, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Generator Sets, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Welders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Welders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Welders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 3/1/2010 - 4/30/2010 - Default Architectural Coating

Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 50%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 50%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 50%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 50%

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Phase Assumptions

Phase: Demolition 12/1/2008 - 2/2/2009 - Default Demolition Grading Description

Building Volume Total (cubic feet): 890420

Building Volume Daily (cubic feet): 20250

On Road Truck Travel (VMT): 281.25

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: Mass Grading 2/3/2009 - 5/4/2009 - Default Mass Grading Description

Total Acres Disturbed: 10

Maximum Daily Acreage Disturbed: 2.5

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 443 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 600

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: Paving 5/5/2009 - 6/19/2009 - Default Paving Description

Acres to be Paved: 2.5

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 6/22/2009 - 3/5/2010 - Default Building Construction Description

Off-Road Equipment:

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

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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 3/1/2010 - 4/30/2010 - Default Architectural Coating Description

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

Urbemis 2007 Version 9.2.4

Detail Report for Summer Area Source Unmitigated Emissions (Pounds/Day)

File Name: P:\300.Environmental\5936 - Lakeview Promenade\Technical Analysis-Reports\Air Quality\LakeviewProm_Finalw-Constr_3.5.08.urb924

Project Name: Lakeview Promenade

Project Location: Santa Barbara County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

AREA SOURCE EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.32	4.33	2.79	0.00	0.01	0.01	5,349.45
Hearth - No Summer Emissions							
Landscape	0.65	0.09	8.02	0.00	0.02	0.02	13.74
Consumer Products	13.21						
Architectural Coatings	3.68						
TOTALS (lbs/day, unmitigated)	17.86	4.42	10.81	0.00	0.03	0.03	5,363.19

Area Source Changes to Defaults

Urbemis 2007 Version 9.2.4

Detail Report for Summer Area Source Mitigated Emissions (Pounds/Day)

File Name: P:\300.Environmental\5936 - Lakeview Promenade\Technical Analysis-Reports\Air Quality\LakeviewProm_Finalw-Constr_3.5.08.urb924

Project Name: Lakeview Promenade

Project Location: Santa Barbara County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

AREA SOURCE EMISSION ESTIMATES (Summer Pounds Per Day, Mitigated)

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.26	3.46	2.23	0.00	0.01	0.01	4,279.56
Hearth - No Summer Emissions							
Landscape	0.52	0.07	6.41	0.00	0.02	0.02	10.99
Consumer Products	13.21						
Architectural Coatings	1.84						
TOTALS (lbs/day, mitigated)	15.83	3.53	8.64	0.00	0.03	0.03	4,290.55

Area Source Mitigation Measures Selected

<u>Mitigation Description</u>	<u>Percent Reduction</u>
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00
Industrial Increase Energy Efficiency Beyond Title 24	20.00
Percent of Residential Landscape Equipment that are Electrically Powered and have Electrical Outlets at the the Front and Rear of Residences	20.00
Percent of Commercial and Industrial Landscape Equipment that are Electrically Powered and have Electrical Outlets Available	20.00

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For Residential Interior Use Low VOC Coating	50.00
For Residential Exterior Use Low VOC Coating	50.00
For Nonresidential Interior Use Low VOC Coating	50.00
For Nonresidential Exterior Use Low VOC Coating	50.00

Area Source Changes to Defaults

Urbemis 2007 Version 9.2.4

Detail Report for Summer Operational Unmitigated Emissions (Pounds/Day)

File Name: P:\300.Environmental\5936 - Lakeview Promenade\Technical Analysis-Reports\Air Quality\LakeviewProm_Finalw-Constr_3.5.08.urb924

Project Name: Lakeview Promenade

Project Location: Santa Barbara County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	15.87	21.58	173.82	0.10	19.91	3.91	10,730.40
High turnover (sit-down) rest.	13.16	20.70	159.18	0.09	18.70	3.67	9,991.77
Regnl shop. center	12.24	19.04	145.79	0.09	17.22	3.38	9,189.61
Health/Fitness Club	3.26	5.00	38.48	0.02	4.52	0.89	2,415.21
Moive Theater	4.90	4.78	36.72	0.02	4.31	0.85	2,305.09
TOTALS (lbs/day, unmitigated)	49.43	71.10	553.99	0.32	64.66	12.70	34,632.08

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2009 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	6.33	5.86	dwelling units	270.00	1,582.20	11,487.09

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Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
High turnover (sit-down) rest.		127.15	1000 sq ft	15.00	1,907.25	10,795.03
Regnl shop. center		43.72	1000 sq ft	40.00	1,748.80	9,940.18
Health/Fitness Club		32.93	1000 sq ft	14.00	461.02	2,609.37
Moive Theater		1.76	1000 sq ft	250.00	440.00	2,490.40
					6,139.27	37,322.07

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)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
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)						
High turnover (sit-down) rest.				5.0	2.5	92.5
Regnl shop. center				2.0	1.0	97.0
Health/Fitness Club				5.0	2.5	92.5
Moive Theater				5.0	2.5	92.5

Operational Changes to Defaults

Urbemis 2007 Version 9.2.4

Detail Report for Summer Operational Mitigated Emissions (Pounds/Day)

File Name: P:\300.Environmental\5936 - Lakeview Promenade\Technical Analysis-Reports\Air Quality\LakeviewProm_Finalw-Constr_3.5.08.urb924

Project Name: Lakeview Promenade

Project Location: Santa Barbara County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Mitigated)

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Condo/townhouse general	15.08	20.35	163.85	0.10	18.76	3.69	10,115.45
High turnover (sit-down) rest.	12.70	19.97	153.59	0.09	18.04	3.54	9,641.14
Regnl shop. center	11.82	18.37	140.67	0.08	16.61	3.26	8,867.12
Health/Fitness Club	3.15	4.83	37.13	0.02	4.36	0.86	2,330.45
Moive Theater	4.79	4.61	35.43	0.02	4.16	0.82	2,224.20
TOTALS (lbs/day, mitigated)	47.54	68.13	530.67	0.31	61.93	12.17	33,178.36

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2009 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

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Operational Mitigation Options Selected

Residential Mitigation Measures

NOTE this mitigation measure INCREASES Trips by 3%

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 270.

The employment for the study area (within a 1/2 mile radius of the project) is 0.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 4.51% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

Operational Mitigation Options Selected

Residential Mitigation Measures

The Number of Intersections per Square Mile is 4

The Percent of Streets with Sidewalks on One Side is 0%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 50%

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

NOTE this mitigation measure INCREASES Trips by 3%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 270.

The employment for the study area (within a 1/2 mile radius of the project) is 0.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

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Nonresidential Mitigation Measures

Percent Reduction in Trips is 4.51%

Inputs Selected:

The Number of Intersections per Square Mile is 4

The Percent of Streets with Sidewalks on One Side is 0%

The Percent of Streets with Sidewalks on Both Sides is 100%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 50%

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse general	6.33	5.52	dwelling units	270.00	1,491.53	10,828.77
High turnover (sit-down) rest.		122.69	1000 sq ft	15.00	1,840.32	10,416.21
Regnl shop. center		42.19	1000 sq ft	40.00	1,687.43	9,591.36
Health/Fitness Club		31.77	1000 sq ft	14.00	444.84	2,517.80
Moive Theater		1.70	1000 sq ft	250.00	424.56	2,403.01
					5,888.68	35,757.15

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

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
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

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.9	5.6	6.1	5.7	4.1	5.7
Rural Trip Length (miles)	15.0	15.0	15.0	15.0	10.0	10.0
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)						
High turnover (sit-down) rest.				5.0	2.5	92.5
Regnl shop. center				2.0	1.0	97.0
Health/Fitness Club				5.0	2.5	92.5
Moive Theater				5.0	2.5	92.5

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Operational Changes to Defaults

Urbemis 2007 Version 9.2.4

Summary Report for Annual Emissions (Tons/Year)

File Name: P:\300.Environmental\5936 - Lakeview Promenade\Technical Analysis-Reports\Air Quality\LakeviewProm_Finalw-Constr_3.5.08.urb924

Project Name: Lakeview Promenade

Project Location: Santa Barbara County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</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>	<u>CO2</u>
2008 TOTALS (tons/year unmitigated)	0.02	0.21	0.11	0.00	0.10	0.01	0.11	0.02	0.01	0.03	22.06
2008 TOTALS (tons/year mitigated)	0.02	0.19	0.11	0.00	0.10	0.00	0.10	0.02	0.00	0.02	22.06
Percent Reduction	0.00	12.90	0.00	0.00	0.00	60.33	6.55	0.00	60.35	21.08	0.00
2009 TOTALS (tons/year unmitigated)	0.69	4.00	6.14	0.00	2.63	0.22	2.84	0.55	0.20	0.75	630.71
2009 TOTALS (tons/year mitigated)	0.69	3.41	6.14	0.00	0.29	0.07	0.36	0.06	0.06	0.13	630.71
Percent Reduction	0.00	14.88	0.00	0.00	88.89	67.67	87.28	88.46	68.01	83.06	0.00
2010 TOTALS (tons/year unmitigated)	6.89	0.63	1.71	0.00	0.01	0.04	0.04	0.00	0.03	0.03	148.53
2010 TOTALS (tons/year mitigated)	3.52	0.52	1.71	0.00	0.01	0.01	0.02	0.00	0.01	0.01	148.53
Percent Reduction	48.90	16.77	0.00	0.00	0.00	71.78	62.04	0.00	72.56	68.34	0.00

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AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	4.86	0.92	7.81	0.02	1.04	1.00	1,143.89
TOTALS (tons/year, mitigated)	4.51	0.76	7.57	0.02	1.04	1.00	948.38
Percent Reduction	7.20	17.39	3.07	0.00	0.00	0.00	17.09

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	9.31	13.67	102.94	0.06	11.79	2.31	6,211.83
TOTALS (tons/year, mitigated)	8.95	13.10	98.62	0.06	11.30	2.23	5,951.08
Percent Reduction	3.87	4.17	4.20	0.00	4.16	3.46	4.20

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	14.17	14.59	110.75	0.08	12.83	3.31	7,355.72
TOTALS (tons/year, mitigated)	13.46	13.86	106.19	0.08	12.34	3.23	6,899.46
Percent Reduction	5.01	5.00	4.12	0.00	3.82	2.42	6.20

**Global Climate Change Calculations
Lakeview Promenade Project**

Dudek

Greenhouse Gas Emission Worksheet

Mobile Emissions

Lakeview Promenade

From URBEMIS 2007 Vehicle Fleet Mix Output:

Daily Vehicle Miles Traveled (VMT) 37,322.07

Annual VMT: 13,622,555.55

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)
Light Auto	49.00%	0.4	0.196	0.4	0.196
Light Truck < 3750 lbs	10.90%	0.5	0.0545	0.6	0.0654
Light Truck 3751-5750 lbs	21.70%	0.5	0.1085	0.6	0.1302
Med Truck 5751-8500 lbs	9.50%	0.5	0.0475	0.6	0.057
Lite-Heavy Truck 8501-10,000 lbs	1.60%	0.12	0.00192	0.2	0.0032
Lite-Heavy Truck 10,001-14,000 lbs	0.60%	0.12	0.00072	0.2	0.0012
Med-Heavy Truck 14,001-33,000 lbs	1.00%	0.12	0.0012	0.2	0.002
Heavy-Heavy Truck 33,001-60,000 lbs	0.90%	0.12	0.00108	0.2	0.0018
Other Bus	0.10%	0.5	0.0005	0.6	0.0006
Urban Bus	0.10%	0.5	0.0005	0.6	0.0006
Motorcycle	3.50%	0.09	0.00315	0.01	0.00035
School Bus	0.10%	0.5	0.0005	0.6	0.0006
Motor Home	1.00%	0.12	0.0012	0.2	0.002
Total			0.41727		0.46095

Total Emissions (metric tons) = Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)	
CH4	23 GWP
N2O	296 GWP

Conversions lbs/day to metric tons/year

$lb/day \times 365 \text{ days} = lbs/year;$ $1 \text{ lb} = 0.0005 \text{ ton (short, US);}$ $1 \text{ ton (short, US)} = 0.90718474 \text{ metric ton;}$
 34632.08 lbs/day 12640709.2 lbs/year
 6320.3546 tons/year 5733.729245 metric tons/year

<i>Annual Mobile Emissions:</i>	<i>Total Emissions</i>	<i>Total CO2e units</i>
CO2 Emissions:	5733.73 metric tons CO2	5,734 metric tons CO2e
CH4 Emissions:	5.684 metric tons CH4	130 metric tons CO2e
N2O Emissions:	6.279 metric tons N2O	1,859 metric tons CO2e
	<u>Project Total</u>	<u>7,722 metric tons CO2e</u>

*from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/ mile).

Assume Model year 2000-present, gasoline fueled.

Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, March 2007.

Greenhouse Gas Emission Worksheet

Operational Emissions

Lakeview Promenade

Estimated Electricity Use

Size	Unit	Land Use	Generation Factor (G/F)	Unit	Total
266	RU	Condos	5,626.50	kWh/du/yr	1,496,649.00
39,447	SF	Retail	13.55	kWh/sf/yr	534,506.85
13,933	SF	Restaurant	47.45	kWh/sf/yr	661,120.85
250	Seat	Movie Theater*	13.55	kWh/sf/yr	77,912.50
13799	SF	Fitness/Health Center	10.5	kWh/sf/yr	144,889.50

*250 seats x ~23 sf per seat = 5,750 sf Theater

Total Electricity Use **2,915,078.70 kWh/yr**
2915.0787 MWh/yr

CH₄ Emission (metric tons) =

Electricity Use (kWh) x CH₄ Electricity Emission Factor (0.0067 lbs/MWh) / 2,204.62 lbs/metric tons

2915.0787 MWh	x	3.03907E-06 (lbs/MWh) / (lbs/metric ton)	
Total CH₄ Emission (metric tons/yr)			0.008859128
Total CO₂E (metric tons/yr)			0.203759949

N₂O Emission (metric tons) =

Electricity Use (kWh) x N₂O Electricity Emission Factor (0.0037 lbs/MWh) / 2,204.62 lbs/metric tons

2915.0787 MWh	x	1.67829E-06 (lbs/MWh) / (lbs/metric ton)	
Total N₂O Emission (metric tons/yr)			0.004892347
Total CO₂E (metric tons/yr)			1.44813484

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