

**APPENDIX 4.2**

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**Air Quality Data**



Combined Summer Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\1013.01 Mitaa Plaza\Emissions\Urbemis Mitaa Construction.urb924

Project Name: Mitaa Plaza

Project Location: South Coast AQMD

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>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>
2010 TOTALS (lbs/day unmitigated)	8.30	89.67	39.76	0.08	38.50	4.00	42.50	8.07	3.68	11.75
2010 TOTALS (lbs/day mitigated)	8.30	89.67	39.76	0.08	16.59	4.00	17.88	3.46	3.68	5.18
2011 TOTALS (lbs/day unmitigated)	7.72	81.80	59.24	0.09	38.50	3.62	42.12	8.07	3.33	11.40
2011 TOTALS (lbs/day mitigated)	7.72	81.80	59.24	0.09	7.06	3.62	10.68	1.51	3.33	4.84
2012 TOTALS (lbs/day unmitigated)	145.55	56.32	69.68	0.09	0.38	3.52	3.90	0.13	3.23	3.36
2012 TOTALS (lbs/day mitigated)	145.55	56.32	69.68	0.09	0.38	3.52	3.90	0.13	3.23	3.36

Construction Unmitigated Detail Report:

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</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 12/1/2010-12/21/2010	2.48	24.75	12.26	0.02	16.59	1.29	17.88	3.46	1.18	4.64
Active Days: 15										
Demolition 12/01/2010-12/21/2010	2.48	24.75	12.26	0.02	16.59	1.29	17.88	3.46	1.18	4.64
Fugitive Dust	0.00	0.00	0.00	0.00	16.51	0.00	16.51	3.43	0.00	3.43
Demo Off Road Diesel	1.14	7.68	4.68	0.00	0.00	0.59	0.59	0.00	0.54	0.54
Demo On Road Diesel	1.30	17.00	6.53	0.02	0.08	0.70	0.77	0.03	0.64	0.67
Demo Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 12/22/2010-12/31/2010	<b>8.30</b>	<b>89.67</b>	<b>39.76</b>	<b>0.08</b>	<b>38.50</b>	<b>4.00</b>	<b>42.50</b>	<b>8.07</b>	<b>3.68</b>	<b>11.75</b>
Active Days: 8										
Mass Grading 12/22/2010-02/22/2011	8.30	89.67	39.76	0.08	38.50	4.00	42.50	8.07	3.68	11.75
Mass Grading Dust	0.00	0.00	0.00	0.00	38.23	0.00	38.23	7.98	0.00	7.98
Mass Grading Off Road Diesel	3.71	30.42	15.73	0.00	0.00	1.57	1.57	0.00	1.44	1.44
Mass Grading On Road Diesel	4.54	59.18	22.72	0.08	0.27	2.42	2.69	0.09	2.23	2.32
Mass Grading Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01

**2/23/2010 11:12:11 AM**

Time Slice 1/3/2011-2/22/2011 Active	<u>7.72</u>	<u>81.80</u>	36.92	0.08	<u>38.50</u>	<u>3.62</u>	<u>42.12</u>	<u>8.07</u>	<u>3.33</u>	<u>11.40</u>
Davs: 37										
Mass Grading 12/22/2010-02/22/2011	7.72	81.80	36.92	0.08	38.50	3.62	42.12	8.07	3.33	11.40
Mass Grading Dust	0.00	0.00	0.00	0.00	38.23	0.00	38.23	7.98	0.00	7.98
Mass Grading Off Road Diesel	3.50	28.48	15.21	0.00	0.00	1.48	1.48	0.00	1.36	1.36
Mass Grading On Road Diesel	4.18	53.25	20.49	0.08	0.27	2.14	2.41	0.09	1.97	2.06
Mass Grading Worker Trips	0.04	0.07	1.22	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 2/23/2011-12/30/2011	6.47	41.64	<u>59.24</u>	<u>0.09</u>	0.35	2.24	2.59	0.12	2.05	2.17
Active Davs: 223										
Building 02/23/2011-12/21/2012	6.47	41.64	<u>59.24</u>	0.09	0.35	2.24	2.59	0.12	2.05	2.17
Building Off Road Diesel	3.46	16.15	11.23	0.00	0.00	1.16	1.16	0.00	1.07	1.07
Building Vendor Trips	2.07	23.71	17.34	0.04	0.16	0.97	1.14	0.05	0.89	0.95
Building Worker Trips	0.95	1.78	30.67	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Time Slice 1/2/2012-9/21/2012 Active	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Davs: 190										
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Time Slice 9/24/2012-11/20/2012	142.15	38.15	56.86	0.09	0.36	2.03	2.39	0.12	1.86	1.98
Active Davs: 42										
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Time Slice 11/21/2012-12/21/2012	<u>145.55</u>	<u>56.32</u>	<u>69.68</u>	<u>0.09</u>	<u>0.38</u>	<u>3.52</u>	<u>3.90</u>	<u>0.13</u>	<u>3.23</u>	<u>3.36</u>
Active Davs: 23										
Asphalt 11/21/2012-12/21/2012	3.40	18.17	12.82	0.01	0.02	1.49	1.51	0.01	1.37	1.37
Paving Off-Gas	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29
Paving On Road Diesel	0.15	1.85	0.71	0.00	0.01	0.07	0.08	0.00	0.07	0.07
Paving Worker Trips	0.06	0.12	2.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16

Page: 1

**2/23/2010 11:12:11 AM**

Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

Phase Assumptions

Phase: Demolition 12/1/2010 - 12/21/2010 - Demolition and Mobilization

Building Volume Total (cubic feet): 432081.2

Building Volume Daily (cubic feet): 39304

On Road Truck Travel (VMT): 545.89

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 12/22/2010 - 2/22/2011 - Shoring and Excavation

Total Acres Disturbed: 2.1

Maximum Daily Acreage Disturbed: 2.1

Fugitive Dust Level of Detail: High

Onsite Haulage: 171.63 ton-miles/day; Offsite haulage: 0 ton-miles/day

On Road Truck Travel (VMT): 1899.98

Off-Road Equipment:

- 1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 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 11/21/2012 - 12/21/2012 - Paving

Acres to be Paved: 4.74

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
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 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 2/23/2011 - 12/21/2012 - Parking Structure and Retail Structure

Off-Road Equipment:

- 2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
- 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

2/23/2010 11:12:11 AM

Phase: Architectural Coating 9/24/2012 - 12/21/2012 - Architectural Coating

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 12/1/2010-12/21/2010	2.48	24.75	12.26	0.02	16.59	1.29	17.88	3.46	1.18	4.64
Active Days: 15										
Demolition 12/01/2010-12/21/2010	2.48	24.75	12.26	0.02	16.59	1.29	17.88	3.46	1.18	4.64
Fugitive Dust	0.00	0.00	0.00	0.00	16.51	0.00	16.51	3.43	0.00	3.43
Demo Off Road Diesel	1.14	7.68	4.68	0.00	0.00	0.59	0.59	0.00	0.54	0.54
Demo On Road Diesel	1.30	17.00	6.53	0.02	0.08	0.70	0.77	0.03	0.64	0.67
Demo Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 12/22/2010-12/31/2010	8.30	89.67	39.76	0.08	7.06	4.00	11.05	1.51	3.68	5.18
Active Days: 8										
Mass Grading 12/22/2010-02/22/2011	8.30	89.67	39.76	0.08	7.06	4.00	11.05	1.51	3.68	5.18
Mass Grading Dust	0.00	0.00	0.00	0.00	6.78	0.00	6.78	1.42	0.00	1.42
Mass Grading Off Road Diesel	3.71	30.42	15.73	0.00	0.00	1.57	1.57	0.00	1.44	1.44
Mass Grading On Road Diesel	4.54	59.18	22.72	0.08	0.27	2.42	2.69	0.09	2.23	2.32
Mass Grading Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 1/3/2011-2/22/2011 Active Days: 37	7.72	81.80	36.92	0.08	7.06	3.62	10.68	1.51	3.33	4.84
Mass Grading 12/22/2010-02/22/2011	7.72	81.80	36.92	0.08	7.06	3.62	10.68	1.51	3.33	4.84
Mass Grading Dust	0.00	0.00	0.00	0.00	6.78	0.00	6.78	1.42	0.00	1.42
Mass Grading Off Road Diesel	3.50	28.48	15.21	0.00	0.00	1.48	1.48	0.00	1.36	1.36
Mass Grading On Road Diesel	4.18	53.25	20.49	0.08	0.27	2.14	2.41	0.09	1.97	2.06
Mass Grading Worker Trips	0.04	0.07	1.22	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 2/23/2011-12/30/2011 Active Days: 223	6.47	41.64	59.24	0.09	0.35	2.24	2.59	0.12	2.05	2.17
Building 02/23/2011-12/21/2012	6.47	41.64	59.24	0.09	0.35	2.24	2.59	0.12	2.05	2.17
Building Off Road Diesel	3.46	16.15	11.23	0.00	0.00	1.16	1.16	0.00	1.07	1.07
Building Vendor Trips	2.07	23.71	17.34	0.04	0.16	0.97	1.14	0.05	0.89	0.95
Building Worker Trips	0.95	1.78	30.67	0.04	0.18	0.11	0.29	0.07	0.09	0.16

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Time Slice 1/2/2012-9/21/2012 Active Days: 190	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Time Slice 9/24/2012-11/20/2012 Active Days: 42	142.15	38.15	56.86	0.09	0.36	2.03	2.39	0.12	1.86	1.98
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Time Slice 11/21/2012-12/21/2012 Active Days: 23	<b>145.55</b>	<b>56.32</b>	<b>69.68</b>	<b>0.09</b>	<b>0.38</b>	<b>3.52</b>	<b>3.90</b>	<b>0.13</b>	<b>3.23</b>	<b>3.36</b>
Asphalt 11/21/2012-12/21/2012	3.40	18.17	12.82	0.01	0.02	1.49	1.51	0.01	1.37	1.37
Paving Off-Gas	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29
Paving On Road Diesel	0.15	1.85	0.71	0.00	0.01	0.07	0.08	0.00	0.07	0.07
Paving Worker Trips	0.06	0.12	2.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 12/22/2010 - 2/22/2011 - Shoring and Excavation

For Soil Stabilizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Combined Winter Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\1013.01 Mitaa Plaza\Emissions\Urbemis Mitaa Construction.urb924

Project Name: Mitaa Plaza

Project Location: South Coast AQMD

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>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>
2010 TOTALS (lbs/day unmitigated)	8.30	89.67	39.76	0.08	38.50	4.00	42.50	8.07	3.68	11.75
2010 TOTALS (lbs/day mitigated)	8.30	89.67	39.76	0.08	16.59	4.00	17.88	3.46	3.68	5.18
2011 TOTALS (lbs/day unmitigated)	7.72	81.80	59.24	0.09	38.50	3.62	42.12	8.07	3.33	11.40
2011 TOTALS (lbs/day mitigated)	7.72	81.80	59.24	0.09	7.06	3.62	10.68	1.51	3.33	4.84
2012 TOTALS (lbs/day unmitigated)	145.55	56.32	69.68	0.09	0.38	3.52	3.90	0.13	3.23	3.36
2012 TOTALS (lbs/day mitigated)	145.55	56.32	69.68	0.09	0.38	3.52	3.90	0.13	3.23	3.36

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter 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</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 12/1/2010-12/21/2010	2.48	24.75	12.26	0.02	16.59	1.29	17.88	3.46	1.18	4.64
Active Days: 15										
Demolition 12/01/2010-12/21/2010	2.48	24.75	12.26	0.02	16.59	1.29	17.88	3.46	1.18	4.64
Fugitive Dust	0.00	0.00	0.00	0.00	16.51	0.00	16.51	3.43	0.00	3.43
Demo Off Road Diesel	1.14	7.68	4.68	0.00	0.00	0.59	0.59	0.00	0.54	0.54
Demo On Road Diesel	1.30	17.00	6.53	0.02	0.08	0.70	0.77	0.03	0.64	0.67
Demo Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00

2/23/2010 11:12:26 AM

Time Slice 12/22/2010-12/31/2010	<u>8.30</u>	<u>89.67</u>	<u>39.76</u>	<u>0.08</u>	<u>38.50</u>	<u>4.00</u>	<u>42.50</u>	<u>8.07</u>	<u>3.68</u>	<u>11.75</u>
Active Days: 8										
Mass Grading 12/22/2010-02/22/2011	8.30	89.67	39.76	0.08	38.50	4.00	42.50	8.07	3.68	11.75
Mass Grading Dust	0.00	0.00	0.00	0.00	38.23	0.00	38.23	7.98	0.00	7.98
Mass Grading Off Road Diesel	3.71	30.42	15.73	0.00	0.00	1.57	1.57	0.00	1.44	1.44
Mass Grading On Road Diesel	4.54	59.18	22.72	0.08	0.27	2.42	2.69	0.09	2.23	2.32
Mass Grading Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 1/3/2011-2/22/2011 Active	<u>7.72</u>	<u>81.80</u>	<u>36.92</u>	<u>0.08</u>	<u>38.50</u>	<u>3.62</u>	<u>42.12</u>	<u>8.07</u>	<u>3.33</u>	<u>11.40</u>
Days: 37										
Mass Grading 12/22/2010-02/22/2011	7.72	81.80	36.92	0.08	38.50	3.62	42.12	8.07	3.33	11.40
Mass Grading Dust	0.00	0.00	0.00	0.00	38.23	0.00	38.23	7.98	0.00	7.98
Mass Grading Off Road Diesel	3.50	28.48	15.21	0.00	0.00	1.48	1.48	0.00	1.36	1.36
Mass Grading On Road Diesel	4.18	53.25	20.49	0.08	0.27	2.14	2.41	0.09	1.97	2.06
Mass Grading Worker Trips	0.04	0.07	1.22	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 2/23/2011-12/30/2011	6.47	41.64	<u>59.24</u>	<u>0.09</u>	0.35	2.24	2.59	0.12	2.05	2.17
Active Days: 223										
Building 02/23/2011-12/21/2012	6.47	41.64	59.24	0.09	0.35	2.24	2.59	0.12	2.05	2.17
Building Off Road Diesel	3.46	16.15	11.23	0.00	0.00	1.16	1.16	0.00	1.07	1.07
Building Vendor Trips	2.07	23.71	17.34	0.04	0.16	0.97	1.14	0.05	0.89	0.95
Building Worker Trips	0.95	1.78	30.67	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Time Slice 1/2/2012-9/21/2012 Active	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Days: 190										
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Time Slice 9/24/2012-11/20/2012	142.15	38.15	56.86	0.09	0.36	2.03	2.39	0.12	1.86	1.98
Active Days: 42										
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

**2/23/2010 11:12:26 AM**

Time Slice	<u>145.55</u>	<u>56.32</u>	<u>69.68</u>	<u>0.09</u>	<u>0.38</u>	<u>3.52</u>	<u>3.90</u>	<u>0.13</u>	<u>3.23</u>	<u>3.36</u>
Active Days: 23										
Asphalt 11/21/2012-12/21/2012	3.40	18.17	12.82	0.01	0.02	1.49	1.51	0.01	1.37	1.37
Paving Off-Gas	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29
Paving On Road Diesel	0.15	1.85	0.71	0.00	0.01	0.07	0.08	0.00	0.07	0.07
Paving Worker Trips	0.06	0.12	2.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

Phase Assumptions

Phase: Demolition 12/1/2010 - 12/21/2010 - Demolition and Mobilization

Building Volume Total (cubic feet): 432081.2

Building Volume Daily (cubic feet): 39304

On Road Truck Travel (VMT): 545.89

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 12/22/2010 - 2/22/2011 - Shoring and Excavation

Total Acres Disturbed: 2.1

Maximum Daily Acreage Disturbed: 2.1

Fugitive Dust Level of Detail: High

Onsite Haulage: 171.63 ton-miles/day; Offsite haulage: 0 ton-mils/day

On Road Truck Travel (VMT): 1899.98

Off-Road Equipment:

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

2/23/2010 11:12:26 AM

Phase: Paving 11/21/2012 - 12/21/2012 - Paving

Acres to be Paved: 4.74

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
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 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 2/23/2011 - 12/21/2012 - Parking Structure and Retail Structure

Off-Road Equipment:

- 2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
- 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 9/24/2012 - 12/21/2012 - Architectural Coating

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter 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</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 12/1/2010-12/21/2010	2.48	24.75	12.26	0.02	<u>16.59</u>	1.29	<u>17.88</u>	<u>3.46</u>	1.18	4.64
Active Days: 15										
Demolition 12/01/2010-12/21/2010	2.48	24.75	12.26	0.02	16.59	1.29	17.88	3.46	1.18	4.64
Fugitive Dust	0.00	0.00	0.00	0.00	16.51	0.00	16.51	3.43	0.00	3.43
Demo Off Road Diesel	1.14	7.68	4.68	0.00	0.00	0.59	0.59	0.00	0.54	0.54
Demo On Road Diesel	1.30	17.00	6.53	0.02	0.08	0.70	0.77	0.03	0.64	0.67
Demo Worker Trips	0.03	0.06	1.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00

2/23/2010 11:12:26 AM

Time Slice 12/22/2010-12/31/2010	<u>8.30</u>	<u>89.67</u>	<u>39.76</u>	<u>0.08</u>	7.06	<u>4.00</u>	11.05	1.51	<u>3.68</u>	<u>5.18</u>
Active Days: 8										
Mass Grading 12/22/2010-02/22/2011	8.30	89.67	39.76	0.08	7.06	4.00	11.05	1.51	3.68	5.18
Mass Grading Dust	0.00	0.00	0.00	0.00	6.78	0.00	6.78	1.42	0.00	1.42
Mass Grading Off Road Diesel	3.71	30.42	15.73	0.00	0.00	1.57	1.57	0.00	1.44	1.44
Mass Grading On Road Diesel	4.54	59.18	22.72	0.08	0.27	2.42	2.69	0.09	2.23	2.32
Mass Grading Worker Trips	0.04	0.08	1.31	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 1/3/2011-2/22/2011 Active	<u>7.72</u>	<u>81.80</u>	<u>36.92</u>	<u>0.08</u>	<u>7.06</u>	<u>3.62</u>	<u>10.68</u>	<u>1.51</u>	<u>3.33</u>	<u>4.84</u>
Days: 37										
Mass Grading 12/22/2010-02/22/2011	7.72	81.80	36.92	0.08	7.06	3.62	10.68	1.51	3.33	4.84
Mass Grading Dust	0.00	0.00	0.00	0.00	6.78	0.00	6.78	1.42	0.00	1.42
Mass Grading Off Road Diesel	3.50	28.48	15.21	0.00	0.00	1.48	1.48	0.00	1.36	1.36
Mass Grading On Road Diesel	4.18	53.25	20.49	0.08	0.27	2.14	2.41	0.09	1.97	2.06
Mass Grading Worker Trips	0.04	0.07	1.22	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 2/23/2011-12/30/2011	6.47	41.64	<u>59.24</u>	<u>0.09</u>	0.35	2.24	2.59	0.12	2.05	2.17
Active Days: 223										
Building 02/23/2011-12/21/2012	6.47	41.64	59.24	0.09	0.35	2.24	2.59	0.12	2.05	2.17
Building Off Road Diesel	3.46	16.15	11.23	0.00	0.00	1.16	1.16	0.00	1.07	1.07
Building Vendor Trips	2.07	23.71	17.34	0.04	0.16	0.97	1.14	0.05	0.89	0.95
Building Worker Trips	0.95	1.78	30.67	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Time Slice 1/2/2012-9/21/2012 Active	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Days: 190										
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Time Slice 9/24/2012-11/20/2012	142.15	38.15	56.86	0.09	0.36	2.03	2.39	0.12	1.86	1.98
Active Days: 42										
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

2/23/2010 11:12:26 AM

Time Slice 11/21/2012-12/21/2012	<u>145.55</u>	<u>56.32</u>	<u>69.68</u>	<u>0.09</u>	<u>0.38</u>	<u>3.52</u>	<u>3.90</u>	<u>0.13</u>	<u>3.23</u>	<u>3.36</u>
Active Days: 23										
Asphalt 11/21/2012-12/21/2012	3.40	18.17	12.82	0.01	0.02	1.49	1.51	0.01	1.37	1.37
Paving Off-Gas	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29
Paving On Road Diesel	0.15	1.85	0.71	0.00	0.01	0.07	0.08	0.00	0.07	0.07
Paving Worker Trips	0.06	0.12	2.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01
Building 02/23/2011-12/21/2012	5.96	38.07	55.42	0.09	0.35	2.03	2.38	0.12	1.85	1.98
Building Off Road Diesel	3.21	15.28	10.90	0.00	0.00	1.06	1.06	0.00	0.98	0.98
Building Vendor Trips	1.89	21.16	15.99	0.04	0.16	0.86	1.02	0.05	0.79	0.84
Building Worker Trips	0.86	1.63	28.53	0.04	0.18	0.11	0.29	0.07	0.09	0.16
Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 12/22/2010 - 2/22/2011 - Shoring and Excavation

For Soil Stabilizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%



Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Mitaa Plaza - Mitigated Architectural Coating Phase

Project Location: South Coast AQMD

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>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>
2012 TOTALS (lbs/day unmitigated)	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
2012 TOTALS (lbs/day mitigated)	5.49	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

Construction Unmitigated Detail Report:

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</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 9/24/2012-12/21/2012	<b>136.18</b>	<b>0.08</b>	<b>1.44</b>	<b>0.00</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>
Active Days: 65										
Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

2/23/2010 05:20:09 PM

Phase Assumptions

Phase: Architectural Coating 9/24/2012 - 12/21/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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

Construction Mitigated Detail Report:

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</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 9/24/2012-12/21/2012	<u>5.49</u>	<u>0.08</u>	<u>1.44</u>	<u>0.00</u>	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>	<u>0.00</u>	<u>0.00</u>	<u>0.01</u>
Active Days: 65										
Coating 09/24/2012-12/21/2012	5.49	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	5.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Architectural Coating 9/24/2012 - 12/21/2012 - Default Architectural Coating Description

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

ROG: 96%

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

ROG: 96%

Combined Winter Emissions Reports (Pounds/Day)

File Name:

Project Name: Mitaa Plaza - Mitigated Architectural Coating Phase

Project Location: South Coast AQMD

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>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>
2012 TOTALS (lbs/day unmitigated)	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
2012 TOTALS (lbs/day mitigated)	5.49	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter 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</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 9/24/2012-12/21/2012	<b>136.18</b>	<b>0.08</b>	<b>1.44</b>	<b>0.00</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>
Active Days: 65										
Coating 09/24/2012-12/21/2012	136.18	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	136.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

Phase Assumptions

Phase: Architectural Coating 9/24/2012 - 12/21/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter 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</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 9/24/2012-12/21/2012	<u>5.49</u>	<u>0.08</u>	<u>1.44</u>	<u>0.00</u>	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>	<u>0.00</u>	<u>0.00</u>	<u>0.01</u>
Active Days: 65										
Coating 09/24/2012-12/21/2012	5.49	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Architectural Coating	5.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.04	0.08	1.44	0.00	0.01	0.01	0.01	0.00	0.00	0.01

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Architectural Coating 9/24/2012 - 12/21/2012 - Default Architectural Coating Description

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

ROG: 96%

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

ROG: 96%



Combined Summer Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\1013.01 Mitaa Plaza\Emissions\Urbemis Mitaa Operational.urb924

Project Name: Mitaa Plaza - Operational

Project Location: South Coast AQMD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	1.91	1.52	11.98	0.00	0.04	0.04

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	36.58	43.99	392.64	0.45	72.74	14.18

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>
TOTALS (lbs/day, unmitigated)	38.49	45.51	404.62	0.45	72.78	14.22

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Area Source Unmitigated Detail Report:

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>
Natural Gas	0.10	1.38	1.16	0.00	0.00	0.00
Hearth - No Summer Emissions						
Landscape	0.86	0.14	10.82	0.00	0.04	0.04
Consumer Products	0.00					
Architectural Coatings	0.95					
<b>TOTALS (lbs/day, unmitigated)</b>	<b>1.91</b>	<b>1.52</b>	<b>11.98</b>	<b>0.00</b>	<b>0.04</b>	<b>0.04</b>

Area Source Changes to Defaults

Percent residential using natural gas changed from 78% to 100%

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

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL 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>PM25</u>
Racquetball/health	3.89	4.67	41.70	0.05	7.76	1.51
Quality resturant	2.29	2.81	25.20	0.03	4.68	0.91
High turnover (sit-down) rest.	1.34	1.38	12.35	0.01	2.12	0.41
Strip mall	4.91	5.73	50.96	0.06	9.37	1.83
Supermarket	16.14	19.26	171.17	0.19	31.49	6.14
General office building	2.25	2.84	26.00	0.03	4.96	0.97
Medical office building	5.76	7.30	65.26	0.08	12.36	2.41
<b>TOTALS (lbs/day, unmitigated)</b>	<b>36.58</b>	<b>43.99</b>	<b>392.64</b>	<b>0.45</b>	<b>72.74</b>	<b>14.18</b>

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 80 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
Racquetball/health		32.92	1000 sq ft	25.00	823.00	4,492.41
Quality resturant		71.95	1000 sq ft	6.81	489.98	2,706.84
High turnover (sit-down) rest.		76.14	1000 sq ft	4.40	335.02	1,226.24
Strip mall		40.77	1000 sq ft	26.88	1,095.90	5,423.17
Supermarket		102.25	1000 sq ft	36.00	3,681.00	18,215.83
General office building		11.00	1000 sq ft	32.00	352.00	2,867.78
Medical office building		36.13	1000 sq ft	32.00	1,156.16	7,155.61
					7,933.06	42,087.88

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	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	2.8	60.7	39.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Racquetball/health				5.0	2.5	92.5
Quality resturant				8.0	4.0	88.0
High turnover (sit-down) rest.				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
Supermarket				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Medical office building				7.0	3.5	89.5

Combined Winter Emissions Reports (Pounds/Day)

File Name: Z:\Alan Sako\1013.01 Mitaa Plaza\Emissions\Urbemis Mitaa Operational.urb924

Project Name: Mitaa Plaza - Operational

Project Location: South Coast AQMD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	1.05	1.38	1.16	0.00	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	42.63	52.78	388.64	0.37	72.74	14.18

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>
TOTALS (lbs/day, unmitigated)	43.68	54.16	389.80	0.37	72.74	14.18

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter 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>
Natural Gas	0.10	1.38	1.16	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions						
Consumer Products	0.00					
Architectural Coatings	0.95					
<b>TOTALS (lbs/day, unmitigated)</b>	<b>1.05</b>	<b>1.38</b>	<b>1.16</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Area Source Changes to Defaults

Percent residential using natural gas changed from 78% to 100%

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

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>
Racquetball/health	4.49	5.61	41.20	0.04	7.76	1.51
Quality resturant	2.68	3.38	24.86	0.02	4.68	0.91
High turnover (sit-down) rest.	1.60	1.65	12.57	0.01	2.12	0.41
Strip mall	5.72	6.87	50.72	0.05	9.37	1.83
Supermarket	19.04	23.09	170.38	0.16	31.49	6.14
General office building	2.47	3.41	24.98	0.03	4.96	0.97
Medical office building	6.63	8.77	63.93	0.06	12.36	2.41
<b>TOTALS (lbs/day, unmitigated)</b>	<b>42.63</b>	<b>52.78</b>	<b>388.64</b>	<b>0.37</b>	<b>72.74</b>	<b>14.18</b>

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 60 Season: Winter

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
Racquetball/health		32.92	1000 sq ft	25.00	823.00	4,492.41
Quality resturant		71.95	1000 sq ft	6.81	489.98	2,706.84
High turnover (sit-down) rest.		76.14	1000 sq ft	4.40	335.02	1,226.24
Strip mall		40.77	1000 sq ft	26.88	1,095.90	5,423.17
Supermarket		102.25	1000 sq ft	36.00	3,681.00	18,215.83
General office building		11.00	1000 sq ft	32.00	352.00	2,867.78
Medical office building		36.13	1000 sq ft	32.00	1,156.16	7,155.61
					7,933.06	42,087.88

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	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	2.8	60.7	39.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Racquetball/health				5.0	2.5	92.5
Quality resturant				8.0	4.0	88.0
High turnover (sit-down) rest.				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
Supermarket				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Medical office building				7.0	3.5	89.5

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**Localized Significance Thresholds Lookup Table**

**Mitaa Plaza Project**  
**Localized Significance Thresholds**  
**Based on SCAQMD Screening Tables for Construction and Operational Emissions**

<b>Pollutant</b>	<b>SRA</b>	<b>Distance (meters)</b>	<b>Emission Thresholds for Project Sizes (pounds per day)</b>		
			<b>2-Acre</b>	<b>5-Acre</b>	<b>2.1-Acre*</b>
NO <sub>x</sub> - Construction/Operational	7	100	121.00	176.00	122.83
CO - Construction/Operational	7	100	1594.00	2599.00	1627.50
PM <sub>10</sub> - Construction	7	100	34.00	56.00	34.73
PM <sub>2.5</sub> - Construction	7	100	10.00	15.00	10.17
PM <sub>10</sub> - Operational	7	100	9.00	14.00	9.17
PM <sub>2.5</sub> - Operational	7	100	3.00	4.00	3.03

Source:

South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, Appendix C - Mass Rate LST Lookup Tables, (2008).

Note:

\* The LSTs for a 2.1-acre site were interpolated based on the 2-acre and 5-acre values.



**Mitaa Plaza Project**  
**Evaluation of Global Climate Change Impacts**

**Table GHG-1**  
**Summary of Annual GHG Emissions (Construction, Motor Vehicles, Electricity, Area Sources, Water, Wastewater, and Solid Waste)**

Land Use	Units	Construction Emissions		Operational Direct Emissions		Operational Indirect Emissions				Total Annualized Emissions	
		Total Construction (MT CO <sub>2</sub> e)	Amortized* Construction (MT CO <sub>2</sub> e)	Motor Vehicles (MT CO <sub>2</sub> e/yr)	Area Sources (MT CO <sub>2</sub> e/yr)	Electricity (MT CO <sub>2</sub> e/yr)	Water (MT CO <sub>2</sub> e/yr)	Wastewater (MT CO <sub>2</sub> e/yr)	Solid Waste (MT CO <sub>2</sub> e/yr)	Annual (MT CO <sub>2</sub> e/yr)	Per 1000 GSF (MT CO <sub>2</sub> e/kgsf/yr)
Commercial/Office/Rest.	163,090 gsf	2,549.96	85.00	7,379.05	279.01	854.94	69.30	9.54	7.12	8,683.95	53.25

\* Amortized over the project lifetime, defined as 30 years.

**Mitaa Plaza Project  
Evaluation of Global Climate Change Impacts**

**Table GHG-2  
Construction GHG Emission Factors**

<b>Equipment Type</b>	<b>CO<sub>2</sub> Emission Factor<sup>1</sup> (kg/gal)</b>	<b>CH<sub>4</sub> Emission Factor<sup>2,3</sup> (kg/gal)</b>	<b>N<sub>2</sub>O Emission Factor<sup>2,3</sup> (kg/gal)</b>	<b>CO<sub>2</sub> to CO<sub>2</sub>e Ratio (GWP CH<sub>4</sub> = 21) (GWP N<sub>2</sub>O = 310)</b>
Off-Road	10.15	0.000580	0.000260	0.991
On-Road	10.15	0.000031	0.000029	0.999
Vendor	10.15	0.000031	0.000029	0.999
Autos <sup>4</sup>	n/a	n/a	n/a	0.950

Sources:

1. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.1*, (2009) 96.
2. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse as Emissions Version 3.1*, (2009) 98, 100.
3. California Energy Commission, *Diesel Use in California, Remarks by Commissioner James D. Boyd*, (2002). It was assumed that heavy duty on-road trucks have a fuel economy of 6 miles per gallon based on this data source.
4. U.S. Environmental Protection Agency, Office of Transportation and Air Quality, *Emission Facts - Greenhouse Gas Emissions from a Typical Passenger Vehicle (EPA420-F-05-004)*, (2005) 4. Passenger vehicle CO<sub>2</sub> emissions are assumed to be 95% of GHG emissions on a CO<sub>2</sub> equivalent basis.

**Mitaa Plaza Project  
Evaluation of Global Climate Change Impacts**

**Table GHG-3  
Construction GHG Emissions**

Construction Year	Equipment Type	Annual CO <sub>2</sub> Emissions <sup>1</sup> (Tons CO <sub>2</sub> /yr)	Annual CO <sub>2</sub> Emissions (MT CO <sub>2</sub> /yr)	CO <sub>2</sub> to CO <sub>2</sub> e Ratio	Annual CO <sub>2</sub> e Emissions (MT CO <sub>2</sub> e/yr)
2010	Off-Road	16.43	14.91	0.991	15.04
2010	On-Road	49.56	44.96	0.999	45.00
2010	Vendor	-	-	0.999	-
2010	Worker/Autos	1.55	1.41	0.950	1.48
<b>Total 2010</b>		<b>67.54</b>	<b>61.27</b>		<b>61.52</b>
2011	Off-Road	239.47	217.24	0.991	219.23
2011	On-Road	148.98	135.15	0.999	135.28
2011	Vendor	521.45	473.05	0.999	473.50
2011	Worker/Autos	438.82	398.09	0.950	419.04
<b>Total 2011</b>		<b>1,348.72</b>	<b>1,223.54</b>		<b>1,247.05</b>
2012	Off-Road	231.03	209.59	0.991	211.50
2012	On-Road	3.61	3.27	0.999	3.28
2012	Vendor	596.28	540.94	0.999	541.45
2012	Worker/Autos	508.06	460.90	0.950	485.16
<b>Total 2012</b>		<b>1,338.98</b>	<b>1,214.70</b>		<b>1,241.39</b>
<b>Total</b>					<b>2,549.96</b>
<b>Amortized Total</b>					<b>85.00</b>

Sources:

1. Estimated CO<sub>2</sub> emissions from URBEMIS2007.
2. Under CEQA a project lifetime has generally been defined as 30 years.

Where:

CH <sub>4</sub>	Methane	kg	Kilograms
CO <sub>2</sub>	Carbon dioxide	MT	Metric ton
CO <sub>2</sub> e	Carbon dioxide equivalent	N <sub>2</sub> O	Nitrous oxide
gal	Gallons	yr	Year
GWP	Global warming potential		

**Mitaa Plaza Project  
Evaluation of Global Climate Change Impacts**

**Table GHG-4  
Operational Motor Vehicle GHG Emissions**

Land Use	Equipment Type	Annual CO <sub>2</sub> Emissions <sup>1</sup> (Tons CO <sub>2</sub> /yr)	CO <sub>2</sub> to CO <sub>2</sub> e Ratio <sup>2</sup>	Annual CO <sub>2</sub> e Emissions (MT CO <sub>2</sub> e/yr)
Commercial/Office/Rest.	Motor Vehicles	7,727.31	0.950	7,379.05

Sources:

1. Estimated CO<sub>2</sub> emissions from URBEMIS2007 Environmental Management Software and/or EMFAC2007 mobile source emissions factor model.
2. U.S. Environmental Protection Agency, Office of Transportation and Air Quality, *Emission Facts - Greenhouse Gas Emissions from a Typical Passenger Vehicle* (EPA420-F-05-004), (2005) 4. Passenger vehicle CO<sub>2</sub> emissions are assumed to be 95% of GHG emissions on a CO<sub>2</sub> equivalent basis.

Where:

CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
MT	Metric ton
yr	Year

**Mitaa Plaza Project  
Evaluation of Global Climate Change Impacts**

**Table GHG-5  
Area Source GHG Emissions**

Land Use	CO <sub>2</sub> Emission Factor <sup>1,2</sup> GWP = 1 (kg/MMBtu)	CH <sub>4</sub> Emission Factor <sup>2</sup> GWP = 21 (kg/MMBtu)	N <sub>2</sub> O Emission Factor <sup>2</sup> GWP = 310 (kg/MMBtu)	Annual CO <sub>2</sub> Emissions <sup>3</sup> (Tons CO <sub>2</sub> /yr)	Annual CO <sub>2</sub> e Emissions (MT CO <sub>2</sub> e/yr)
Commercial/Office/Rest.					
Natural Gas	56.06	0.005	0.0001	303.21	275.73
Landscape Maintenance <sup>4</sup>	70.88	0.011	0.0006	3.59	3.28
Hearths	56.06	0.0059	0.0001	-	-
Hearths (Wood) <sup>5</sup>	93.87	0.3514	0.0047	-	-
Subtotal				306.80	279.01

Sources:

1. URBEMIS2007 uses a CO<sub>2</sub> emission factor of 120,000 pounds per million cubic feet. This was converted to kg/MMBtu.
2. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.1*, (2009) 101-103.
3. Estimated CO<sub>2</sub> emissions from URBEMIS2007.
4. Landscape maintenance equipment were assumed to be fueled with motor gasoline.
5. All emission factors for wood burning are provided in the California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions Version 3.1*, (2009).

Where:

CH <sub>4</sub>	Methane	MMBtu	Million British thermal units
CO <sub>2</sub>	Carbon dioxide	MT	Metric ton
CO <sub>2</sub> e	Carbon dioxide equivalent	N <sub>2</sub> O	Nitrous oxide
GWP	Global warming potential	yr	Year
kg	Kilogram		

**Mitaa Plaza Project  
Evaluation of Global Climate Change Impacts**

**Table GHG-6  
Electrical Consumption GHG Emissions**

Land Use	Units <sup>1</sup>	Electrical Consumption Factor <sup>2</sup> (kW-hr/unit/yr)	Annual Consumption Factor (MW-hr/yr)	CO <sub>2</sub> Emission Factor <sup>3</sup> GWP = 1 (lbs/MW-hr)	CH <sub>4</sub> Emission Factor <sup>3</sup> GWP = 21 (lbs/MW-hr)	N <sub>2</sub> O Emission Factor <sup>3</sup> GWP = 310 (lbs/MW-hr)	Annual CO <sub>2</sub> e Emissions (MT CO <sub>2</sub> e/yr)
Commercial/Office/Rest.	163,090 gsf	17.91	2,920.94	641.26	0.029	0.011	854.94

Sources:

1. Project Applicant.
2. California Climate Action Registry, *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions* Version 3.1, (2009) 37.
3. California Air Resources Board, *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories*, Version 1.0, (2008) 174.  
The CO<sub>2</sub> factor is for Southern California Edison.

Where:

CH <sub>4</sub>	Methane	lbs	Pounds
CO <sub>2</sub>	Carbon dioxide	MW-hr	Megawatt-hour
CO <sub>2</sub> e	Carbon dioxide equivalent	MT	Metric ton
gsf	Gross square feet	n/a	Not applicable
GWP	Global warming potential	N <sub>2</sub> O	Nitrous oxide
kW-hr	Kilowatt-hour	yr	Year

**Mitaa Plaza Project  
Evaluation of Global Climate Change Impacts**

**Table GHG-7  
Potable Water Supply, Conveyance, Treatment, and Distribution GHG Emissions**

Land Use	Action	Potable Water Estimate <sup>1</sup> (MG/yr)	Electrical Consumption Factor <sup>2,3</sup> (kW-hr/MG)	Annual Electrical Consumption (MW-hr/yr)	CO <sub>2</sub> Emission Factor <sup>4</sup> GWP = 1 (lbs/MW-hr)	CH <sub>4</sub> Emission Factor <sup>4</sup> GWP = 21 (lbs/MW-hr)	N <sub>2</sub> O Emission Factor <sup>4</sup> GWP = 310 (lbs/MW-hr)	Annual CO <sub>2</sub> e Emissions (MT CO <sub>2</sub> e/yr)
Commercial/Office/Rest.	Supply & Conveyance	21.31	9,727	207.28	641.26	0.029	0.011	60.67
Commercial/Office/Rest.	Treatment	21.31	111	2.37	641.26	0.029	0.011	0.69
Commercial/Office/Rest.	Distribution	21.31	1,272	27.11	641.26	0.029	0.011	7.93
Subtotal								69.30

Sources:

1. Draft EIR, Section 4.9, Utilities.
2. California Energy Commission, *California's Water-Energy Relationship, Final Staff Report*, CEC-700-2005-011-SF, (2005) 26.
3. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report*, CEC-500-2006-118, (2006) 22.
4. California Air Resources Board, *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories*, Version 1.0, (2008) 174.  
The CO<sub>2</sub> factor is for Southern California Edison.

Where:

CH <sub>4</sub>	Methane	MG	Million gallons
CO <sub>2</sub>	Carbon dioxide	MW-hr	Megawatt-hour
CO <sub>2</sub> e	Carbon dioxide equivalent	MT	Metric ton
GWP	Global warming potential	n/a	Not applicable
kW-hr	Kilowatt-hour	N <sub>2</sub> O	Nitrous oxide
lbs	Pounds	yr	Year

**Mitaa Plaza Project  
Evaluation of Global Climate Change Impacts**

**Table GHG-8  
Wastewater Treatment Electrical Demand GHG Emissions**

<b>Buildout Year</b>	<b>Net Wastewater Generation Rate<sup>1</sup> (MG/yr)</b>	<b>Electrical Demand Factor<sup>2</sup> (kW-hr/MG)</b>	<b>Annual Demand Factor (MW-hr/yr)</b>	<b>CO<sub>2</sub>e Emission Factor<sup>3</sup> (lbs/MW-hr)</b>	<b>Annual CO<sub>2</sub>e Emissions (MT CO<sub>2</sub>e/yr)</b>
Commercial/Office/Rest.	17.05	1,911	32.58	645.28	9.54

Sources:

1. Draft EIR, Section 4.9, Utilities.
2. California Energy Commission, *Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report (CEC-500-2006-118)*. Prepared by Navigant Consulting, Inc., (2006) 22.
3. California Air Resources Board, Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories, Version 1.0, (2008) 174.  
The CO<sub>2</sub>e factor is calculated using the CO<sub>2</sub> factor for Southern California Edison.

Where:

CO <sub>2</sub> e	Carbon dioxide equivalent	MG	Million gallons
kW-hr	Kilowatt-hour	MT	Metric ton
lbs	Pounds	yr	Year

**Mitaa Plaza Project  
Evaluation of Global Climate Change Impacts**

**Table GHG-9  
Solid Waste GHG Emissions**

<b>Buildout Year</b>	<b>Solid Waste Generation<sup>1</sup> (MT/yr)</b>	<b>CO<sub>2</sub>e Emission Factor<sup>2</sup> (MT CO<sub>2</sub>e/MT waste)</b>	<b>Capture Efficiency<sup>3</sup></b>	<b>Annual CO<sub>2</sub>e Emissions (MT CO<sub>2</sub>e/yr)</b>
Commercial/Office/Rest.	285.22	0.11	75%	7.12

Sources:

1. Draft EIR, Section 4.9, Utilities.
2. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, *Greenhouse Gas Emission Factors for Management of Selected Materials in Municipal Solid Waste* (EPA-530-R-98-013), (1998). The factor is based on mixed municipal solid waste as disposed in landfills without landfill gas recovery.
3. Huitric, R.L. and D. Kong, "Measuring Landfill Gas Collection Efficiency Using Surface Methane Concentrations," [http://www.arb.ca.gov/cc/ccea/comments/april/huitric\\_kong.pdf](http://www.arb.ca.gov/cc/ccea/comments/april/huitric_kong.pdf). The specific landfill gas capture efficiency is unknown. Therefore, a default value of 75% was used.

Where:

CO <sub>2</sub> e	Carbon dioxide equivalent
MT	Metric ton
yr	Year



Combined Annual Emissions Reports (Tons/Year)

File Name: Z:\Alan Sako\1013.01 Mitaa Plaza\Emissions\Urbemis Mitaa Construction.urb924

Project Name: Mitaa Plaza

Project Location: South Coast AQMD

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>CO2</u>
2010 TOTALS (tons/year unmitigated)	67.55
2010 TOTALS (tons/year mitigated)	67.55
Percent Reduction	0.00
2011 TOTALS (tons/year unmitigated)	1,348.72
2011 TOTALS (tons/year mitigated)	1,348.72
Percent Reduction	0.00
2012 TOTALS (tons/year unmitigated)	1,338.97
2012 TOTALS (tons/year mitigated)	1,338.97
Percent Reduction	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	<u>CO2</u>
2010	67.55
Demolition 12/01/2010-12/21/2010	23.54
Fugitive Dust	0.00
Demo Off Road Diesel	5.25
Demo On Road Diesel	17.35
Demo Worker Trips	0.93
Mass Grading 12/22/2010-02/22/2011	44.01
Mass Grading Dust	0.00
Mass Grading Off Road Diesel	11.18
Mass Grading On Road Diesel	32.21
Mass Grading Worker Trips	0.62
2011	1,348.72
Mass Grading 12/22/2010-02/22/2011	203.55
Mass Grading Dust	0.00
Mass Grading Off Road Diesel	51.70
Mass Grading On Road Diesel	148.98
Mass Grading Worker Trips	2.88
Building 02/23/2011-12/21/2012	1,145.17
Building Off Road Diesel	187.77
Building Vendor Trips	521.45
Building Worker Trips	435.95

Page: 1

**2/23/2010 11:12:41 AM**

2012	1,338.97
Building 02/23/2011-12/21/2012	1,309.42
Building Off Road Diesel	214.72
Building Vendor Trips	596.28
Building Worker Trips	498.42
Coating 09/24/2012-12/21/2012	6.42
Architectural Coating	0.00
Coating Worker Trips	6.42
Asphalt 11/21/2012-12/21/2012	23.14
Paving Off-Gas	0.00
Paving Off Road Diesel	16.31
Paving On Road Diesel	3.61
Paving Worker Trips	3.22

Phase Assumptions

Phase: Demolition 12/1/2010 - 12/21/2010 - Demolition and Mobilization

Building Volume Total (cubic feet): 432081.2

Building Volume Daily (cubic feet): 39304

On Road Truck Travel (VMT): 545.89

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

Page: 1

**2/23/2010 11:12:41 AM**

Phase: Mass Grading 12/22/2010 - 2/22/2011 - Shoring and Excavation

Total Acres Disturbed: 2.1

Maximum Daily Acreage Disturbed: 2.1

Fugitive Dust Level of Detail: High

Onsite Haulage: 171.63 ton-miles/day; Offsite haulage: 0 ton-mils/day

On Road Truck Travel (VMT): 1899.98

Off-Road Equipment:

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

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 11/21/2012 - 12/21/2012 - Paving

Acres to be Paved: 4.74

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

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 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 2/23/2011 - 12/21/2012 - Parking Structure and Retail Structure

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

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

2/23/2010 11:12:41 AM

Phase: Architectural Coating 9/24/2012 - 12/21/2012 - Architectural Coating

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	<u>CO2</u>
2010	67.55
Demolition 12/01/2010-12/21/2010	23.54
Fugitive Dust	0.00
Demo Off Road Diesel	5.25
Demo On Road Diesel	17.35
Demo Worker Trips	0.93
Mass Grading 12/22/2010- 02/22/2011	44.01
Mass Grading Dust	0.00
Mass Grading Off Road Diesel	11.18
Mass Grading On Road Diesel	32.21
Mass Grading Worker Trips	0.62

Page: 1

**2/23/2010 11:12:41 AM**

2011	1,348.72
Mass Grading 12/22/2010-02/22/2011	203.55
Mass Grading Dust	0.00
Mass Grading Off Road Diesel	51.70
Mass Grading On Road Diesel	148.98
Mass Grading Worker Trips	2.88
Building 02/23/2011-12/21/2012	1,145.17
Building Off Road Diesel	187.77
Building Vendor Trips	521.45
Building Worker Trips	435.95
2012	1,338.97
Building 02/23/2011-12/21/2012	1,309.42
Building Off Road Diesel	214.72
Building Vendor Trips	596.28
Building Worker Trips	498.42
Coating 09/24/2012-12/21/2012	6.42
Architectural Coating	0.00
Coating Worker Trips	6.42
Asphalt 11/21/2012-12/21/2012	23.14
Paving Off-Gas	0.00
Paving Off Road Diesel	16.31
Paving On Road Diesel	3.61
Paving Worker Trips	3.22

Page: 1

2/23/2010 11:12:41 AM

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 12/22/2010 - 2/22/2011 - Shoring and Excavation

For Soil Stabilizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Combined Annual Emissions Reports (Tons/Year)

File Name: Z:\Alan Sako\1013.01 Mitaa Plaza\Emissions\Urbemis Mitaa Operational.urb924

Project Name: Mitaa Plaza - Operational

Project Location: South Coast AQMD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>CO2</u>
TOTALS (tons/year, unmitigated)	306.80

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>CO2</u>
TOTALS (tons/year, unmitigated)	7,727.31

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>CO2</u>
TOTALS (tons/year, unmitigated)	8,034.11

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>CO2</u>
Natural Gas	303.21
Hearth	0.00
Landscape	3.59
Consumer Products	
Architectural Coatings	
TOTALS (tons/year, unmitigated)	306.80

Area Source Changes to Defaults

Percent residential using natural gas changed from 78% to 100%

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

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>CO2</u>
Racquetball/health	824.18
Quality resturant	496.95
High turnover (sit-down) rest.	227.87
Strip mall	996.49
Supermarket	3,347.11
General office building	525.21
Medical office building	1,309.50
TOTALS (tons/year, unmitigated)	7,727.31

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Season: Annual

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
Racquetball/health		32.92	1000 sq ft	25.00	823.00	4,492.41
Quality restaurant		71.95	1000 sq ft	6.81	489.98	2,706.84
High turnover (sit-down) rest.		76.14	1000 sq ft	4.40	335.02	1,226.24
Strip mall		40.77	1000 sq ft	26.88	1,095.90	5,423.17
Supermarket		102.25	1000 sq ft	36.00	3,681.00	18,215.83
General office building		11.00	1000 sq ft	32.00	352.00	2,867.78
Medical office building		36.13	1000 sq ft	32.00	1,156.16	7,155.61
					7,933.06	42,087.88

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.5	0.6	99.2	0.2
Light Truck < 3750 lbs	7.3	1.4	95.9	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.7	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	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	2.8	60.7	39.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Racquetball/health				5.0	2.5	92.5
Quality restaurant				8.0	4.0	88.0
High turnover (sit-down) rest.				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
Supermarket				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Medical office building				7.0	3.5	89.5