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Urbemis 2007 Version 9.2.4

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Annual Tons Per Year, Unmitigated)

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	<u>CO2</u>
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2011	0.95	7.77	4.27	0.00	58.51	0.39	58.90	12.22	0.36	12.58	811.25
Mass Grading 04/01/2011- 10/01/2011	0.58	4.81	2.56	0.00	39.10	0.24	39.34	8.17	0.22	8.39	487.76
Mass Grading Dust	0.00	0.00	0.00	0.00	39.10	0.00	39.10	8.17	0.00	8.17	0.00
Mass Grading Off Road Diesel	0.57	4.81	2.43	0.00	0.00	0.24	0.24	0.00	0.22	0.22	472.68
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.08
Asphalt 10/01/2011-11/01/2011	0.04	0.18	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	18.94
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.16	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	12.45
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.24
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25
Mass Grading 10/01/2011- 01/01/2012	0.29	2.51	1.31	0.00	19.40	0.12	19.53	4.05	0.11	4.17	261.65
Mass Grading Dust	0.00	0.00	0.00	0.00	19.40	0.00	19.40	4.05	0.00	4.05	0.00
Mass Grading Off Road Diesel	0.28	2.39	1.21	0.00	0.00	0.12	0.12	0.00	0.11	0.11	234.54
Mass Grading On Road Diesel	0.01	0.12	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	19.63
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.48
Building 12/01/2011-09/01/2016	0.05	0.26	0.29	0.00	0.00	0.02	0.02	0.00	0.02	0.02	42.91
Building Off Road Diesel	0.04	0.24	0.15	0.00	0.00	0.02	0.02	0.00	0.02	0.02	24.85
Building Vendor Trips	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.42
2012	0.51	2.91	3.23	0.00	0.01	0.20	0.21	0.00	0.18	0.18	509.09
Building 12/01/2011-09/01/2016	0.51	2.91	3.23	0.00	0.01	0.20	0.21	0.00	0.18	0.18	509.09
Building Off Road Diesel	0.45	2.67	1.78	0.00	0.00	0.19	0.19	0.00	0.17	0.17	294.84
Building Vendor Trips	0.01	0.18	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	43.05
Building Worker Trips	0.04	0.07	1.32	0.00	0.01	0.00	0.01	0.00	0.00	0.01	171.19

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2013	0.46	2.70	3.07	0.00	0.01	0.17	0.18	0.00	0.16	0.16	509.14
Building 12/01/2011-09/01/2016	0.46	2.70	3.07	0.00	0.01	0.17	0.18	0.00	0.16	0.16	509.14
Building Off Road Diesel	0.42	2.48	1.74	0.00	0.00	0.17	0.17	0.00	0.15	0.15	294.84
Building Vendor Trips	0.01	0.15	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	43.05
Building Worker Trips	0.04	0.06	1.21	0.00	0.01	0.00	0.01	0.00	0.00	0.01	171.25
2014	0.43	2.49	2.92	0.00	0.01	0.15	0.16	0.00	0.14	0.14	509.19
Building 12/01/2011-09/01/2016	0.43	2.49	2.92	0.00	0.01	0.15	0.16	0.00	0.14	0.14	509.19
Building Off Road Diesel	0.38	2.30	1.70	0.00	0.00	0.14	0.14	0.00	0.13	0.13	294.84
Building Vendor Trips	0.01	0.13	0.11	0.00	0.00	0.01	0.01	0.00	0.00	0.01	43.05
Building Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	171.30
2015	0.39	2.28	2.79	0.00	0.01	0.14	0.15	0.00	0.13	0.13	509.23
Building 12/01/2011-09/01/2016	0.39	2.28	2.79	0.00	0.01	0.14	0.15	0.00	0.13	0.13	509.23
Building Off Road Diesel	0.35	2.11	1.67	0.00	0.00	0.13	0.13	0.00	0.12	0.12	294.84
Building Vendor Trips	0.01	0.12	0.10	0.00	0.00	0.00	0.01	0.00	0.00	0.00	43.05
Building Worker Trips	0.03	0.05	1.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	171.34
2016	0.24	1.40	1.80	0.00	0.01	0.08	0.09	0.00	0.08	0.08	341.44
Building 12/01/2011-09/01/2016	0.24	1.40	1.80	0.00	0.01	0.08	0.09	0.00	0.08	0.08	341.44
Building Off Road Diesel	0.22	1.30	1.10	0.00	0.00	0.08	0.08	0.00	0.07	0.07	197.69
Building Vendor Trips	0.01	0.07	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.87
Building Worker Trips	0.02	0.03	0.63	0.00	0.01	0.00	0.01	0.00	0.00	0.00	114.89

Phase Assumptions

Phase: Mass Grading 4/1/2011 - 10/1/2011 - Estimated Duration of Grading Phase (includes clearing & grubbing, grading, and utilities trenching and installation) Total Acres Disturbed: 119.4 Maximum Daily Acreage Disturbed: 29.85 Fugitive Dust Level of Detail: Default 20 lbs per acre-day On Road Truck Travel (VMT): 0 Off-Road Equipment:

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Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

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

Phase: Mass Grading 10/1/2011 - 1/1/2012 - Estimated Total Soil Import Total Acres Disturbed: 6.14 Maximum Daily Acreage Disturbed: 29.85 Fugitive Dust Level of Detail: Default 20 lbs per acre-day On Road Truck Travel (VMT): 150 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 8 hours per day 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day 2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Paving 10/1/2011 - 11/1/2011 - Asphalt Paving

Acres to be Paved: 7.42

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 $% \left(1 + \frac{1}{2} \right) = 0$

Phase: Building Construction 12/1/2011 - 9/1/2016 - Estimated Duration Building Phase (Houses) Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day $% \left(1-\frac{1}{2}\right) =0$
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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

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Detail Report for Annual Construction Mitigated Emissions (Tons/Year)

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Annual Tons Per Year, Mitigated)

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	<u>CO</u> 2
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2011	0.95	5.67	4.27	0.00	6.26	0.20	6.46	1.31	0.18	1.49	811.25
Mass Grading 04/01/2011- 10/01/2011	0.58	3.48	2.56	0.00	4.18	0.12	4.30	0.87	0.11	0.98	487.76
Mass Grading Dust	0.00	0.00	0.00	0.00	4.18	0.00	4.18	0.87	0.00	0.87	0.00
Mass Grading Off Road Diesel	0.57	3.47	2.43	0.00	0.00	0.12	0.12	0.00	0.11	0.11	472.68
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.08
Asphalt 10/01/2011-11/01/2011	0.04	0.14	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	18.94
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.11	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	12.45
Paving On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.24
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25
Mass Grading 10/01/2011- 01/01/2012	0.29	1.85	1.31	0.00	2.08	0.06	2.14	0.43	0.06	0.49	261.65
Mass Grading Dust	0.00	0.00	0.00	0.00	2.08	0.00	2.08	0.43	0.00	0.43	0.00
Mass Grading Off Road Diesel	0.28	1.72	1.21	0.00	0.00	0.06	0.06	0.00	0.05	0.05	234.54
Mass Grading On Road Diesel	0.01	0.12	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	19.63
Mass Grading Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.48
Building 12/01/2011-09/01/2016	0.05	0.20	0.29	0.00	0.00	0.01	0.01	0.00	0.01	0.01	42.91
Building Off Road Diesel	0.04	0.17	0.15	0.00	0.00	0.01	0.01	0.00	0.01	0.01	24.85
Building Vendor Trips	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63
Building Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.42
2012	0.51	2.17	3.23	0.00	0.01	0.10	0.11	0.00	0.09	0.10	509.09
Building 12/01/2011-09/01/2016	0.51	2.17	3.23	0.00	0.01	0.10	0.11	0.00	0.09	0.10	509.09
Building Off Road Diesel	0.45	1.93	1.78	0.00	0.00	0.09	0.09	0.00	0.09	0.09	294.84
Building Vendor Trips	0.01	0.18	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	43.05
Building Worker Trips	0.04	0.07	1.32	0.00	0.01	0.00	0.01	0.00	0.00	0.01	171.19

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2013	0.46	2.01	3.07	0.00	0.01	0.09	0.10	0.00	0.08	0.09	509.14
Building 12/01/2011-09/01/2016	0.46	2.01	3.07	0.00	0.01	0.09	0.10	0.00	0.08	0.09	509.14
Building Off Road Diesel	0.42	1.79	1.74	0.00	0.00	0.08	0.08	0.00	0.08	0.08	294.84
Building Vendor Trips	0.01	0.15	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	43.05
Building Worker Trips	0.04	0.06	1.21	0.00	0.01	0.00	0.01	0.00	0.00	0.01	171.25
2014	0.43	1.85	2.92	0.00	0.01	0.08	0.09	0.00	0.07	0.08	509.19
Building 12/01/2011-09/01/2016	0.43	1.85	2.92	0.00	0.01	0.08	0.09	0.00	0.07	0.08	509.19
Building Off Road Diesel	0.38	1.66	1.70	0.00	0.00	0.07	0.07	0.00	0.07	0.07	294.84
Building Vendor Trips	0.01	0.13	0.11	0.00	0.00	0.01	0.01	0.00	0.00	0.01	43.05
Building Worker Trips	0.03	0.06	1.10	0.00	0.01	0.00	0.01	0.00	0.00	0.01	171.30
2015	0.39	1.69	2.79	0.00	0.01	0.08	0.09	0.00	0.07	0.07	509.23
Building 12/01/2011-09/01/2016	0.39	1.69	2.79	0.00	0.01	0.08	0.09	0.00	0.07	0.07	509.23
Building Off Road Diesel	0.35	1.53	1.67	0.00	0.00	0.07	0.07	0.00	0.06	0.06	294.84
Building Vendor Trips	0.01	0.12	0.10	0.00	0.00	0.00	0.01	0.00	0.00	0.00	43.05
Building Worker Trips	0.03	0.05	1.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	171.34
2016	0.24	1.04	1.80	0.00	0.01	0.04	0.05	0.00	0.04	0.04	341.44
Building 12/01/2011-09/01/2016	0.24	1.04	1.80	0.00	0.01	0.04	0.05	0.00	0.04	0.04	341.44
Building Off Road Diesel	0.22	0.94	1.10	0.00	0.00	0.04	0.04	0.00	0.04	0.04	197.69
Building Vendor Trips	0.01	0.07	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.87
Building Worker Trips	0.02	0.03	0.63	0.00	0.01	0.00	0.01	0.00	0.00	0.00	114.89

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 4/1/2011 - 10/1/2011 - Estimated Duration of Grading Phase (includes clearing & grubbing, grading, and utilities trenching and installation)

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

PM10: 84% PM25: 84%

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

PM10: 5% PM25: 5%

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

PM10: 55% PM25: 55%

Page: 4 9/10/2009 3:04:39 PM 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 Graders, 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 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 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Excavators, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Excavators, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Scrapers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Scrapers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% The following mitigation measures apply to Phase: Mass Grading 10/1/2011 - 1/1/2012 - Estimated Total Soil Import For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by: PM10: 84% PM25: 84% For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by: PM10: 5% PM25: 5% For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by: PM10: 55% PM25: 55%

Page: 5 9/10/2009 3:04:39 PM 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 Graders, 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 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 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Excavators, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Excavators, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Scrapers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Scrapers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% The following mitigation measures apply to Phase: Paving 10/1/2011 - 11/1/2011 - Asphalt Paving For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50%

Page: 6 9/10/2009 3:04:39 PM 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Cement and Mortar Mixers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% The following mitigation measures apply to Phase: Building Construction 12/1/2011 - 9/1/2016 - Estimated Duration Building Phase (Houses) For Cranes, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% 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 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 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15%

Phase Assumptions

Phase: Mass Grading 4/1/2011 - 10/1/2011 - Estimated Duration of Grading Phase (includes clearing & grubbing, grading, and utilities trenching and installation)

9/10/2009 3:04:39 PM
Total Acres Disturbed: 119.4
Maximum Daily Acreage Disturbed: 29.85
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
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 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.51 load factor for 8 hours per day

Phase: Mass Grading 10/1/2011 - 1/1/2012 - Estimated Total Soil Import

Total Acres Disturbed: 6.14

- Maximum Daily Acreage Disturbed: 29.85
- Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 150

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 8 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
- 2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 10/1/2011 - 11/1/2011 - Asphalt Paving

Acres to be Paved: 7.42

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

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Phase: Building Construction 12/1/2011 - 9/1/2016 - Estimated Duration Building Phase (Houses) Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

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Urbemis 2007 Version 9.2.4

Detail Report for Annual Area Source Unmitigated Emissions (Tons/Year)

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Annual Tons Per Year, Unmitigated)

Source	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.02	0.20	0.09	0.00	0.00	0.00	259.82
Hearth	3.51	0.04	3.87	0.01	0.53	0.51	52.07
Landscape	0.06	0.00	0.36	0.00	0.00	0.00	0.57
Consumer Products	0.79						
Architectural Coatings	0.23						
TOTALS (tons/year, unmitigated)	4.61	0.24	4.32	0.01	0.53	0.51	312.46

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0% Percentage of residences with wood fireplaces changed from 10% to 100% Percentage of residences with natural gas fireplaces changed from 55% to 0%

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Urbemis 2007 Version 9.2.4

Detail Report for Annual Area Source Mitigated Emissions (Tons/Year)

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Annual Tons Per Year, Mitigated)

Source	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	PM2.5	<u>CO2</u>
Natural Gas	0.02	0.20	0.09	0.00	0.00	0.00	259.82
Hearth	3.51	0.04	3.87	0.01	0.53	0.51	52.07
Landscape	0.06	0.00	0.36	0.00	0.00	0.00	0.57
Consumer Products	0.79						
Architectural Coatings	0.21						
TOTALS (tons/year, mitigated)	4.59	0.24	4.32	0.01	0.53	0.51	312.46

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
For Residential Interior Use Low VOC Coating	10.00
For Residential Exterior Use Low VOC Coating	10.00
For Nonresidential Interior Use Low VOC Coating	10.00
For Nonresidential Exterior Use Low VOC Coating	10.00

Area Source Changes to Defaults

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

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Percentage of residences with wood fireplaces changed from 10% to 100% Percentage of residences with natural gas fireplaces changed from 55% to 0%

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Urbemis 2007 Version 9.2.4

Detail Report for Annual Operational Unmitigated Emissions (Tons/Year)

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Annual Tons Per Year, Unmitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.45	1.96	15.93	0.01	2.21	0.43	1,254.56
TOTALS (tons/year, unmitigated)	1.45	1.96	15.93	0.01	2.21	0.43	1,254.56

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses Land Use Type Trip Rate Total VMT Acreage Unit Type No. Units **Total Trips** Single family housing 119.40 10.49 dwelling 89.00 933.61 6,988.32 units 933.61 6,988.32

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		Vehicle Fle	eet Mix			
Vehicle Type		Percent Type	Non-Catalyst		Catalyst	Diesel
Light Auto		39.8	1.3		98.4	0.3
Light Truck < 3750 lbs		14.2	2.8		88.7	8.5
Light Truck 3751-5750 lbs		22.4	0.9		98.7	0.4
Med Truck 5751-8500 lbs		11.0	0.9		99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs		2.6	0.0		73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs		0.9	0.0		44.4	55.6
Med-Heavy Truck 14,001-33,000 lbs		0.9	0.0		22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs		1.2	0.0		0.0	100.0
Other Bus		0.1	0.0		0.0	100.0
Urban Bus		0.0	0.0		0.0	0.0
Motorcycle		5.5	67.3		32.7	0.0
School Bus		0.1	0.0		0.0	100.0
Motor Home		1.3	0.0		84.6	15.4
		Travel Cor	nditions			
		Residential			Commercial	
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

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Travel Conditions

Residential Home-Shop

Home-Work

Commercial

Commute

Non-Work Customer

% of Trips - Commercial (by land use)

Operational Changes to Defaults

Home-Other

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Urbemis 2007 Version 9.2.4

Detail Report for Annual Operational Mitigated Emissions (Tons/Year)

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Annual Tons Per Year, Mitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	1.45	1.96	15.93	0.01	2.21	0.43	1,254.56
TOTALS (tons/year, mitigated)	1.45	1.96	15.93	0.01	2.21	0.43	1,254.56

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to the 'double counting adjusted' trip rate

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Operational Mitigation Options Selected

Residential Mitigation Measures

- to get Mitigated Trips
- Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Nonresidential Mitigation Measures

	Summ	hary of Land I	<u>Jses</u>			
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	119.40	10.49	dwelling units	89.00	933.61	6,988.32
					933.61	6,988.32
	<u> </u>	Vehicle Fleet	<u>Mix</u>			
Vehicle Type	Percent	Туре	Non-Catal	yst	Catalyst	Diesel
Light Auto		39.8		1.3	98.4	0.3
Light Truck < 3750 lbs		14.2		2.8	88.7	8.5
Light Truck 3751-5750 lbs		22.4	().9	98.7	0.4
Med Truck 5751-8500 lbs		11.0	().9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs		2.6	(0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs		0.9	(0.0	44.4	55.6
Med-Heavy Truck 14,001-33,000 lbs		0.9	(0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs		1.2	(0.0	0.0	100.0
Other Bus		0.1	(0.0	0.0	100.0
Urban Bus		0.0	(0.0	0.0	0.0
Motorcycle		5.5	67	7.3	32.7	0.0

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		Vehicle Fle	et Mix					
Vehicle Type	F	Percent Type	Non-Catalyst	С	atalyst	Diesel		
School Bus		0.1	0.0		0.0	100.0		
Motor Home		1.3	0.0		84.6	15.4		
		Travel Con	ditions					
	Residential Commercial							
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer		
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4		
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6		
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0		

% of Trips - Commercial (by land use)

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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)

	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	<u>CO2</u>
Time Slice 4/1/2011-9/30/2011 Active Days: 131	8.79	73.50	39.07	0.00	597.01	3.64	600.65	124.68	3.35	128.03	7,446.76
Mass Grading 04/01/2011- 10/01/2011	8.79	73.50	39.07	0.00	597.01	3.64	600.65	124.68	3.35	128.03	7,446.76
Mass Grading Dust	0.00	0.00	0.00	0.00	597.00	0.00	597.00	124.68	0.00	124.68	0.00
Mass Grading Off Road Diesel	8.73	73.40	37.14	0.00	0.00	3.64	3.64	0.00	3.35	3.35	7,216.54
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 10/3/2011-11/1/2011 Active Days: 22	12.44	94.00	51.03	0.01	597.06	5.11	602.17	124.70	4.70	129.40	9,772.26
Asphalt 10/01/2011-11/01/2011	3.40	16.69	10.70	0.01	0.02	1.33	1.35	0.01	1.22	1.23	1,721.59
Paving Off-Gas	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.17	8.17	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,131.92
Paving On Road Diesel	0.16	2.43	0.81	0.00	0.01	0.09	0.10	0.00	0.08	0.09	385.04
Paving Worker Trips	0.05	0.09	1.72	0.00	0.01	0.00	0.01	0.00	0.00	0.01	204.64
Mass Grading 10/01/2011- 01/01/2012	9.04	77.31	40.34	0.01	597.03	3.78	600.82	124.69	3.48	128.17	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	597.00	0.00	597.00	124.68	0.00	124.68	0.00
Mass Grading Off Road Diesel	8.73	73.40	37.14	0.00	0.00	3.64	3.64	0.00	3.35	3.35	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22

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Time Slice 11/2/2011-11/30/2011 Active Days: 21	9.04	77.31	40.34	0.01	597.03	3.78	600.82	124.69	3.48	128.17	8,050.66
Mass Grading 10/01/2011- 01/01/2012	9.04	77.31	40.34	0.01	597.03	3.78	600.82	124.69	3.48	128.17	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	597.00	0.00	597.00	124.68	0.00	124.68	0.00
Mass Grading Off Road Diesel	8.73	73.40	37.14	0.00	0.00	3.64	3.64	0.00	3.35	3.35	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 12/1/2011-12/30/2011 Active Days: 22	<u>13.27</u>	<u>101.26</u>	<u>66.38</u>	<u>0.02</u>	<u>597.11</u>	<u>5.45</u>	<u>602.56</u>	<u>124.72</u>	<u>5.01</u>	<u>129.72</u>	<u>11,951.21</u>
Building 12/01/2011-09/01/2016	4.22	23.95	26.05	0.02	0.08	1.66	1.74	0.03	1.53	1.55	3,900.55
Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	0.11	1.52	1.09	0.00	0.01	0.06	0.07	0.00	0.05	0.06	329.93
Building Worker Trips	0.35	0.58	11.02	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,311.34
Mass Grading 10/01/2011- 01/01/2012	9.04	77.31	40.34	0.01	597.03	3.78	600.82	124.69	3.48	128.17	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	597.00	0.00	597.00	124.68	0.00	124.68	0.00
Mass Grading Off Road Diesel	8.73	73.40	37.14	0.00	0.00	3.64	3.64	0.00	3.35	3.35	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 1/2/2012-12/31/2012 Active Days: 261	<u>3.89</u>	22.29	<u>24.72</u>	<u>0.02</u>	<u>0.08</u>	<u>1.50</u>	<u>1.58</u>	<u>0.03</u>	<u>1.38</u>	<u>1.41</u>	<u>3,901.04</u>
Building 12/01/2011-09/01/2016	3.89	22.29	24.72	0.02	0.08	1.50	1.58	0.03	1.38	1.41	3,901.04
Building Off Road Diesel	3.48	20.42	13.62	0.00	0.00	1.42	1.42	0.00	1.31	1.31	2,259.28
Building Vendor Trips	0.10	1.34	1.01	0.00	0.01	0.05	0.06	0.00	0.05	0.05	329.92
Building Worker Trips	0.31	0.53	10.09	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,311.84
Time Slice 1/1/2013-12/31/2013 Active Days: 261	<u>3.56</u>	<u>20.69</u>	<u>23.51</u>	0.02	<u>0.08</u>	<u>1.34</u>	<u>1.42</u>	<u>0.03</u>	<u>1.23</u>	<u>1.26</u>	<u>3,901.46</u>
Building 12/01/2011-09/01/2016	3.56	20.69	23.51	0.02	0.08	1.34	1.42	0.03	1.23	1.26	3,901.46
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	0.09	1.18	0.93	0.00	0.01	0.04	0.06	0.00	0.04	0.05	329.91
Building Worker Trips	0.28	0.48	9.24	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,312.27

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Time Slice 1/1/2014-12/31/2014 Active Days: 261	<u>3.26</u>	<u>19.11</u>	<u>22.38</u>	<u>0.02</u>	<u>0.08</u>	<u>1.18</u>	<u>1.25</u>	<u>0.03</u>	<u>1.08</u>	<u>1.11</u>	<u>3,901.86</u>
Building 12/01/2011-09/01/2016	3.26	19.11	22.38	0.02	0.08	1.18	1.25	0.03	1.08	1.11	3,901.86
Building Off Road Diesel	2.93	17.65	13.06	0.00	0.00	1.11	1.11	0.00	1.02	1.02	2,259.28
Building Vendor Trips	0.09	1.03	0.86	0.00	0.01	0.04	0.05	0.00	0.04	0.04	329.91
Building Worker Trips	0.25	0.43	8.46	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,312.67
Time Slice 1/1/2015-12/31/2015 Active Days: 261	<u>3.00</u>	<u>17.46</u>	<u>21.34</u>	0.02	<u>0.08</u>	<u>1.09</u>	<u>1.17</u>	<u>0.03</u>	<u>1.00</u>	<u>1.03</u>	<u>3,902.18</u>
Building 12/01/2011-09/01/2016	3.00	17.46	21.34	0.02	0.08	1.09	1.17	0.03	1.00	1.03	3,902.18
Building Off Road Diesel	2.69	16.17	12.80	0.00	0.00	1.03	1.03	0.00	0.94	0.94	2,259.28
Building Vendor Trips	0.08	0.90	0.79	0.00	0.01	0.03	0.05	0.00	0.03	0.04	329.92
Building Worker Trips	0.23	0.39	7.75	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,312.98
Time Slice 1/1/2016-9/1/2016 Active Days: 175	<u>2.74</u>	<u>15.99</u>	<u>20.52</u>	0.02	<u>0.08</u>	<u>0.94</u>	<u>1.01</u>	<u>0.03</u>	<u>0.86</u>	<u>0.89</u>	<u>3,902.19</u>
Building 12/01/2011-09/01/2016	2.74	15.99	20.52	0.02	0.08	0.94	1.01	0.03	0.86	0.89	3,902.19
Building Off Road Diesel	2.47	14.84	12.61	0.00	0.00	0.88	0.88	0.00	0.81	0.81	2,259.28
Building Vendor Trips	0.07	0.80	0.74	0.00	0.01	0.03	0.04	0.00	0.03	0.03	329.91
Building Worker Trips	0.21	0.36	7.17	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,313.00

Phase Assumptions

Phase: Mass Grading 4/1/2011 - 10/1/2011 - Estimated Duration of Grading Phase (includes clearing & grubbing, grading, and utilities trenching and installation) Total Acres Disturbed: 119.4

Maximum Daily Acreage Disturbed: 29.85

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

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 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

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

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

Phase: Mass Grading 10/1/2011 - 1/1/2012 - Estimated Total Soil Import
Total Acres Disturbed: 6.14
Maximum Daily Acreage Disturbed: 29.85
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 150
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 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Paving 10/1/2011 - 11/1/2011 - Asphalt Paving

Acres to be Paved: 7.42

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

Phase: Building Construction 12/1/2011 - 9/1/2016 - Estimated Duration Building Phase (Houses) Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

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

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

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

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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)

	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	<u>CO2</u>
Time Slice 4/1/2011-9/30/2011 Active Days: 131	8.79	53.13	39.07	0.00	63.86	1.82	65.69	13.34	1.68	15.02	7,446.76
Mass Grading 04/01/2011- 10/01/2011	8.79	53.13	39.07	0.00	63.86	1.82	65.69	13.34	1.68	15.02	7,446.76
Mass Grading Dust	0.00	0.00	0.00	0.00	63.85	0.00	63.85	13.34	0.00	13.34	0.00
Mass Grading Off Road Diesel	8.73	53.03	37.14	0.00	0.00	1.82	1.82	0.00	1.67	1.67	7,216.54
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 10/3/2011-11/1/2011 Active Days: 22	12.44	69.70	51.03	0.01	63.91	2.68	66.59	13.35	2.46	15.82	9,772.26
Asphalt 10/01/2011-11/01/2011	3.40	12.76	10.70	0.01	0.02	0.71	0.74	0.01	0.65	0.66	1,721.59
Paving Off-Gas	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	10.24	8.17	0.00	0.00	0.62	0.62	0.00	0.57	0.57	1,131.92
Paving On Road Diesel	0.16	2.43	0.81	0.00	0.01	0.09	0.10	0.00	0.08	0.09	385.04
Paving Worker Trips	0.05	0.09	1.72	0.00	0.01	0.00	0.01	0.00	0.00	0.01	204.64
Mass Grading 10/01/2011- 01/01/2012	9.04	56.94	40.34	0.01	63.89	1.96	65.85	13.35	1.81	15.15	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	63.85	0.00	63.85	13.34	0.00	13.34	0.00
Mass Grading Off Road Diesel	8.73	53.03	37.14	0.00	0.00	1.82	1.82	0.00	1.67	1.67	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22

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Time Slice 11/2/2011-11/30/2011 Active Days: 21	9.04	56.94	40.34	0.01	63.89	1.96	65.85	13.35	1.81	15.15	8,050.66
Mass Grading 10/01/2011- 01/01/2012	9.04	56.94	40.34	0.01	63.89	1.96	65.85	13.35	1.81	15.15	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	63.85	0.00	63.85	13.34	0.00	13.34	0.00
Mass Grading Off Road Diesel	8.73	53.03	37.14	0.00	0.00	1.82	1.82	0.00	1.67	1.67	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 12/1/2011-12/30/2011 Active Days: 22	<u>13.27</u>	<u>74.83</u>	<u>66.38</u>	<u>0.02</u>	<u>63.96</u>	<u>2.84</u>	<u>66.80</u>	<u>13.37</u>	<u>2.61</u>	<u>15.98</u>	<u>11,951.21</u>
Building 12/01/2011-09/01/2016	4.22	17.89	26.05	0.02	0.08	0.88	0.95	0.03	0.80	0.83	3,900.55
Building Off Road Diesel	3.77	15.78	13.95	0.00	0.00	0.79	0.79	0.00	0.72	0.72	2,259.28
Building Vendor Trips	0.11	1.52	1.09	0.00	0.01	0.06	0.07	0.00	0.05	0.06	329.93
Building Worker Trips	0.35	0.58	11.02	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,311.34
Mass Grading 10/01/2011- 01/01/2012	9.04	56.94	40.34	0.01	63.89	1.96	65.85	13.35	1.81	15.15	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	63.85	0.00	63.85	13.34	0.00	13.34	0.00
Mass Grading Off Road Diesel	8.73	53.03	37.14	0.00	0.00	1.82	1.82	0.00	1.67	1.67	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 1/2/2012-12/31/2012 Active Days: 261	<u>3.89</u>	<u>16.63</u>	<u>24.72</u>	<u>0.02</u>	<u>0.08</u>	<u>0.79</u>	<u>0.87</u>	<u>0.03</u>	<u>0.73</u>	<u>0.75</u>	<u>3,901.04</u>
Building 12/01/2011-09/01/2016	3.89	16.63	24.72	0.02	0.08	0.79	0.87	0.03	0.73	0.75	3,901.04
Building Off Road Diesel	3.48	14.76	13.62	0.00	0.00	0.71	0.71	0.00	0.65	0.65	2,259.28
Building Vendor Trips	0.10	1.34	1.01	0.00	0.01	0.05	0.06	0.00	0.05	0.05	329.92
Building Worker Trips	0.31	0.53	10.09	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,311.84
Time Slice 1/1/2013-12/31/2013 Active Days: 261	<u>3.56</u>	<u>15.41</u>	<u>23.51</u>	0.02	<u>0.08</u>	<u>0.71</u>	<u>0.78</u>	<u>0.03</u>	<u>0.65</u>	<u>0.68</u>	<u>3,901.46</u>
Building 12/01/2011-09/01/2016	3.56	15.41	23.51	0.02	0.08	0.71	0.78	0.03	0.65	0.68	3,901.46
Building Off Road Diesel	3.19	13.75	13.34	0.00	0.00	0.63	0.63	0.00	0.58	0.58	2,259.28
Building Vendor Trips	0.09	1.18	0.93	0.00	0.01	0.04	0.06	0.00	0.04	0.05	329.91
Building Worker Trips	0.28	0.48	9.24	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,312.27

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Time Slice 1/1/2014-12/31/2014 Active Days: 261	<u>3.26</u>	<u>14.21</u>	<u>22.38</u>	0.02	<u>0.08</u>	<u>0.62</u>	<u>0.70</u>	<u>0.03</u>	<u>0.57</u>	0.60	<u>3,901.86</u>
Building 12/01/2011-09/01/2016	3.26	14.21	22.38	0.02	0.08	0.62	0.70	0.03	0.57	0.60	3,901.86
Building Off Road Diesel	2.93	12.75	13.06	0.00	0.00	0.55	0.55	0.00	0.51	0.51	2,259.28
Building Vendor Trips	0.09	1.03	0.86	0.00	0.01	0.04	0.05	0.00	0.04	0.04	329.91
Building Worker Trips	0.25	0.43	8.46	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,312.67
Time Slice 1/1/2015-12/31/2015 Active Days: 261	<u>3.00</u>	<u>12.97</u>	<u>21.34</u>	0.02	<u>0.08</u>	<u>0.58</u>	<u>0.65</u>	<u>0.03</u>	<u>0.53</u>	<u>0.55</u>	<u>3,902.18</u>
Building 12/01/2011-09/01/2016	3.00	12.97	21.34	0.02	0.08	0.58	0.65	0.03	0.53	0.55	3,902.18
Building Off Road Diesel	2.69	11.69	12.80	0.00	0.00	0.51	0.51	0.00	0.47	0.47	2,259.28
Building Vendor Trips	0.08	0.90	0.79	0.00	0.01	0.03	0.05	0.00	0.03	0.04	329.92
Building Worker Trips	0.23	0.39	7.75	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,312.98
Time Slice 1/1/2016-9/1/2016 Active Days: 175	<u>2.74</u>	<u>11.87</u>	20.52	0.02	<u>0.08</u>	<u>0.50</u>	<u>0.58</u>	<u>0.03</u>	0.46	<u>0.48</u>	<u>3,902.19</u>
Building 12/01/2011-09/01/2016	2.74	11.87	20.52	0.02	0.08	0.50	0.58	0.03	0.46	0.48	3,902.19
Building Off Road Diesel	2.47	10.72	12.61	0.00	0.00	0.44	0.44	0.00	0.40	0.40	2,259.28
Building Vendor Trips	0.07	0.80	0.74	0.00	0.01	0.03	0.04	0.00	0.03	0.03	329.91
Building Worker Trips	0.21	0.36	7.17	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,313.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 4/1/2011 - 10/1/2011 - Estimated Duration of Grading Phase (includes clearing & grubbing, grading, and utilities trenching and installation)

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

PM10: 84% PM25: 84%

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

PM10: 5% PM25: 5%

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

PM10: 55% PM25: 55%

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%

Page: 4 9/10/2009 3:02:28 PM For Graders, 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 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 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Excavators, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Excavators, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Scrapers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Scrapers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% The following mitigation measures apply to Phase: Mass Grading 10/1/2011 - 1/1/2012 - Estimated Total Soil Import For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by: PM10: 84% PM25: 84% For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by: PM10: 5% PM25: 5% For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by: PM10: 55% PM25: 55% 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%

Page: 5 9/10/2009 3:02:28 PM For Graders, 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 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 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Excavators, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Excavators, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Scrapers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Scrapers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% The following mitigation measures apply to Phase: Paving 10/1/2011 - 11/1/2011 - Asphalt Paving For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15%

9/10/2009 3:02:28 PM For Cement and Mortar Mixers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% The following mitigation measures apply to Phase: Building Construction 12/1/2011 - 9/1/2016 - Estimated Duration Building Phase (Houses) For Cranes, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% 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 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 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15%

Phase Assumptions

Phase: Mass Grading 4/1/2011 - 10/1/2011 - Estimated Duration of Grading Phase (includes clearing & grubbing, grading, and utilities trenching and installation) Total Acres Disturbed: 119.4 Maximum Daily Acreage Disturbed: 29.85 Fugitive Dust Level of Detail: Default 20 lbs per acre-day On Road Truck Travel (VMT): 0 Off-Road Equipment:

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Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 10/1/2011 - 1/1/2012 - Estimated Total Soil Import Total Acres Disturbed: 6.14 Maximum Daily Acreage Disturbed: 29.85 Fugitive Dust Level of Detail: Default 20 lbs per acre-day On Road Truck Travel (VMT): 150 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 8 hours per day 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day 2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Paving 10/1/2011 - 11/1/2011 - Asphalt Paving

Acres to be Paved: 7.42

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

Phase: Building Construction 12/1/2011 - 9/1/2016 - Estimated Duration Building Phase (Houses) Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day $% \left(1-\frac{1}{2}\right) =0$
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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)

Source	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.09	1.12	0.47	0.00	0.00	0.00	1,423.64
Hearth - No Summer Emissions							
Landscape	0.72	0.04	3.97	0.00	0.01	0.01	6.38
Consumer Products	4.35						
Architectural Coatings	1.27						
TOTALS (lbs/day, unmitigated)	6.43	1.16	4.44	0.00	0.01	0.01	1,430.02

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0% Percentage of residences with wood fireplaces changed from 10% to 100% Percentage of residences with natural gas fireplaces changed from 55% to 0%

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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>	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.09	1.12	0.47	0.00	0.00	0.00	1,423.64
Hearth - No Summer Emissions							
Landscape	0.72	0.04	3.97	0.00	0.01	0.01	6.38
Consumer Products	4.35						
Architectural Coatings	1.14						
TOTALS (lbs/day, mitigated)	6.30	1.16	4.44	0.00	0.01	0.01	1,430.02

Alea Source	<u>e miligation measures Selecteu</u>
Mitigation Description	Percent Reduction
For Residential Interior Use Low VOC Coating	10.00

6	
For Residential Exterior Use Low VOC Coating	10.00
For Nonresidential Interior Use Low VOC Coating	10.00
For Nonresidential Exterior Use Low VOC Coating	10.00

Area Source Changes to Defaults

Area Source Mitigation Measures Selected

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

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Percentage of residences with wood fireplaces changed from 10% to 100% Percentage of residences with natural gas fireplaces changed from 55% to 0%

9/10/2009 3:02:53 PM

Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.59	9.40	83.61	0.07	12.08	2.35	7,174.82
TOTALS (lbs/day, unmitigated)	7.59	9.40	83.61	0.07	12.08	2.35	7,174.82

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2010 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses Land Use Type Trip Rate Unit Type No. Units **Total Trips** Total VMT Acreage Single family housing 119.40 10.49 dwelling 89.00 933.61 6,988.32 units 933.61 6,988.32

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		Vehicle Fle	eet Mix			
Vehicle Type		Percent Type	Non-Catalyst		Catalyst	Diesel
Light Auto		39.8	1.3		98.4	0.3
Light Truck < 3750 lbs		14.2	2.8		88.7	8.5
Light Truck 3751-5750 lbs		22.4	0.9		98.7	0.4
Med Truck 5751-8500 lbs		11.0	0.9		99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs		2.6	0.0		73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs		0.9	0.0		44.4	55.6
Med-Heavy Truck 14,001-33,000 lbs		0.9	0.0		22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs		1.2	0.0		0.0	100.0
Other Bus		0.1	0.0		0.0	100.0
Urban Bus		0.0	0.0		0.0	0.0
Motorcycle		5.5	67.3		32.7	0.0
School Bus		0.1	0.0		0.0	100.0
Motor Home		1.3	0.0		84.6	15.4
		Travel Cor	nditions			
		Residential			Commercial	
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

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Travel Conditions

Residential Home-Shop

Home-Work

Commercial

Commute

Non-Work Customer

% of Trips - Commercial (by land use)

Operational Changes to Defaults

Home-Other

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	7.59	9.40	83.61	0.07	12.08	2.35	7,174.82
TOTALS (lbs/day, mitigated)	7.59	9.40	83.61	0.07	12.08	2.35	7,174.82

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2010 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to the 'double counting adjusted' trip rate

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Operational Mitigation Options Selected

Residential Mitigation Measures

- to get Mitigated Trips
- Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Nonresidential Mitigation Measures

	Summ	<u>nary of Land l</u>	<u>Jses</u>			
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	119.40	10.49	dwelling units	89.00	933.61	6,988.32
					933.61	6,988.32
	<u>'</u>	Vehicle Fleet	<u>Mix</u>			
Vehicle Type	Percent	Туре	Non-Catal	yst	Catalyst	Diesel
Light Auto		39.8		1.3	98.4	0.3
Light Truck < 3750 lbs		14.2		2.8	88.7	8.5
Light Truck 3751-5750 lbs		22.4).9	98.7	0.4
Med Truck 5751-8500 lbs		11.0	().9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs		2.6	(0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs		0.9	(0.0	44.4	55.6
Med-Heavy Truck 14,001-33,000 lbs		0.9	(0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs		1.2	(0.0	0.0	100.0
Other Bus		0.1	(0.0	0.0	100.0
Urban Bus		0.0	(0.0	0.0	0.0
Motorcycle		5.5	67	7.3	32.7	0.0

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		Vehicle Fle	et Mix							
Vehicle Type	F	Percent Type	Non-Catalyst	C	Catalyst	Diesel				
School Bus		0.1	0.0		0.0	100.0				
Motor Home		1.3	0.0		84.6	15.4				
	Travel Conditions									
	Residential Commercial									
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer				
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4				
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6				
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0				
% of Trips - Residential	32.9	18.0	49 1							

% of Trips - Commercial (by land use)

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Winter Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	<u>CO2</u>
Time Slice 4/1/2011-9/30/2011 Active Days: 131	8.79	73.50	39.07	0.00	597.01	3.64	600.65	124.68	3.35	128.03	7,446.76
Mass Grading 04/01/2011- 10/01/2011	8.79	73.50	39.07	0.00	597.01	3.64	600.65	124.68	3.35	128.03	7,446.76
Mass Grading Dust	0.00	0.00	0.00	0.00	597.00	0.00	597.00	124.68	0.00	124.68	0.00
Mass Grading Off Road Diesel	8.73	73.40	37.14	0.00	0.00	3.64	3.64	0.00	3.35	3.35	7,216.54
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 10/3/2011-11/1/2011 Active Days: 22	12.44	94.00	51.03	0.01	597.06	5.11	602.17	124.70	4.70	129.40	9,772.26
Asphalt 10/01/2011-11/01/2011	3.40	16.69	10.70	0.01	0.02	1.33	1.35	0.01	1.22	1.23	1,721.59
Paving Off-Gas	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.17	8.17	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,131.92
Paving On Road Diesel	0.16	2.43	0.81	0.00	0.01	0.09	0.10	0.00	0.08	0.09	385.04
Paving Worker Trips	0.05	0.09	1.72	0.00	0.01	0.00	0.01	0.00	0.00	0.01	204.64
Mass Grading 10/01/2011- 01/01/2012	9.04	77.31	40.34	0.01	597.03	3.78	600.82	124.69	3.48	128.17	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	597.00	0.00	597.00	124.68	0.00	124.68	0.00
Mass Grading Off Road Diesel	8.73	73.40	37.14	0.00	0.00	3.64	3.64	0.00	3.35	3.35	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22

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Time Slice 11/2/2011-11/30/2011 Active Days: 21	9.04	77.31	40.34	0.01	597.03	3.78	600.82	124.69	3.48	128.17	8,050.66
Mass Grading 10/01/2011- 01/01/2012	9.04	77.31	40.34	0.01	597.03	3.78	600.82	124.69	3.48	128.17	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	597.00	0.00	597.00	124.68	0.00	124.68	0.00
Mass Grading Off Road Diesel	8.73	73.40	37.14	0.00	0.00	3.64	3.64	0.00	3.35	3.35	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 12/1/2011-12/30/2011 Active Days: 22	<u>13.27</u>	<u>101.26</u>	<u>66.38</u>	<u>0.02</u>	<u>597.11</u>	<u>5.45</u>	<u>602.56</u>	<u>124.72</u>	<u>5.01</u>	<u>129.72</u>	<u>11,951.21</u>
Building 12/01/2011-09/01/2016	4.22	23.95	26.05	0.02	0.08	1.66	1.74	0.03	1.53	1.55	3,900.55
Building Off Road Diesel	3.77	21.85	13.95	0.00	0.00	1.57	1.57	0.00	1.45	1.45	2,259.28
Building Vendor Trips	0.11	1.52	1.09	0.00	0.01	0.06	0.07	0.00	0.05	0.06	329.93
Building Worker Trips	0.35	0.58	11.02	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,311.34
Mass Grading 10/01/2011- 01/01/2012	9.04	77.31	40.34	0.01	597.03	3.78	600.82	124.69	3.48	128.17	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	597.00	0.00	597.00	124.68	0.00	124.68	0.00
Mass Grading Off Road Diesel	8.73	73.40	37.14	0.00	0.00	3.64	3.64	0.00	3.35	3.35	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 1/2/2012-12/31/2012 Active Days: 261	<u>3.89</u>	<u>22.29</u>	<u>24.72</u>	0.02	<u>0.08</u>	<u>1.50</u>	<u>1.58</u>	<u>0.03</u>	<u>1.38</u>	<u>1.41</u>	<u>3,901.04</u>
Building 12/01/2011-09/01/2016	3.89	22.29	24.72	0.02	0.08	1.50	1.58	0.03	1.38	1.41	3,901.04
Building Off Road Diesel	3.48	20.42	13.62	0.00	0.00	1.42	1.42	0.00	1.31	1.31	2,259.28
Building Vendor Trips	0.10	1.34	1.01	0.00	0.01	0.05	0.06	0.00	0.05	0.05	329.92
Building Worker Trips	0.31	0.53	10.09	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,311.84
Time Slice 1/1/2013-12/31/2013 Active Days: 261	<u>3.56</u>	<u>20.69</u>	<u>23.51</u>	0.02	<u>0.08</u>	<u>1.34</u>	<u>1.42</u>	<u>0.03</u>	<u>1.23</u>	<u>1.26</u>	<u>3,901.46</u>
Building 12/01/2011-09/01/2016	3.56	20.69	23.51	0.02	0.08	1.34	1.42	0.03	1.23	1.26	3,901.46
Building Off Road Diesel	3.19	19.04	13.34	0.00	0.00	1.26	1.26	0.00	1.16	1.16	2,259.28
Building Vendor Trips	0.09	1.18	0.93	0.00	0.01	0.04	0.06	0.00	0.04	0.05	329.91
Building Worker Trips	0.28	0.48	9.24	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,312.27

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Time Slice 1/1/2014-12/31/2014 Active Days: 261	<u>3.26</u>	<u>19.11</u>	<u>22.38</u>	0.02	<u>0.08</u>	<u>1.18</u>	<u>1.25</u>	0.03	<u>1.08</u>	<u>1.11</u>	<u>3.901.86</u>
Building 12/01/2011-09/01/2016	3.26	19.11	22.38	0.02	0.08	1.18	1.25	0.03	1.08	1.11	3,901.86
Building Off Road Diesel	2.93	17.65	13.06	0.00	0.00	1.11	1.11	0.00	1.02	1.02	2,259.28
Building Vendor Trips	0.09	1.03	0.86	0.00	0.01	0.04	0.05	0.00	0.04	0.04	329.91
Building Worker Trips	0.25	0.43	8.46	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,312.67
Time Slice 1/1/2015-12/31/2015 Active Days: 261	<u>3.00</u>	<u>17.46</u>	<u>21.34</u>	<u>0.02</u>	<u>0.08</u>	<u>1.09</u>	<u>1.17</u>	<u>0.03</u>	<u>1.00</u>	<u>1.03</u>	<u>3,902.18</u>
Building 12/01/2011-09/01/2016	3.00	17.46	21.34	0.02	0.08	1.09	1.17	0.03	1.00	1.03	3,902.18
Building Off Road Diesel	2.69	16.17	12.80	0.00	0.00	1.03	1.03	0.00	0.94	0.94	2,259.28
Building Vendor Trips	0.08	0.90	0.79	0.00	0.01	0.03	0.05	0.00	0.03	0.04	329.92
Building Worker Trips	0.23	0.39	7.75	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,312.98
Time Slice 1/1/2016-9/1/2016 Active Days: 175	<u>2.74</u>	<u>15.99</u>	<u>20.52</u>	<u>0.02</u>	<u>0.08</u>	<u>0.94</u>	<u>1.01</u>	<u>0.03</u>	<u>0.86</u>	<u>0.89</u>	<u>3,902.19</u>
Building 12/01/2011-09/01/2016	2.74	15.99	20.52	0.02	0.08	0.94	1.01	0.03	0.86	0.89	3,902.19
Building Off Road Diesel	2.47	14.84	12.61	0.00	0.00	0.88	0.88	0.00	0.81	0.81	2,259.28
Building Vendor Trips	0.07	0.80	0.74	0.00	0.01	0.03	0.04	0.00	0.03	0.03	329.91
Building Worker Trips	0.21	0.36	7.17	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,313.00

Phase Assumptions

Phase: Mass Grading 4/1/2011 - 10/1/2011 - Estimated Duration of Grading Phase (includes clearing & grubbing, grading, and utilities trenching and installation) Total Acres Disturbed: 119.4

Maximum Daily Acreage Disturbed: 29.85

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

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 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

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

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

Phase: Mass Grading 10/1/2011 - 1/1/2012 - Estimated Total Soil Import
Total Acres Disturbed: 6.14
Maximum Daily Acreage Disturbed: 29.85
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 150
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 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Paving 10/1/2011 - 11/1/2011 - Asphalt Paving

Acres to be Paved: 7.42

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

Phase: Building Construction 12/1/2011 - 9/1/2016 - Estimated Duration Building Phase (Houses) Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

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

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

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

Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Winter Pounds Per Day, Mitigated)

	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	<u>CO2</u>
Time Slice 4/1/2011-9/30/2011 Active Days: 131	8.79	53.13	39.07	0.00	63.86	1.82	65.69	13.34	1.68	15.02	7,446.76
Mass Grading 04/01/2011- 10/01/2011	8.79	53.13	39.07	0.00	63.86	1.82	65.69	13.34	1.68	15.02	7,446.76
Mass Grading Dust	0.00	0.00	0.00	0.00	63.85	0.00	63.85	13.34	0.00	13.34	0.00
Mass Grading Off Road Diesel	8.73	53.03	37.14	0.00	0.00	1.82	1.82	0.00	1.67	1.67	7,216.54
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 10/3/2011-11/1/2011 Active Days: 22	12.44	69.70	51.03	0.01	63.91	2.68	66.59	13.35	2.46	15.82	9,772.26
Asphalt 10/01/2011-11/01/2011	3.40	12.76	10.70	0.01	0.02	0.71	0.74	0.01	0.65	0.66	1,721.59
Paving Off-Gas	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	10.24	8.17	0.00	0.00	0.62	0.62	0.00	0.57	0.57	1,131.92
Paving On Road Diesel	0.16	2.43	0.81	0.00	0.01	0.09	0.10	0.00	0.08	0.09	385.04
Paving Worker Trips	0.05	0.09	1.72	0.00	0.01	0.00	0.01	0.00	0.00	0.01	204.64
Mass Grading 10/01/2011- 01/01/2012	9.04	56.94	40.34	0.01	63.89	1.96	65.85	13.35	1.81	15.15	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	63.85	0.00	63.85	13.34	0.00	13.34	0.00
Mass Grading Off Road Diesel	8.73	53.03	37.14	0.00	0.00	1.82	1.82	0.00	1.67	1.67	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22

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Time Slice 11/2/2011-11/30/2011 Active Days: 21	9.04	56.94	40.34	0.01	63.89	1.96	65.85	13.35	1.81	15.15	8,050.66
Mass Grading 10/01/2011- 01/01/2012	9.04	56.94	40.34	0.01	63.89	1.96	65.85	13.35	1.81	15.15	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	63.85	0.00	63.85	13.34	0.00	13.34	0.00
Mass Grading Off Road Diesel	8.73	53.03	37.14	0.00	0.00	1.82	1.82	0.00	1.67	1.67	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 12/1/2011-12/30/2011 Active Days: 22	<u>13.27</u>	<u>74.83</u>	<u>66.38</u>	<u>0.02</u>	<u>63.96</u>	<u>2.84</u>	<u>66.80</u>	<u>13.37</u>	<u>2.61</u>	<u>15.98</u>	<u>11,951.21</u>
Building 12/01/2011-09/01/2016	4.22	17.89	26.05	0.02	0.08	0.88	0.95	0.03	0.80	0.83	3,900.55
Building Off Road Diesel	3.77	15.78	13.95	0.00	0.00	0.79	0.79	0.00	0.72	0.72	2,259.28
Building Vendor Trips	0.11	1.52	1.09	0.00	0.01	0.06	0.07	0.00	0.05	0.06	329.93
Building Worker Trips	0.35	0.58	11.02	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,311.34
Mass Grading 10/01/2011- 01/01/2012	9.04	56.94	40.34	0.01	63.89	1.96	65.85	13.35	1.81	15.15	8,050.66
Mass Grading Dust	0.00	0.00	0.00	0.00	63.85	0.00	63.85	13.34	0.00	13.34	0.00
Mass Grading Off Road Diesel	8.73	53.03	37.14	0.00	0.00	1.82	1.82	0.00	1.67	1.67	7,216.54
Mass Grading On Road Diesel	0.25	3.81	1.27	0.01	0.02	0.14	0.16	0.01	0.13	0.14	603.90
Mass Grading Worker Trips	0.06	0.10	1.93	0.00	0.01	0.01	0.02	0.00	0.00	0.01	230.22
Time Slice 1/2/2012-12/31/2012 Active Days: 261	<u>3.89</u>	<u>16.63</u>	<u>24.72</u>	<u>0.02</u>	<u>0.08</u>	<u>0.79</u>	<u>0.87</u>	<u>0.03</u>	<u>0.73</u>	<u>0.75</u>	<u>3,901.04</u>
Building 12/01/2011-09/01/2016	3.89	16.63	24.72	0.02	0.08	0.79	0.87	0.03	0.73	0.75	3,901.04
Building Off Road Diesel	3.48	14.76	13.62	0.00	0.00	0.71	0.71	0.00	0.65	0.65	2,259.28
Building Vendor Trips	0.10	1.34	1.01	0.00	0.01	0.05	0.06	0.00	0.05	0.05	329.92
Building Worker Trips	0.31	0.53	10.09	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,311.84
Time Slice 1/1/2013-12/31/2013 Active Days: 261	<u>3.56</u>	<u>15.41</u>	<u>23.51</u>	<u>0.02</u>	<u>0.08</u>	<u>0.71</u>	<u>0.78</u>	<u>0.03</u>	<u>0.65</u>	<u>0.68</u>	<u>3,901.46</u>
Building 12/01/2011-09/01/2016	3.56	15.41	23.51	0.02	0.08	0.71	0.78	0.03	0.65	0.68	3,901.46
Building Off Road Diesel	3.19	13.75	13.34	0.00	0.00	0.63	0.63	0.00	0.58	0.58	2,259.28
Building Vendor Trips	0.09	1.18	0.93	0.00	0.01	0.04	0.06	0.00	0.04	0.05	329.91
Building Worker Trips	0.28	0.48	9.24	0.01	0.06	0.03	0.10	0.02	0.03	0.05	1,312.27

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Time Slice 1/1/2014-12/31/2014 Active Days: 261	<u>3.26</u>	<u>14.21</u>	<u>22.38</u>	0.02	<u>0.08</u>	0.62	<u>0.70</u>	0.03	0.57	<u>0.60</u>	<u>3,901.86</u>
Building 12/01/2011-09/01/2016	3.26	14.21	22.38	0.02	0.08	0.62	0.70	0.03	0.57	0.60	3,901.86
Building Off Road Diesel	2.93	12.75	13.06	0.00	0.00	0.55	0.55	0.00	0.51	0.51	2,259.28
Building Vendor Trips	0.09	1.03	0.86	0.00	0.01	0.04	0.05	0.00	0.04	0.04	329.91
Building Worker Trips	0.25	0.43	8.46	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,312.67
Time Slice 1/1/2015-12/31/2015 Active Days: 261	<u>3.00</u>	<u>12.97</u>	<u>21.34</u>	0.02	<u>0.08</u>	<u>0.58</u>	<u>0.65</u>	<u>0.03</u>	<u>0.53</u>	<u>0.55</u>	<u>3,902.18</u>
Building 12/01/2011-09/01/2016	3.00	12.97	21.34	0.02	0.08	0.58	0.65	0.03	0.53	0.55	3,902.18
Building Off Road Diesel	2.69	11.69	12.80	0.00	0.00	0.51	0.51	0.00	0.47	0.47	2,259.28
Building Vendor Trips	0.08	0.90	0.79	0.00	0.01	0.03	0.05	0.00	0.03	0.04	329.92
Building Worker Trips	0.23	0.39	7.75	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,312.98
Time Slice 1/1/2016-9/1/2016 Active Days: 175	<u>2.74</u>	<u>11.87</u>	<u>20.52</u>	0.02	<u>0.08</u>	<u>0.50</u>	<u>0.58</u>	<u>0.03</u>	0.46	<u>0.48</u>	<u>3,902.19</u>
Building 12/01/2011-09/01/2016	2.74	11.87	20.52	0.02	0.08	0.50	0.58	0.03	0.46	0.48	3,902.19
Building Off Road Diesel	2.47	10.72	12.61	0.00	0.00	0.44	0.44	0.00	0.40	0.40	2,259.28
Building Vendor Trips	0.07	0.80	0.74	0.00	0.01	0.03	0.04	0.00	0.03	0.03	329.91
Building Worker Trips	0.21	0.36	7.17	0.01	0.06	0.03	0.09	0.02	0.02	0.05	1,313.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 4/1/2011 - 10/1/2011 - Estimated Duration of Grading Phase (includes clearing & grubbing, grading, and utilities trenching and installation)

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

PM10: 84% PM25: 84%

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

PM10: 5% PM25: 5%

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

PM10: 55% PM25: 55%

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%

Page: 4 9/10/2009 3:04:03 PM For Graders, 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 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 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Excavators, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Excavators, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Scrapers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Scrapers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% The following mitigation measures apply to Phase: Mass Grading 10/1/2011 - 1/1/2012 - Estimated Total Soil Import For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by: PM10: 84% PM25: 84% For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by: PM10: 5% PM25: 5% For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by: PM10: 55% PM25: 55% 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%

Page: 5 9/10/2009 3:04:03 PM For Graders, 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 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 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Excavators, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Excavators, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Scrapers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Scrapers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% The following mitigation measures apply to Phase: Paving 10/1/2011 - 11/1/2011 - Asphalt Paving For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15%

9/10/2009 3:04:03 PM For Cement and Mortar Mixers, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% The following mitigation measures apply to Phase: Building Construction 12/1/2011 - 9/1/2016 - Estimated Duration Building Phase (Houses) For Cranes, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15% For Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by: NOX: 15% PM10: 50% PM25: 50% 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 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 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 Oxidation Catalyst 15% mitigation reduces emissions by: NOX: 15%

Phase Assumptions

Phase: Mass Grading 4/1/2011 - 10/1/2011 - Estimated Duration of Grading Phase (includes clearing & grubbing, grading, and utilities trenching and installation) Total Acres Disturbed: 119.4 Maximum Daily Acreage Disturbed: 29.85 Fugitive Dust Level of Detail: Default 20 lbs per acre-day On Road Truck Travel (VMT): 0 Off-Road Equipment:

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Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

- 2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 10/1/2011 - 1/1/2012 - Estimated Total Soil Import Total Acres Disturbed: 6.14 Maximum Daily Acreage Disturbed: 29.85 Fugitive Dust Level of Detail: Default 20 lbs per acre-day On Road Truck Travel (VMT): 150 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 8 hours per day 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day 2 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Paving 10/1/2011 - 11/1/2011 - Asphalt Paving

Acres to be Paved: 7.42

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 $% \left(1 + \frac{1}{2} \right) = 0$

Phase: Building Construction 12/1/2011 - 9/1/2016 - Estimated Duration Building Phase (Houses) Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day $% \left(1-\frac{1}{2}\right) =0$
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Winter Pounds Per Day, Unmitigated)

Source	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.09	1.12	0.47	0.00	0.00	0.00	1,423.64
Hearth	85.53	0.97	94.35	0.15	12.92	12.44	1,269.89
Landscaping - No Winter Emissions							
Consumer Products	4.35						
Architectural Coatings	1.27						
TOTALS (lbs/day, unmitigated)	91.24	2.09	94.82	0.15	12.92	12.44	2,693.53

Area Source Changes to Defaults

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

Percentage of residences with wood fireplaces changed from 10% to 100%

Percentage of residences with natural gas fireplaces changed from 55% to 0%

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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 (Winter Pounds Per Day, Mitigated)

Source	ROG	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.09	1.12	0.47	0.00	0.00	0.00	1,423.64
Hearth	85.53	0.97	94.35	0.15	12.92	12.44	1,269.89
Landscaping - No Winter Emissions							
Consumer Products	4.35						
Architectural Coatings	1.14						
TOTALS (lbs/day, Mitigated)	91.11	2.09	94.82	0.15	12.92	12.44	2,693.53

Area Source Mitigation Measures Selected	
Mitigation Description	Percent Reduction
For Residential Interior Use Low VOC Coating	10.00
For Residential Exterior Use Low VOC Coating	10.00
For Nonresidential Interior Use Low VOC Coating	10.00
For Nonresidential Exterior Use Low VOC Coating	10.00

Area Source Changes to Defaults

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Percentage of residences with wood stoves changed from 35% to 0% Percentage of residences with wood fireplaces changed from 10% to 100% Percentage of residences with natural gas fireplaces changed from 55% to 0%

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

- Project Name: Rancho Del Oro Estates
- Project Location: Placer 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 (Winter Pounds Per Day, Unmitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	8.70	13.47	94.72	0.06	12.08	2.35	6,273.33
TOTALS (lbs/day, unmitigated)	8.70	13.47	94.72	0.06	12.08	2.35	6,273.33

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2010 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses Land Use Type Trip Rate Unit Type No. Units **Total Trips** Total VMT Acreage Single family housing 119.40 10.49 dwelling 89.00 933.61 6,988.32 units 933.61 6,988.32

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Vehicle Fleet Mix									
Vehicle Type		Percent Type	Non-Catalyst		Catalyst	Diesel			
Light Auto		39.8	1.3		98.4	0.3			
Light Truck < 3750 lbs		14.2	2.8		88.7	8.5			
Light Truck 3751-5750 lbs		22.4	0.9		98.7	0.4			
Med Truck 5751-8500 lbs		11.0	0.9		99.1	0.0			
Lite-Heavy Truck 8501-10,000 lbs		2.6	0.0		73.1	26.9			
Lite-Heavy Truck 10,001-14,000 lbs		0.9	0.0		44.4	55.6			
Med-Heavy Truck 14,001-33,000 lbs		0.9	0.0		22.2	77.8			
Heavy-Heavy Truck 33,001-60,000 lbs		1.2	0.0		0.0	100.0			
Other Bus		0.1	0.0		0.0	100.0			
Urban Bus		0.0	0.0		0.0	0.0			
Motorcycle		5.5	67.3		32.7	0.0			
School Bus		0.1	0.0		0.0	100.0			
Motor Home		1.3	0.0		84.6	15.4			
		Travel Cor	nditions						
		Residential			Commercial				
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer			
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4			
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6			
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0			
% of Trips - Residential	32.9	18.0	49.1						

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Residential Home-Shop

Home-Work

Commercial

Commute

Non-Work Customer

% of Trips - Commercial (by land use)

Operational Changes to Defaults

Home-Other

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Urbemis 2007 Version 9.2.4

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

File Name: I:\Projects\Active\Placer County\Rancho Del Oro Estates\Technical Studies\Air Quality\Air Quality Report.urb924

Project Name: Rancho Del Oro Estates

Project Location: Placer 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)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	8.70	13.47	94.72	0.06	12.08	2.35	6,273.33
TOTALS (lbs/day, mitigated)	8.70	13.47	94.72	0.06	12.08	2.35	6,273.33

Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2010 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to the 'double counting adjusted' trip rate

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Operational Mitigation Options Selected

Residential Mitigation Measures

- to get Mitigated Trips
- Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Nonresidential Mitigation Measures

	Summ	hary of Land I	<u>Jses</u>			
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	119.40	10.49	dwelling units	89.00	933.61	6,988.32
					933.61	6,988.32
	<u> </u>	Vehicle Fleet	<u>Mix</u>			
Vehicle Type	Percent	Туре	Non-Catal	yst	Catalyst	Diesel
Light Auto		39.8		1.3	98.4	0.3
Light Truck < 3750 lbs		14.2		2.8	88.7	8.5
Light Truck 3751-5750 lbs		22.4	().9	98.7	0.4
Med Truck 5751-8500 lbs		11.0	().9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs		2.6	(0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs		0.9	(0.0	44.4	55.6
Med-Heavy Truck 14,001-33,000 lbs		0.9	(0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs		1.2	(0.0	0.0	100.0
Other Bus		0.1	(0.0	0.0	100.0
Urban Bus		0.0	(0.0	0.0	0.0
Motorcycle		5.5	67	7.3	32.7	0.0

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		Vehicle Fle	et Mix						
Vehicle Type	F	Percent Type	Non-Catalyst	Catalyst		Diesel			
School Bus		0.1	0.0		0.0	100.0			
Motor Home	1.3		0.0		84.6	15.4			
Travel Conditions									
	Residential			Commercial					
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer			
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4			
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6			
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0			
% of Trips - Residential	32.9	18.0	49 1						

% of Trips - Commercial (by land use)

Operational Changes to Defaults