

Appendix C  
Air Quality Data

Downtown Redlands Specific Plan  
Air Quality Calculations

# Construction Calculations

## Construction Emission Rates

EMFAC2007 RATES (grams per mile)							
Vehicle Type	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
<b>Year 2011</b>							
Haul Truck @ 30 MPH	1.314	6.982	13.655	0.018	0.522	0.480	1873.18
Water Truck @ 5 MPH	13.373	26.447	34.264	0.036	2.322	2.136	3795.228
Worker Vehicle @30 MPH	0.083	2.068	0.177	0.003	0.01	0.009	339.765
Light-Duty Trucks @ 30MPH	0.169	3.447	0.301	0.004	0.013	0.012	422.803
<b>Assumptions:</b>							
Construction Year	2011						
Season	Annual						
Temperature	63°F						

EQUIPMENT EMISSION FACTORS (pounds per hour)							
YEAR 2011							
	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
<i>Backhoe</i>	0.0938	0.3874	0.6276	0.0008	0.0482	0.0444	66.8
<i>Crane</i>	0.1507	0.5179	1.3617	0.0014	0.0599	0.0551	128.7
<i>Dozer</i>	0.3244	1.3284	2.8346	0.0025	0.1212	0.1115	239.1
<i>Excavator</i>	0.1388	0.5482	1.0634	0.0013	0.0592	0.0544	119.6
<i>Forklift</i>	0.0635	0.2284	0.4742	0.0006	0.0257	0.0237	54.4
<i>Grader</i>	0.1626	0.6216	1.3404	0.0015	0.0707	0.0650	132.7
<i>Lifts, scissor/boom</i>	0.0624	0.2033	0.3429	0.0004	0.0235	0.0216	34.7
<i>Loader</i>	0.1354	0.4959	1.0771	0.0012	0.0608	0.0559	108.6
<i>Paver</i>	0.1684	0.5541	0.9421	0.0009	0.0679	0.0625	77.9
<i>Pump, Concrete</i>	0.0877	0.3040	0.5285	0.0006	0.0375	0.0345	49.6
<i>Roller</i>	0.1106	0.4157	0.7342	0.0008	0.0521	0.0480	67.1
<i>Scraper</i>	0.3055	1.1660	2.7336	0.0027	0.1172	0.1078	262.5
<b>SOURCE: OFFROAD 2007</b>							

**Construction - 1 Year Worst Case**

EQUIPMENT	Equipment Emissions (ppd)								
	# Equipment	Hours/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
<b>Demolition</b>									
Backhoe	7	8	5.26	21.69	35.14	0.04	2.70	2.48	3,741.03
Dozer	3	1	0.97	3.99	8.50	0.01	0.36	0.33	717.30
<b>TOTAL</b>	<b>10</b>		<b>6.23</b>	<b>25.68</b>	<b>43.65</b>	<b>0.05</b>	<b>3.06</b>	<b>2.82</b>	<b>4,458.33</b>
<b>Site Preparation</b>									
Backhoe	3	8	2.25	9.30	15.06	0.02	1.16	1.06	1,603.30
Dozer	1	7	2.27	9.30	19.84	0.02	0.85	0.78	1,673.70
Grader	3	8	3.90	14.92	32.17	0.04	1.70	1.56	3,185.83
<b>TOTAL</b>	<b>7</b>		<b>8.42</b>	<b>33.51</b>	<b>67.07</b>	<b>0.07</b>	<b>3.70</b>	<b>3.41</b>	<b>6,462.83</b>
<b>Construction</b>									
Backhoe	5	8	3.75	15.49	25.10	0.03	1.93	1.77	2,672.16
Crane	3	6	2.71	9.32	24.51	0.02	1.08	0.99	2,315.70
Forklift	5	6	1.90	6.85	14.23	0.02	0.77	0.71	1,631.87
<b>TOTAL</b>	<b>13</b>		<b>8.37</b>	<b>31.67</b>	<b>63.84</b>	<b>0.07</b>	<b>3.78</b>	<b>3.48</b>	<b>6,619.74</b>
<b>Finishing</b>									
Backhoe	4	8	3.00	12.40	20.08	0.02	1.54	1.42	2,137.73
Roller	3	7	3.54	11.64	19.78	0.02	1.43	1.31	1,636.63
Paving Equipment	4	8	2.81	9.73	16.91	0.02	1.20	1.10	1,587.41
<b>TOTAL</b>	<b>11</b>		<b>9.35</b>	<b>33.76</b>	<b>56.78</b>	<b>0.06</b>	<b>4.17</b>	<b>3.84</b>	<b>5,361.77</b>

WORKER VEHICLES	Worker Vehicle Emissions (ppd)									
	# of Workers	Total VMT/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	
<b>Demolition</b>										
	10	286.00	0.07	1.62	0.14	0.002	0.007	0.006	223.4	
Cars	5.0	133.00	0.02	0.61	0.05	0.00	0.00	0.00	99.53	
Trucks	5.0	133.00	0.05	1.01	0.09	0.00	0.00	0.00	123.86	
<b>Site Preparation</b>										
	7	186.20	0.05	1.17	0.10	0.001	0.005	0.004	158.8	
Cars	3.0	79.80	0.01	0.36	0.03	0.00	0.00	0.00	59.72	
Trucks	4.0	106.40	0.04	0.81	0.07	0.00	0.00	0.00	99.09	
<b>Construction</b>										
	15	399.00	0.11	2.46	0.21	0.003	0.010	0.009	337.5	
Cars	7.0	186.20	0.03	0.85	0.07	0.00	0.00	0.00	139.35	
Trucks	8.0	212.80	0.08	1.62	0.14	0.00	0.01	0.01	198.18	
<b>Finishing</b>										
	15	399.00	0.11	2.46	0.21	0.003	0.010	0.009	337.5	
Cars	7.0	186.20	0.03	0.85	0.07	0.00	0.00	0.00	139.35	
Trucks	8.0	212.80	0.08	1.62	0.14	0.00	0.01	0.01	198.18	

HEAVY-DUTY TRUCK TRIPS	Heavy-duty Truck Emissions (ppd)									
	Trips per Day	Round Trip Length	VMT/day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Demolition Hauling	22	30	660	1.91	10.15	19.85	0.03	0.76	0.70	2,723.13
Site Preparation Hauling	75	20	1,500	4.34	23.07	45.12	0.06	1.72	1.59	6,188.92
Construction Materials Delivery	5	20	100	0.29	1.54	3.01	0.00	0.11	0.11	412.59
Finishing Materials Delivery	5	20	100	0.29	1.54	3.01	0.00	0.11	0.11	412.59

WATER TRUCK USAGE [1]	Heavy-duty Truck Emissions (ppd)									
	# of Water Trucks	Hours of Operation	VMT/day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Demolition	0	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	3	3.00	45.00	1.33	2.62	3.40	0.00	0.23	0.21	376.18
Construction	1	1.00	5.00	0.15	0.29	0.38	0.00	0.03	0.02	41.80
Finishing	0	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FUGITIVE DUST			
Max Daily Demo (ft <sup>2</sup> )	PM10	PM2.5	
Debris Removal [2]	8,450	3.55	0.74
Max Daily Grading (acres)	PM10	PM2.5	
Grading [3]	4.00	59.6	12.4
Stockpiling Parameters [4]			
Silt Content	Precipitation Days	Mean Wind Speed Percent	TSP Fraction
6.9	10	100	0.5
			Area (acres)
			0.1
			PM10
			1.540
			PM2.5
			0.320

ARCHITECTURAL COATING [5]						
Months of Arch Coating	Total SQ FT	Interior SQ FT	Exterior SQ FT	ROG per SQ FT	ROG (ppd)	
Residential	1.00	75,504	152,896	50,965	0.012	107.30
Non-Residential	1.00	91,078	136,617	45,539	0.012	95.87
<b>TOTAL</b>						<b>203.17</b>

Asphalt Paving [5]					
Total Acres to be Paved	Paving Days (Schedule)	Acres Paved Per Day	ROG/Acre	ROG (ppd)	
Paving	0.4	5	0.08	2.62	0.21

TOTAL EMISSIONS	Emissions (ppd)						
	ROG	CO	NOX	SOX	PM10	PM2.5	
<b>Demolition</b>	<b>8</b>	<b>37</b>	<b>64</b>	<b>0</b>	<b>7</b>	<b>4</b>	
On-Site	6	26	44	0	7	4	
Off-Site	2	12	20	0	1	1	
<b>Site Preparation</b>	<b>14</b>	<b>60</b>	<b>116</b>	<b>0</b>	<b>67</b>	<b>18</b>	
On-Site	10	36	70	0	65	16	
Off-Site	4	24	45	0	2	2	
<b>Construction</b>	<b>9</b>	<b>36</b>	<b>67</b>	<b>0</b>	<b>4</b>	<b>4</b>	
On-Site	8	32	64	0	4	3	
Off-Site	0	4	3	0	0	0	
<b>Finishing</b>	<b>213</b>	<b>35</b>	<b>60</b>	<b>0</b>	<b>4</b>	<b>4</b>	
On-Site	213	34	57	0	4	4	
Off-Site	0	2	3	0	0	0	
<b>Regional Daily Maximum THRESHOLD IMPACT<sup>7</sup></b>	<b>213</b>	<b>60</b>	<b>116</b>	<b>0</b>	<b>67</b>	<b>18</b>	
THRESHOLD IMPACT <sup>7</sup>	75	590	100	150	150	55	
On-Site Daily Maximum THRESHOLD IMPACT <sup>7</sup>	213	36	70	0	65	16	
THRESHOLD IMPACT <sup>7</sup>	n/a	1,775	237	n/a	12	8	
	n/a	NO	NO	n/a	YES	YES	

Greenhouse Gas Emissions Calculation			
	CO2 (ppd)	Days	CO2 (Tons)
Demolition	7,404.85	20	74
Site Preparation	13,186.74	1	7
Construction	7,411.66	270	1,001
Finishing	6,111.89	30	92
<b>TOTAL</b>			<b>1,081</b>

[1] Assumed water trucks would operate on site three hours each day during Grading phase at a rate of 5 mph (compliance with Rule 403). Assumed a one-hour operation period for all other phases.  
 [2] Used URBEMIS2007's rate for demolition dust. PM10 pounds/day = (0.00042 pounds/cubic feet) \* (total cubic feet of material) / Number of days in Demolition Schedule. Based on SCAQMD's Sample Construction Scenarios for two 1-acre project sites and one 2-acre project site.  
 [3] Used URBEMIS2007's rate for grading dust of 38.2 pounds per acre, and applied 61% reduction based on Rule 403 compliance. Area based on worst case simultaneous construction assumptions.  
 [4] Used SCAQMD's Sample 5-Acre Project Site calculation formulas for stockpiling.  
 [5] Used URBEMIS2007's architectural coating calculations for interior and exterior square footage to be painted, and calculations for ROG per square foot.  
 [6] Used URBEMIS2007's asphalt paving calculations for ROG per acre paved. Acres to be paved assumed to be 10% of area.

**Construction - 1 Year Worst Case - MITIGATED**

EQUIPMENT			Equipment Emissions (ppd)						
	# Equipment	Hours/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
<b>Demolition</b>									
Backhoe	7	8	4.99	20.61	33.39	0.04	2.56	2.36	3,553.98
Dozer	3	8	0.92	3.79	8.08	0.01	0.35	0.32	681.43
<b>TOTAL</b>	<b>10</b>		<b>5.92</b>	<b>24.39</b>	<b>41.46</b>	<b>0.05</b>	<b>2.91</b>	<b>2.68</b>	<b>4,235.41</b>
<b>Site Preparation</b>									
Backhoe	3	8	2.14	8.83	14.31	0.03	1.10	1.01	1,523.13
Dozer	1	7	2.16	8.83	18.85	0.02	0.81	0.74	1,590.01
Grader	3	8	3.71	14.17	30.56	0.03	1.61	1.48	3,026.54
<b>TOTAL</b>	<b>7</b>		<b>8.00</b>	<b>31.84</b>	<b>63.72</b>	<b>0.07</b>	<b>3.52</b>	<b>3.24</b>	<b>6,139.69</b>
<b>Construction</b>									
Backhoe	5	8	3.57	14.72	23.85	0.03	1.83	1.69	2,536.56
Crane	3	6	2.58	8.86	23.29	0.02	1.02	0.94	2,199.92
Forklift	5	6	1.81	6.51	13.52	0.02	0.73	0.67	1,550.28
<b>TOTAL</b>	<b>13</b>		<b>7.95</b>	<b>30.09</b>	<b>60.65</b>	<b>0.07</b>	<b>3.59</b>	<b>3.30</b>	<b>6,288.75</b>
<b>Finishing</b>									
Backhoe	4	8	2.85	11.78	19.08	0.02	1.47	1.35	2,030.85
Roller	3	7	3.36	11.05	18.79	0.02	1.35	1.25	1,554.80
Paving Equipment	4	8	2.57	9.24	16.07	0.02	1.14	1.05	1,508.04
<b>TOTAL</b>	<b>11</b>		<b>8.88</b>	<b>32.07</b>	<b>53.94</b>	<b>0.06</b>	<b>3.96</b>	<b>3.64</b>	<b>5,093.69</b>

WORKER VEHICLES			Worker Vehicle Emissions (ppd)						
	# of Workers	Total VMT/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
<b>Demolition</b>									
Cars	10	266.00	0.07	1.62	0.14	0.002	0.007	0.006	223.4
Trucks	5.0	133.00	0.02	0.61	0.05	0.00	0.00	0.00	99.53
<b>TOTAL</b>	<b>15</b>	<b>399.00</b>	<b>0.09</b>	<b>2.23</b>	<b>0.19</b>	<b>0.002</b>	<b>0.007</b>	<b>0.006</b>	<b>322.93</b>
<b>Site Preparation</b>									
Cars	7	186.20	0.05	1.17	0.10	0.001	0.005	0.004	158.8
Trucks	3.0	79.80	0.01	0.36	0.03	0.00	0.00	0.00	59.72
<b>TOTAL</b>	<b>10</b>	<b>266.00</b>	<b>0.06</b>	<b>1.53</b>	<b>0.13</b>	<b>0.001</b>	<b>0.005</b>	<b>0.004</b>	<b>218.52</b>
<b>Construction</b>									
Cars	15	399.00	0.11	2.46	0.21	0.003	0.010	0.009	337.5
Trucks	7.0	186.20	0.03	0.85	0.07	0.00	0.00	0.00	139.35
<b>TOTAL</b>	<b>22</b>	<b>585.20</b>	<b>0.14</b>	<b>3.31</b>	<b>0.28</b>	<b>0.003</b>	<b>0.010</b>	<b>0.009</b>	<b>476.85</b>
<b>Finishing</b>									
Cars	15	399.00	0.11	2.46	0.21	0.003	0.010	0.009	337.5
Trucks	7.0	186.20	0.03	0.85	0.07	0.00	0.00	0.00	139.35
<b>TOTAL</b>	<b>22</b>	<b>585.20</b>	<b>0.14</b>	<b>3.31</b>	<b>0.28</b>	<b>0.003</b>	<b>0.010</b>	<b>0.009</b>	<b>476.85</b>

HEAVY-DUTY TRUCK TRIPS				Heavy-duty Truck Emissions (ppd)						
	Trips per Day	Round Trip Length	VMT/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
<b>Demolition Hauling</b>										
	22	30	660	1.91	10.15	19.85	0.03	0.78	0.70	2,723.13
<b>Site Preparation Hauling</b>										
	75	20	1,500	4.34	23.07	45.12	0.06	1.72	1.59	6,188.92
<b>Construction Materials Delivery</b>										
	5	20	100	0.29	1.54	3.01	0.00	0.11	0.11	412.59
<b>Finishing Materials Delivery</b>										
	5	20	100	0.29	1.54	3.01	0.00	0.11	0.11	412.59

WATER TRUCK USAGE [1]				Heavy-duty Truck Emissions (ppd)						
	# of Water Trucks	Hours of Operation	VMT/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
<b>Demolition</b>										
	0	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Site Preparation</b>										
	3	3.00	45.00	1.33	2.82	3.40	0.00	0.23	0.21	376.18
<b>Construction</b>										
	1	1.00	5.00	0.15	0.29	0.38	0.00	0.03	0.02	41.80
<b>Finishing</b>										
	0	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FUGITIVE DUST			
Debris Removal [2]	Max Daily Demo (#)	PM10	PM2.5
	8,450	3.55	0.74
Grading [3]	Max Daily Grading (acres)	PM10	PM2.5
	4.00	59.6	12.4
Stockpiling Parameters [4]	Silt Content	Precipitation Days	Mean Wind Speed Percent
	6.9	10	100
		TSP Fraction	Area (acres)
		0.5	0.1
		PM10	PM2.5
		1,540	0.320

ARCHITECTURAL COATING [5]						
	Months of Arch Coating	Total SQ FT	Interior SQ FT	Exterior SQ FT	ROG per SQ FT	ROG (ppd)
Residential	1.00	75,504	152,896	50,965	0.00046	4.29
Non-Residential	1.00	91,078	136,617	45,539	0.00046	3.83
<b>TOTAL</b>						<b>8.13</b>

Asphalt Paving [5]					
	Total Acres to be Paved	Paving Days (Schedule)	Acres Paved Per Day	ROG/Acre	ROG (ppd)
Paving	0.4	5	0.08	2.62	0.21

TOTAL EMISSIONS						
	ROG	CO	NOX	SOX	PM10	PM2.5
<b>Demolition</b>						
On-Site	8	36	61	0	7	4
Off-Site	0	24	41	0	6	3
<b>Site Preparation</b>	<b>14</b>	<b>59</b>	<b>112</b>	<b>0</b>	<b>67</b>	<b>18</b>
On-Site	9	34	67	0	65	16
Off-Site	4	24	45	0	2	2
<b>Construction</b>	<b>8</b>	<b>34</b>	<b>64</b>	<b>0</b>	<b>4</b>	<b>3</b>
On-Site	8	30	61	0	4	3
Off-Site	0	4	3	0	0	0
<b>Finishing</b>	<b>18</b>	<b>34</b>	<b>57</b>	<b>0</b>	<b>4</b>	<b>4</b>
On-Site	17	32	54	0	4	4
Off-Site	0	2	3	0	0	0
<b>Regional Daily Maximum</b>	<b>18</b>	<b>59</b>	<b>112</b>	<b>0</b>	<b>67</b>	<b>18</b>
<b>THRESHOLD IMPACT?</b>	<b>75</b>	<b>550</b>	<b>100</b>	<b>150</b>	<b>150</b>	<b>55</b>
	NO	NO	YES	NO	NO	NO
<b>On-Site Daily Maximum</b>	<b>17</b>	<b>34</b>	<b>57</b>	<b>0</b>	<b>65</b>	<b>16</b>
<b>THRESHOLD IMPACT?</b>	<b>n/a</b>	<b>1,775</b>	<b>237</b>	<b>n/a</b>	<b>12</b>	<b>8</b>
	n/a	NO	NO	n/a	YES	YES

Greenhouse Gas Emissions Calculation		
	CO2 (ppd)	CO2 (Tons)
Demolition	7,181.93	20
Site Preparation	12,963.60	11
Construction	7,080.67	270
Finishing	5,843.81	30
<b>TOTAL</b>	<b>33,070.01</b>	<b>311</b>

[1] Assumed water trucks would operate on site three hours each day during Grading phase at a rate of 5 mph (compliance with Rule 403). Assumed a one-hour operation period for all other phases.  
 [2] Used UREBEMS2007's rate for demolition dust. PM10 pounds/day = (0.00042 pounds/cubic feet) \* (total cubic feet of material) \* (Number of days in Demolition Schedule). Based on SCAQMD's Sample Construction Scenarios for two 1-acre project sites and one 2-acre project site.  
 [3] Used UREBEMS2007's rate for grading dust of 38.2 pounds per acre, and applied 61% reduction based on Rule 403 compliance. Area based on worst case simultaneous construction assumptions.  
 [4] Used SCAQMD's Sample 5-Acre Project Site calculation formulas for stockpiling.  
 [5] Used UREBEMS2007's architectural coating calculations for interior and exterior square footage to be painted, and calculations for ROG per square foot. Includes mitigation for super compliant VOC coatings (less than 10 g/L or a 98% reduction in VOC emissions).  
 [6] Used UREBEMS2007's asphalt paving calculations for ROG per acre paved. Acres to be paved assumed to be 10% of area.

# Operational Calculations – URBEMIS2007

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:  
Project Name: Ops - Removed LUs  
Project Location: San Bernadino County  
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>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.37	1.65	4.44	0.00	0.01	0.01	1,938.51

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3.83	5.14	40.37	0.06	9.11	1.80	5,608.03

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	4.20	6.79	44.81	0.06	9.12	1.81	7,546.54

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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>	<u>CO2</u>
Natural Gas	0.12	1.61	1.35	0.00	0.00	0.00	1,932.89
Hearth							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings							
TOTALS (lbs/day, unmitigated)	0.37	1.65	4.44	0.00	0.01	0.01	1,938.51

Area Source Changes to Defaults

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>	<u>CO2</u>
Warehouse	1.41	1.73	13.34	0.02	3.05	0.60	1,874.14
Industrial park	2.42	3.41	27.03	0.04	6.06	1.20	3,733.89
TOTALS (lbs/day, unmitigated)	3.83	5.14	40.37	0.06	9.11	1.80	5,608.03

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 80 Season: Summer

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		3.39	1000 sq ft	57.80	195.94	1,758.19
Industrial park		6.96	1000 sq ft	48.10	334.78	3,486.61
					530.72	5,244.80

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.0	0.2	99.8	0.0
Light Truck < 3750 lbs	10.0	1.0	96.0	3.0
Light Truck 3751-5750 lbs	21.0	0.5	99.5	0.0
Med Truck 5751-8500 lbs	11.5	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	81.0	19.0
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	1.8	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	4.3	48.8	51.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.4	0.0	92.9	7.1

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)						
Warehouse				2.0	1.0	97.0
Industrial park				41.5	20.8	37.8

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name:  
Project Name: Ops - Removed LUs  
Project Location: San Bernadino County  
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>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	1.61	1.35	0.00	0.00	0.00	1,932.89

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3.99	6.10	38.97	0.05	9.11	1.80	5,110.35

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	4.11	7.71	40.32	0.05	9.11	1.80	7,043.24

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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>	<u>CO2</u>
Natural Gas	0.12	1.61	1.35	0.00	0.00	0.00	1,932.89
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings							
<b>TOTALS (lbs/day, unmitigated)</b>	<b>0.12</b>	<b>1.61</b>	<b>1.35</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1,932.89</b>

Area Source Changes to Defaults

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>	<u>CO2</u>
Warehouse	1.40	2.05	12.97	0.02	3.05	0.60	1,707.31
Industrial park	2.59	4.05	26.00	0.03	6.06	1.20	3,403.04
<b>TOTALS (lbs/day, unmitigated)</b>	<b>3.99</b>	<b>6.10</b>	<b>38.97</b>	<b>0.05</b>	<b>9.11</b>	<b>1.80</b>	<b>5,110.35</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 60 Season: Winter

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		3.39	1000 sq ft	57.80	195.94	1,758.19
Industrial park		6.96	1000 sq ft	48.10	334.78	3,486.61
					530.72	5,244.80

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.0	0.2	99.8	0.0
Light Truck < 3750 lbs	10.0	1.0	96.0	3.0
Light Truck 3751-5750 lbs	21.0	0.5	99.5	0.0
Med Truck 5751-8500 lbs	11.5	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	81.0	19.0
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	1.8	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	4.3	48.8	51.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.4	0.0	92.9	7.1

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)						
Warehouse				2.0	1.0	97.0
Industrial park				41.5	20.8	37.8

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name:  
Project Name: Ops - Removed LUs  
Project Location: San Bernadino County  
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>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.06	0.30	0.81	0.00	0.00	0.00	353.78

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.71	1.00	7.28	0.01	1.67	0.33	993.19

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.77	1.30	8.09	0.01	1.67	0.33	1,346.97

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.02	0.29	0.25	0.00	0.00	0.00	352.75
Hearth							
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.03
Consumer Products	0.00						
Architectural Coatings							
TOTALS (tons/year, unmitigated)	0.06	0.30	0.81	0.00	0.00	0.00	353.78

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.26	0.34	2.41	0.00	0.56	0.11	331.88
Industrial park	0.45	0.66	4.87	0.01	1.11	0.22	661.31
TOTALS (tons/year, unmitigated)	0.71	1.00	7.28	0.01	1.67	0.33	993.19

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Season: Annual

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		3.39	1000 sq ft	57.80	195.94	1,758.19
Industrial park		6.96	1000 sq ft	48.10	334.78	3,486.61
					530.72	5,244.80

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	46.0	0.2	99.8	0.0
Light Truck < 3750 lbs	10.0	1.0	96.0	3.0
Light Truck 3751-5750 lbs	21.0	0.5	99.5	0.0
Med Truck 5751-8500 lbs	11.5	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	81.0	19.0
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	1.8	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	4.3	48.8	51.2	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.4	0.0	92.9	7.1

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)						
Warehouse				2.0	1.0	97.0
Industrial park				41.5	20.8	37.8

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Redlands OPS - NET

Project Location: San Bernadino County

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>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	85.93	23.50	26.91	0.00	0.09	0.09	29,207.80

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	132.60	142.07	1,305.70	3.27	518.20	101.10	321,885.78

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	218.53	165.57	1,332.61	3.27	518.29	101.19	351,093.58

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>	<u>CO2</u>
Natural Gas	1.77	23.31	13.00	0.00	0.04	0.04	29,182.52
Hearth							
Landscape	1.11	0.19	13.91	0.00	0.05	0.05	25.28
Consumer Products	83.05						
Architectural Coatings							
TOTALS (lbs/day, unmitigated)	85.93	23.50	26.91	0.00	0.09	0.09	29,207.80

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	12.71	12.57	118.96	0.29	45.96	8.98	28,699.37
Condo/townhouse general	25.58	24.70	233.79	0.57	90.33	17.65	56,404.75
Quality resturant	19.69	23.36	212.55	0.54	85.15	16.60	52,794.07
Hotel	2.75	2.82	25.59	0.06	10.27	2.00	6,366.16
Strip mall	47.31	55.19	499.61	1.27	200.86	39.16	124,450.93
General office building	11.83	12.76	118.47	0.30	46.79	9.13	29,096.20
Government office building	1.92	2.27	20.70	0.05	8.28	1.62	5,136.81
Conference Space	1.32	1.49	13.51	0.03	5.43	1.06	3,364.53
Cinema	9.49	6.91	62.52	0.16	25.13	4.90	15,572.96
TOTALS (lbs/day, unmitigated)	132.60	142.07	1,305.70	3.27	518.20	101.10	321,885.78

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 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
Apartments low rise	31.12	5.28	dwelling units	498.00	2,629.44	26,564.71
Condo/townhouse general	70.06	4.61	dwelling units	1,121.00	5,167.81	52,209.35

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Quality resturant		68.11	1000 sq ft	78.65	5,356.85	49,240.18
Hotel		6.54	rooms	100.00	654.00	5,939.95
Strip mall		33.08	1000 sq ft	391.36	12,946.19	116,166.15
General office building		9.31	1000 sq ft	285.50	2,658.01	27,051.85
Government office building		65.44	1000 sq ft	7.90	516.98	4,789.78
Conference Space		17.50	1000 sq ft	20.00	350.00	3,140.55
Cinema		1.80	unknown	900.00	1,620.00	14,536.26
					31,899.28	299,638.78

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	45.0	0.0	100.0	0.0
Light Truck < 3750 lbs	9.9	0.0	99.0	1.0
Light Truck 3751-5750 lbs	21.5	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.2	0.0	81.8	18.2
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	1.9	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	4.2	35.7	64.3	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.5	0.0	86.7	13.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	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)						
Quality restaurant				8.0	4.0	88.0
Hotel				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Government office building				10.0	5.0	85.0
Conference Space				2.0	1.0	97.0
Cinema				2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name:

Project Name: Redlands OPS - NET

Project Location: San Bernadino County

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>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	84.82	23.31	13.00	0.00	0.04	0.04	29,182.52

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	141.87	169.35	1,253.17	2.76	518.20	101.10	293,099.33

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	226.69	192.66	1,266.17	2.76	518.24	101.14	322,281.85

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>	<u>CO2</u>
Natural Gas	1.77	23.31	13.00	0.00	0.04	0.04	29,182.52
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	83.05						
Architectural Coatings							
TOTALS (lbs/day, unmitigated)	84.82	23.31	13.00	0.00	0.04	0.04	29,182.52

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	13.12	14.99	113.76	0.25	45.96	8.98	26,147.29
Condo/townhouse general	26.08	29.46	223.58	0.49	90.33	17.65	51,388.98
Quality resturant	22.23	27.84	204.23	0.45	85.15	16.60	48,063.54
Hotel	2.87	3.36	24.61	0.05	10.27	2.00	5,795.50
Strip mall	52.86	65.76	480.82	1.07	200.86	39.16	113,290.79
General office building	12.72	15.22	113.12	0.25	46.79	9.13	26,497.31
Government office building	2.16	2.71	19.88	0.04	8.28	1.62	4,676.65
Conference Space	1.45	1.78	13.00	0.03	5.43	1.06	3,062.81
Cinema	8.38	8.23	60.17	0.13	25.13	4.90	14,176.46
<b>TOTALS (lbs/day, unmitigated)</b>	<b>141.87</b>	<b>169.35</b>	<b>1,253.17</b>	<b>2.76</b>	<b>518.20</b>	<b>101.10</b>	<b>293,099.33</b>

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 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
Apartments low rise	31.12	5.28	dwelling units	498.00	2,629.44	26,564.71
Condo/townhouse general	70.06	4.61	dwelling units	1,121.00	5,167.81	52,209.35

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Quality resturant		68.11	1000 sq ft	78.65	5,356.85	49,240.18
Hotel		6.54	rooms	100.00	654.00	5,939.95
Strip mall		33.08	1000 sq ft	391.36	12,946.19	116,166.15
General office building		9.31	1000 sq ft	285.50	2,658.01	27,051.85
Goverment office building		65.44	1000 sq ft	7.90	516.98	4,789.78
Conference Space		17.50	1000 sq ft	20.00	350.00	3,140.55
Cinema		1.80	unknown	900.00	1,620.00	14,536.26
					31,899.28	299,638.78

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	45.0	0.0	100.0	0.0
Light Truck < 3750 lbs	9.9	0.0	99.0	1.0
Light Truck 3751-5750 lbs	21.5	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.2	0.0	81.8	18.2
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	1.9	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	4.2	35.7	64.3	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.5	0.0	86.7	13.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	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)						
Quality resturant				8.0	4.0	88.0
Hotel				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5
Goverment office building				10.0	5.0	85.0
Conference Space				2.0	1.0	97.0
Cinema				2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name:

Project Name: Redlands OPS - NET

Project Location: San Bernadino County

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>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	15.68	4.28	4.91	0.00	0.02	0.02	5,330.42

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	24.75	27.59	235.09	0.57	94.57	18.45	56,992.97

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	40.43	31.87	240.00	0.57	94.59	18.47	62,323.39

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.32	4.25	2.37	0.00	0.01	0.01	5,325.81
Hearth							
Landscape	0.20	0.03	2.54	0.00	0.01	0.01	4.61
Consumer Products	15.16						
Architectural Coatings							
TOTALS (tons/year, unmitigated)	15.68	4.28	4.91	0.00	0.02	0.02	5,330.42

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	2.34	2.44	21.39	0.05	8.39	1.64	5,082.38
Condo/townhouse general	4.70	4.80	42.05	0.10	16.48	3.22	9,988.74
Quality resturant	3.75	4.54	38.28	0.09	15.54	3.03	9,347.14
Hotel	0.51	0.55	4.61	0.01	1.87	0.37	1,127.11
Strip mall	8.97	10.71	90.04	0.22	36.66	7.15	22,033.39
General office building	2.21	2.48	21.29	0.05	8.54	1.67	5,151.96
Government office building	0.36	0.44	3.73	0.01	1.51	0.29	909.47
Conference Space	0.25	0.29	2.43	0.01	0.99	0.19	595.67
Cinema	1.66	1.34	11.27	0.03	4.59	0.89	2,757.11
TOTALS (tons/year, unmitigated)	24.75	27.59	235.09	0.57	94.57	18.45	56,992.97

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 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
Apartments low rise	31.12	5.28	dwelling units	498.00	2,629.44	26,564.71
Condo/townhouse general	70.06	4.61	dwelling units	1,121.00	5,167.81	52,209.35

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Quality resturant		68.11	1000 sq ft	78.65	5,356.85	49,240.18
Hotel		6.54	rooms	100.00	654.00	5,939.95
Strip mall		33.08	1000 sq ft	391.36	12,946.19	116,166.15
General office building		9.31	1000 sq ft	285.50	2,658.01	27,051.85
Goverment office building		65.44	1000 sq ft	7.90	516.98	4,789.78
Conference Space		17.50	1000 sq ft	20.00	350.00	3,140.55
Cinema		1.80	unknown	900.00	1,620.00	14,536.26
					31,899.28	299,638.78

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	45.0	0.0	100.0	0.0
Light Truck < 3750 lbs	9.9	0.0	99.0	1.0
Light Truck 3751-5750 lbs	21.5	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.2	0.0	81.8	18.2
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	1.9	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	4.2	35.7	64.3	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.5	0.0	86.7	13.3

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	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)

Quality restaurant	8.0	4.0	88.0
Hotel	5.0	2.5	92.5
Strip mall	2.0	1.0	97.0
General office building	35.0	17.5	47.5
Government office building	10.0	5.0	85.0
Conference Space	2.0	1.0	97.0
Cinema	2.0	1.0	97.0

# CO Hotspot Intersection Calculations

JOB: 6th & Colton - PM - EX

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 12:55:34

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
		X1	Y1	X2	Y2								
1. nba	*	506.0	.0	506.0	500.0	*	500.	360. AG	378.	4.1	.0	32.0	
2. nbd	*	506.0	500.0	506.0	1000.0	*	500.	360. AG	100.	4.1	.0	32.0	
3. nbq	*	506.0	488.0	506.0	344.6	*	143.	180. AG	9.	100.0	.0	12.0	.95 7.3
4. sba	*	494.0	1000.0	494.0	500.0	*	500.	180. AG	99.	4.1	.0	32.0	
5. sbd	*	494.0	500.0	494.0	.0	*	500.	180. AG	299.	4.1	.0	32.0	
6. sbq	*	494.0	512.0	494.0	533.7	*	22.	360. AG	9.	100.0	.0	12.0	.25 1.1
7. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	714.	4.1	.0	32.0	
8. ebd	*	500.0	494.0	1000.0	494.0	*	500.	90. AG	680.	4.1	.0	32.0	
9. ebq	*	488.0	494.0	421.6	494.0	*	66.	270. AG	4.	100.0	.0	12.0	.70 3.4
10. wba	*	1000.0	506.0	500.0	506.0	*	500.	270. AG	367.	4.1	.0	32.0	
11. wbd	*	500.0	506.0	.0	506.0	*	500.	270. AG	479.	4.1	.0	32.0	
12. wbq	*	512.0	506.0	546.1	506.0	*	34.	90. AG	4.	100.0	.0	12.0	.36 1.7

JOB: 6th & Colton - PM - EX

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 12:55:34

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. nbq	*	60	40	3.0	378	1600	4.84	3	3
6. sbq	*	60	40	3.0	99	1600	4.84	3	3
9. ebq	*	60	17	3.0	714	1600	4.84	3	3
12. wbq	*	60	17	3.0	367	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
	*	X	Y	Z	*
1. nw	*	478.0	522.0	5.4	*
2. ne	*	522.0	522.0	5.4	*
3. sw	*	478.0	478.0	5.4	*
4. se	*	522.0	478.0	5.4	*

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.0	.0	.2	.1
10.	.0	.0	.2	.1
20.	.0	.0	.2	.1
30.	.0	.0	.1	.2
40.	.0	.0	.1	.2
50.	.0	.0	.2	.2
60.	.0	.0	.3	.3
70.	.0	.0	.3	.3
80.	.0	.0	.5	.4
90.	.2	.2	.3	.4
100.	.3	.4	.0	.1
110.	.3	.3	.0	.0
120.	.2	.2	.1	.0
130.	.2	.2	.2	.0
140.	.3	.2	.2	.0
150.	.3	.2	.2	.0
160.	.4	.2	.2	.0
170.	.4	.2	.2	.0
180.	.4	.3	.2	.1
190.	.2	.4	.0	.3
200.	.2	.4	.0	.2
210.	.2	.2	.0	.2
220.	.2	.2	.0	.1
230.	.2	.1	.0	.1
240.	.2	.2	.0	.1
250.	.3	.3	.0	.1
260.	.4	.4	.1	.1
270.	.3	.3	.4	.4
280.	.0	.0	.4	.6
290.	.0	.0	.3	.5
300.	.0	.0	.3	.4
310.	.0	.0	.2	.4
320.	.0	.0	.2	.1
330.	.0	.0	.2	.1
340.	.0	.0	.2	.1
350.	.0	.0	.2	.1
360.	.0	.0	.2	.1
MAX	.4	.4	.5	.6
DEGR.	160	100	80	280

THE HIGHEST CONCENTRATION OF .60 PPM OCCURRED AT RECEPTOR REC4 .

JOB: 6th & Colton - PM - NP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 13: 0:40

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT)				LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
	X1	Y1	X2	Y2							
1. nba	506.0	.0	506.0	500.0	500.	360. AG	419.	1.4	.0	32.0	
2. nbd	506.0	500.0	506.0	1000.0	500.	360. AG	121.	1.4	.0	32.0	
3. nbq	506.0	488.0	506.0	-437.0	925.	180. AG	10.	100.0	.0	12.0	1.21 47.0
4. sba	494.0	1000.0	494.0	500.0	500.	180. AG	110.	1.4	.0	32.0	
5. sbd	494.0	500.0	494.0	.0	500.	180. AG	382.	1.4	.0	32.0	
6. sbq	494.0	512.0	494.0	537.3	25.	360. AG	10.	100.0	.0	12.0	.32 1.3
7. eba	.0	494.0	500.0	494.0	500.	90. AG	957.	1.4	.0	32.0	
8. ebd	500.0	494.0	1000.0	494.0	500.	90. AG	880.	1.4	.0	32.0	
9. ebq	488.0	494.0	369.3	494.0	119.	270. AG	3.	100.0	.0	12.0	.90 6.0
10. wba	1000.0	506.0	500.0	506.0	500.	270. AG	485.	1.4	.0	32.0	
11. wbd	500.0	506.0	.0	506.0	500.	270. AG	485.	1.4	.0	32.0	
12. wbq	512.0	506.0	551.8	506.0	40.	90. AG	3.	100.0	.0	12.0	.45 2.0

JOB: 6th & Colton - PM - NP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 13: 0:40

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. nbq	60	42	3.0	419	1600	5.06	3	3
6. sbq	60	42	3.0	110	1600	5.06	3	3
9. ebq	60	15	3.0	957	1600	5.06	3	3
12. wbq	60	15	3.0	485	1600	5.06	3	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT)		
	X	Y	Z
1. nw	478.0	522.0	5.4
2. ne	522.0	522.0	5.4
3. sw	478.0	478.0	5.4
4. se	522.0	478.0	5.4

## MODEL RESULTS

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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM)	REC1	REC2	REC3	REC4
0.	* .0	.0	.0	.0	.0
10.	* .0	.0	.0	.0	.0
20.	* .0	.0	.0	.0	.0
30.	* .0	.0	.0	.0	.0
40.	* .0	.0	.0	.0	.1
50.	* .0	.0	.0	.0	.1
60.	* .0	.0	.0	.0	.1
70.	* .0	.0	.0	.1	.1
80.	* .0	.0	.1	.1	.1
90.	* .1	.1	.1	.1	.1
100.	* .2	.2	.0	.0	.0
110.	* .1	.1	.0	.0	.0
120.	* .0	.1	.0	.0	.0
130.	* .0	.0	.0	.0	.0
140.	* .0	.0	.0	.0	.0
150.	* .0	.0	.0	.0	.0
160.	* .0	.0	.0	.0	.0
170.	* .1	.0	.2	.0	.0
180.	* .0	.1	.0	.2	.0
190.	* .0	.2	.0	.2	.0
200.	* .0	.0	.0	.1	.0
210.	* .0	.0	.0	.0	.0
220.	* .0	.0	.0	.0	.0
230.	* .1	.0	.0	.0	.0
240.	* .1	.1	.0	.0	.0
250.	* .1	.1	.0	.0	.0
260.	* .2	.2	.0	.0	.0
270.	* .1	.2	.1	.1	.1
280.	* .0	.0	.1	.1	.1
290.	* .0	.0	.1	.1	.1
300.	* .0	.0	.1	.0	.0
310.	* .0	.0	.1	.0	.0
320.	* .0	.0	.1	.0	.0
330.	* .0	.0	.0	.0	.0
340.	* .0	.0	.0	.0	.0
350.	* .0	.0	.0	.0	.0
360.	* .0	.0	.0	.0	.0
MAX	* .2	.2	.2	.2	.2
DEGR.	* 100	100	170	180	

THE HIGHEST CONCENTRATION OF .20 PPM OCCURRED AT RECEPTOR REC1 .

JOB: 6th & Colton - PM - WP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 13: 2:57

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
		X1	Y1	X2	Y2								
1. nba	*	506.0	.0	506.0	500.0	*	500.	360. AG	473.	1.4	.0	32.0	
2. nbd	*	506.0	500.0	506.0	1000.0	*	500.	360. AG	164.	1.4	.0	32.0	
3. nbq	*	506.0	488.0	506.0	-995.1	*	1483.	180. AG	10.	100.0	.0	12.0	1.37 75.3
4. sba	*	494.0	1000.0	494.0	500.0	*	500.	180. AG	154.	1.4	.0	32.0	
5. sbd	*	494.0	500.0	494.0	.0	*	500.	180. AG	435.	1.4	.0	32.0	
6. sbq	*	494.0	512.0	494.0	547.4	*	35.	360. AG	10.	100.0	.0	12.0	.45 1.8
7. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	1079.	1.4	.0	32.0	
8. ebd	*	500.0	494.0	1000.0	494.0	*	500.	90. AG	1005.	1.4	.0	32.0	
9. ebq	*	488.0	494.0	109.5	494.0	*	378.	270. AG	3.	100.0	.0	12.0	1.01 19.2
10. wba	*	1000.0	506.0	500.0	506.0	*	500.	270. AG	601.	1.4	.0	32.0	
11. wbd	*	500.0	506.0	.0	506.0	*	500.	270. AG	703.	1.4	.0	32.0	
12. wbq	*	512.0	506.0	561.3	506.0	*	49.	90. AG	3.	100.0	.0	12.0	.56 2.5

JOB: 6th & Colton - PM - WP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 13: 2:57

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. nbq	*	60	42	3.0	473	1600	5.06	3	3
6. sbq	*	60	42	3.0	154	1600	5.06	3	3
9. ebq	*	60	15	3.0	1079	1600	5.06	3	3
12. wbq	*	60	15	3.0	601	1600	5.06	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
	*	X	Y	Z	*
1. nw	*	478.0	522.0	5.4	*
2. ne	*	522.0	522.0	5.4	*
3. sw	*	478.0	478.0	5.4	*
4. se	*	522.0	478.0	5.4	*

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.0	.0	.1	.1
10.	.0	.0	.1	.0
20.	.0	.0	.1	.0
30.	.0	.0	.1	.1
40.	.0	.0	.1	.1
50.	.0	.0	.0	.1
60.	.0	.0	.0	.1
70.	.0	.0	.1	.1
80.	.0	.0	.2	.3
90.	.2	.1	.1	.1
100.	.2	.2	.0	.0
110.	.1	.2	.0	.0
120.	.1	.1	.0	.0
130.	.0	.1	.0	.0
140.	.0	.0	.0	.0
150.	.0	.0	.0	.0
160.	.0	.0	.0	.0
170.	.2	.0	.2	.0
180.	.0	.2	.1	.2
190.	.0	.2	.0	.2
200.	.0	.0	.0	.1
210.	.0	.0	.0	.0
220.	.1	.0	.0	.0
230.	.1	.0	.0	.0
240.	.2	.1	.0	.0
250.	.2	.2	.0	.0
260.	.2	.2	.0	.0
270.	.2	.2	.1	.1
280.	.0	.0	.3	.2
290.	.0	.0	.2	.2
300.	.0	.0	.1	.0
310.	.0	.0	.1	.0
320.	.0	.0	.1	.0
330.	.0	.0	.1	.1
340.	.0	.0	.1	.0
350.	.0	.0	.1	.0
360.	.0	.0	.1	.1
MAX	.2	.2	.3	.3
DEGR.	90	100	280	80

THE HIGHEST CONCENTRATION OF .30 PPM OCCURRED AT RECEPTOR REC4 .

JOB: Eureka-Colton\_PM\_EX

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 14: 8:46

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
		X1	Y1	X2	Y2								
1. nba	*	506.0	.0	506.0	500.0	*	500.	360. AG	273.	4.1	.0	32.0	
2. nbq	*	506.0	488.0	506.0	374.7	*	113.	180. AG	10.	100.0	.0	12.0	.93 5.8
3. sbd	*	500.0	500.0	500.0	.0	*	500.	180. AG	56.	4.1	.0	32.0	
4. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	546.	4.1	.0	32.0	
5. ebd	*	500.0	494.0	1000.0	494.0	*	500.	90. AG	721.	4.1	.0	32.0	
6. ebq	*	500.0	494.0	461.2	494.0	*	39.	270. AG	3.	100.0	.0	12.0	.49 2.0
7. wba	*	1000.0	506.0	500.0	506.0	*	500.	270. AG	352.	4.1	.0	32.0	
8. wbd	*	500.0	506.0	.0	506.0	*	500.	270. AG	394.	4.1	.0	32.0	
9. wbq	*	512.0	506.0	537.0	506.0	*	25.	90. AG	3.	100.0	.0	12.0	.31 1.3

JOB: Eureka-Colton\_PM\_EX

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 14: 8:46

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
2. nbq	*	60	44	3.0	273	1600	4.84	3	3
6. ebq	*	60	13	3.0	546	1600	4.84	3	3
9. wbq	*	60	13	3.0	352	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
	*	X	Y	Z	*
1. nw	*	490.0	522.0	5.4	*
2. ne	*	522.0	522.0	5.4	*
3. sw	*	490.0	478.0	5.4	*
4. se	*	522.0	478.0	5.4	*

## MODEL RESULTS

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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM)	REC1	REC2	REC3	REC4
0.	* .0	.0	.1	.1	.1
10.	* .0	.0	.1	.1	.1
20.	* .0	.0	.1	.1	.1
30.	* .0	.0	.2	.1	.1
40.	* .0	.0	.1	.2	.2
50.	* .0	.0	.2	.2	.2
60.	* .0	.0	.2	.3	.3
70.	* .0	.0	.3	.3	.3
80.	* .0	.0	.4	.4	.4
90.	* .2	.2	.4	.4	.4
100.	* .3	.4	.0	.1	.1
110.	* .3	.3	.0	.0	.0
120.	* .2	.2	.0	.0	.0
130.	* .2	.2	.0	.0	.0
140.	* .1	.2	.1	.0	.0
150.	* .1	.2	.1	.0	.0
160.	* .1	.2	.2	.0	.0
170.	* .3	.2	.1	.0	.0
180.	* .3	.3	.1	.1	.1
190.	* .2	.3	.0	.1	.1
200.	* .2	.3	.0	.2	.2
210.	* .2	.2	.0	.1	.1
220.	* .2	.2	.0	.1	.1
230.	* .2	.1	.0	.0	.0
240.	* .2	.2	.0	.0	.0
250.	* .2	.2	.0	.0	.0
260.	* .4	.3	.0	.0	.0
270.	* .2	.2	.3	.3	.3
280.	* .0	.0	.3	.4	.4
290.	* .0	.0	.3	.3	.3
300.	* .0	.0	.2	.3	.3
310.	* .0	.0	.2	.1	.1
320.	* .0	.0	.2	.1	.1
330.	* .0	.0	.2	.1	.1
340.	* .0	.0	.1	.1	.1
350.	* .0	.0	.1	.1	.1
360.	* .0	.0	.1	.1	.1
MAX	* .4	.4	.4	.4	.4
DEGR.	* 260	100	80	80	

THE HIGHEST CONCENTRATION OF .40 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Eureka-Colton\_PM\_NP

RUN: CAL3QHC RUN

DATE : 5/27/10

TIME : 14:24:33

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      ZO = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
		X1	Y1	X2	Y2									
1. nba	*	506.0	.0	506.0	500.0	*	500.	360. AG	303.	1.4	.0	32.0		
2. nbq	*	506.0	488.0	506.0	-41.7	*	530.	180. AG	10.	100.0	.0	12.0	1.14	26.9
3. sbd	*	500.0	500.0	500.0	.0	*	500.	180. AG	74.	1.4	.0	32.0		
4. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	721.	1.4	.0	32.0		
5. ebd	*	500.0	494.0	1000.0	494.0	*	500.	90. AG	912.	1.4	.0	32.0		
6. ebq	*	500.0	494.0	452.7	494.0	*	47.	270. AG	3.	100.0	.0	12.0	.63	2.4
7. wba	*	1000.0	506.0	500.0	506.0	*	500.	270. AG	465.	1.4	.0	32.0		
8. wbd	*	500.0	506.0	.0	506.0	*	500.	270. AG	503.	1.4	.0	32.0		
9. wbq	*	512.0	506.0	542.5	506.0	*	31.	90. AG	3.	100.0	.0	12.0	.41	1.5

JOB: Eureka-Colton\_PM\_NP

RUN: CAL3QHC RUN

DATE : 5/27/10

TIME : 14:24:33

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
6. ebq	*	60	12	3.0	721	1600	5.06	3	3
9. wbq	*	60	12	3.0	465	1600	5.06	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
		X	Y	Z	
1. nw	*	490.0	522.0	5.4	*
2. ne	*	522.0	522.0	5.4	*
3. sw	*	490.0	478.0	5.4	*
4. se	*	522.0	478.0	5.4	*

## MODEL RESULTS

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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) RECI	REC2	REC3	REC4
0.	.0	.0	.0	.0
10.	.0	.0	.0	.0
20.	.0	.0	.0	.0
30.	.0	.0	.0	.0
40.	.0	.0	.0	.1
50.	.0	.0	.0	.1
60.	.0	.0	.1	.1
70.	.0	.0	.1	.1
80.	.0	.0	.1	.1
90.	.1	.1	.1	.1
100.	.2	.2	.0	.0
110.	.1	.1	.0	.0
120.	.1	.1	.0	.0
130.	.0	.0	.0	.0
140.	.0	.0	.0	.0
150.	.0	.0	.0	.0
160.	.0	.0	.1	.0
170.	.1	.0	.1	.0
180.	.1	.1	.1	.1
190.	.0	.1	.0	.1
200.	.0	.0	.0	.1
210.	.0	.0	.0	.0
220.	.0	.0	.0	.0
230.	.0	.0	.0	.0
240.	.0	.0	.0	.0
250.	.2	.1	.0	.0
260.	.2	.2	.0	.0
270.	.1	.1	.1	.1
280.	.0	.0	.1	.2
290.	.0	.0	.1	.1
300.	.0	.0	.1	.0
310.	.0	.0	.0	.0
320.	.0	.0	.0	.0
330.	.0	.0	.0	.0
340.	.0	.0	.0	.0
350.	.0	.0	.0	.0
360.	.0	.0	.0	.0
MAX	.2	.2	.1	.2
DEGR.	100	100	60	280

THE HIGHEST CONCENTRATION OF .20 PPM OCCURRED AT RECEPTOR RECI .

JOB: Eureka-Colton\_PM\_WP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 14:53:20

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)	
		X1	Y1	X2	Y2									
1. nba	*	506.0	.0	506.0	500.0	*	500.	360. AG	448.	1.4	.0	32.0		
2. nbq	*	506.0	488.0	506.0	-736.7	*	1225.	180. AG	10.	100.0	.0	12.0	1.29	62.2
3. sbd	*	500.0	500.0	500.0	.0	*	500.	180. AG	152.	1.4	.0	32.0		
4. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	725.	1.4	.0	32.0		
5. ebd	*	500.0	494.0	1000.0	494.0	*	500.	90. AG	1060.	1.4	.0	32.0		
6. ebq	*	500.0	494.0	440.5	494.0	*	59.	270. AG	3.	100.0	.0	12.0	.68	3.0
7. wba	*	1000.0	506.0	500.0	506.0	*	500.	270. AG	545.	1.4	.0	32.0		
8. wbd	*	500.0	506.0	.0	506.0	*	500.	270. AG	506.	1.4	.0	32.0		
9. wbq	*	512.0	506.0	556.7	506.0	*	45.	90. AG	3.	100.0	.0	12.0	.51	2.3

JOB: Eureka-Colton\_PM\_WP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 14:53:20

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
6. ebq	*	60	15	3.0	725	1600	5.06	3	3
9. wbq	*	60	15	3.0	545	1600	5.06	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
		X	Y	Z	
1. nw	*	490.0	522.0	5.4	*
2. ne	*	522.0	522.0	5.4	*
3. sw	*	490.0	478.0	5.4	*
4. se	*	522.0	478.0	5.4	*

## MODEL RESULTS

-----

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.0	.0	.0	.1
10.	.0	.0	.0	.1
20.	.0	.0	.0	.1
30.	.0	.0	.0	.1
40.	.0	.0	.0	.1
50.	.0	.0	.1	.1
60.	.0	.0	.1	.1
70.	.0	.0	.1	.1
80.	.0	.0	.2	.3
90.	.2	.2	.1	.1
100.	.2	.2	.0	.0
110.	.1	.2	.0	.0
120.	.1	.1	.0	.0
130.	.1	.1	.0	.0
140.	.0	.1	.0	.0
150.	.0	.0	.0	.0
160.	.0	.0	.1	.0
170.	.2	.0	.2	.0
180.	.1	.1	.2	.2
190.	.0	.2	.0	.2
200.	.0	.0	.0	.1
210.	.0	.0	.0	.0
220.	.0	.0	.0	.0
230.	.0	.0	.0	.0
240.	.0	.0	.0	.0
250.	.2	.1	.0	.0
260.	.2	.2	.0	.0
270.	.1	.1	.1	.1
280.	.0	.0	.1	.2
290.	.0	.0	.1	.1
300.	.0	.0	.1	.0
310.	.0	.0	.0	.0
320.	.0	.0	.0	.1
330.	.0	.0	.0	.1
340.	.0	.0	.0	.1
350.	.0	.0	.0	.1
360.	.0	.0	.0	.1
MAX	.2	.2	.2	.3
DEGR.	90	90	80	80

THE HIGHEST CONCENTRATION OF .30 PPM OCCURRED AT RECEPTOR REC4 .

JOB: Orange-Oriental\_PM\_EX

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 18: 1:53

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
		X1	Y1	X2	Y2								
1. nba	*	512.0	.0	512.0	500.0	*	500.	360. AG	998.	4.1	.0	44.0	
2. nbd	*	512.0	500.0	512.0	1000.0	*	500.	360. AG	1031.	4.1	.0	44.0	
3. nbq	*	512.0	488.0	512.0	474.4	*	14.	180. AG	2.	100.0	.0	24.0	.37 .7
4. sba	*	488.0	1000.0	488.0	500.0	*	500.	180. AG	661.	4.1	.0	44.0	
5. sbd	*	488.0	500.0	488.0	.0	*	500.	180. AG	647.	4.1	.0	44.0	
6. sbq	*	488.0	500.0	488.0	509.0	*	9.	360. AG	2.	100.0	.0	24.0	.25 .5
7. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	49.	4.1	.0	32.0	
8. ebq	*	476.0	494.0	462.6	494.0	*	13.	270. AG	11.	100.0	.0	12.0	.37 .7
9. wbd	*	500.0	500.0	.0	500.0	*	500.	270. AG	30.	4.1	.0	32.0	

JOB: Orange-Oriental\_PM\_EX

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 18: 1:53

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
6. sbq	*	60	5	3.0	661	1600	4.84	3	3
8. ebq	*	60	50	3.0	49	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
		X	Y	Z	
1. nw	*	466.0	510.0	5.4	*
2. ne	*	534.0	510.0	5.4	*
3. sw	*	466.0	478.0	5.4	*
4. se	*	534.0	478.0	5.4	*

## MODEL RESULTS

-----

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM)	REC1	REC2	REC3	REC4
0.	.3	.3	.3	.3	.4
10.	.5	.1	.4	.0	.0
20.	.4	.0	.3	.0	.0
30.	.3	.0	.4	.0	.0
40.	.2	.0	.3	.0	.0
50.	.2	.0	.2	.0	.0
60.	.2	.0	.2	.0	.0
70.	.2	.0	.2	.0	.0
80.	.2	.0	.2	.0	.0
90.	.2	.0	.2	.0	.0
100.	.2	.0	.2	.0	.0
110.	.2	.0	.2	.0	.0
120.	.2	.0	.2	.0	.0
130.	.2	.0	.2	.0	.0
140.	.2	.0	.2	.0	.0
150.	.3	.0	.3	.0	.0
160.	.4	.0	.4	.0	.0
170.	.4	.0	.5	.1	.0
180.	.3	.3	.3	.3	.0
190.	.0	.5	.0	.5	.0
200.	.0	.4	.0	.4	.0
210.	.0	.3	.0	.3	.0
220.	.0	.3	.0	.3	.0
230.	.0	.3	.0	.3	.0
240.	.0	.3	.0	.2	.0
250.	.0	.3	.0	.2	.0
260.	.0	.1	.0	.2	.0
270.	.0	.2	.0	.2	.0
280.	.0	.2	.0	.2	.0
290.	.0	.2	.0	.2	.0
300.	.0	.2	.0	.2	.0
310.	.0	.3	.0	.3	.0
320.	.0	.3	.0	.3	.0
330.	.0	.3	.0	.3	.0
340.	.0	.4	.0	.4	.0
350.	.0	.5	.0	.6	.0
360.	.3	.3	.3	.4	.0
MAX	.5	.5	.5	.6	.0
DEGR.	10	190	170	350	.0

THE HIGHEST CONCENTRATION OF .60 PPM OCCURRED AT RECEPTOR REC4 .

JOB: Orange-Oriental\_PM\_NP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 18: 5:31

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
		X1	Y1	X2	Y2								
1. nba	*	512.0	.0	512.0	500.0	*	500.	360. AG	1109.	1.4	.0	44.0	
2. nbd	*	512.0	500.0	512.0	1000.0	*	500.	360. AG	1145.	1.4	.0	44.0	
3. nbq	*	512.0	488.0	512.0	472.9	*	15.	180. AG	2.	100.0	.0	24.0	.42 .8
4. sba	*	488.0	1000.0	488.0	500.0	*	500.	180. AG	762.	1.4	.0	44.0	
5. sbd	*	488.0	500.0	488.0	.0	*	500.	180. AG	746.	1.4	.0	44.0	
6. sbq	*	488.0	500.0	488.0	510.4	*	10.	360. AG	2.	100.0	.0	24.0	.29 .5
7. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	54.	1.4	.0	32.0	
8. ebq	*	476.0	494.0	461.2	494.0	*	15.	270. AG	11.	100.0	.0	12.0	.41 .8
9. wbd	*	500.0	500.0	.0	500.0	*	500.	270. AG	34.	1.4	.0	32.0	

JOB: Orange-Oriental\_PM\_NP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 18: 5:31

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
6. sbq	*	60	5	3.0	762	1600	5.06	3	3
8. ebq	*	60	50	3.0	54	1600	5.06	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
		X	Y	Z	
1. nw	*	466.0	510.0	5.4	*
2. ne	*	534.0	510.0	5.4	*
3. sw	*	466.0	478.0	5.4	*
4. se	*	534.0	478.0	5.4	*

## MODEL RESULTS

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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.1
10.	.2	.0	.2	.0
20.	.2	.0	.2	.0
30.	.2	.0	.1	.0
40.	.1	.0	.0	.0
50.	.0	.0	.0	.0
60.	.0	.0	.0	.0
70.	.0	.0	.0	.0
80.	.0	.0	.0	.0
90.	.0	.0	.0	.0
100.	.0	.0	.0	.0
110.	.0	.0	.0	.0
120.	.0	.0	.0	.0
130.	.0	.0	.0	.0
140.	.0	.0	.0	.0
150.	.1	.0	.2	.0
160.	.2	.0	.2	.0
170.	.2	.0	.2	.0
180.	.1	.1	.1	.1
190.	.0	.2	.0	.2
200.	.0	.1	.0	.1
210.	.0	.1	.0	.1
220.	.0	.1	.0	.1
230.	.0	.0	.0	.1
240.	.0	.0	.0	.1
250.	.0	.0	.0	.1
260.	.0	.0	.0	.0
270.	.0	.1	.0	.1
280.	.0	.1	.0	.1
290.	.0	.1	.0	.1
300.	.0	.1	.0	.0
310.	.0	.1	.0	.0
320.	.0	.1	.0	.0
330.	.0	.1	.0	.1
340.	.0	.1	.0	.1
350.	.0	.3	.0	.2
360.	.1	.1	.1	.1
MAX	.2	.3	.2	.2
DEGR.	10	350	10	190

THE HIGHEST CONCENTRATION OF .30 PPM OCCURRED AT RECEPTOR REC2 .

JOB: Orange-Oriental\_PM\_WP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 18: 7: 7

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
		X1	Y1	X2	Y2								
1. nba	*	512.0	.0	512.0	500.0	*	500.	360. AG	1261.	1.4	.0	44.0	
2. nbd	*	512.0	500.0	512.0	1000.0	*	500.	360. AG	1321.	1.4	.0	44.0	
3. nbq	*	512.0	488.0	512.0	470.8	*	17.	180. AG	2.	100.0	.0	24.0	.47 .9
4. sba	*	488.0	1000.0	488.0	500.0	*	500.	180. AG	884.	1.4	.0	44.0	
5. sbd	*	488.0	500.0	488.0	.0	*	500.	180. AG	879.	1.4	.0	44.0	
6. sbq	*	488.0	500.0	488.0	512.1	*	12.	360. AG	2.	100.0	.0	24.0	.33 .6
7. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	75.	1.4	.0	32.0	
8. ebq	*	476.0	494.0	454.3	494.0	*	22.	270. AG	11.	100.0	.0	12.0	.56 1.1
9. wbd	*	500.0	500.0	.0	500.0	*	500.	270. AG	20.	1.4	.0	32.0	

JOB: Orange-Oriental\_PM\_WP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 18: 7: 7

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
6. sbq	*	60	5	3.0	884	1600	5.06	3	3
8. ebq	*	60	50	3.0	75	1600	5.06	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
		X	Y	Z	
1. nw	*	466.0	510.0	5.4	*
2. ne	*	534.0	510.0	5.4	*
3. sw	*	466.0	478.0	5.4	*
4. se	*	534.0	478.0	5.4	*

## MODEL RESULTS

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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM)	REC1	REC2	REC3	REC4
0.	.1	.1	.1	.1	.1
10.	.2	.0	.2	.0	.0
20.	.2	.0	.2	.0	.0
30.	.2	.0	.1	.0	.0
40.	.2	.0	.1	.0	.0
50.	.1	.0	.0	.0	.0
60.	.1	.0	.0	.0	.0
70.	.0	.0	.0	.0	.0
80.	.0	.0	.0	.0	.0
90.	.0	.0	.0	.0	.0
100.	.0	.0	.0	.0	.0
110.	.0	.0	.0	.0	.0
120.	.0	.0	.1	.0	.0
130.	.0	.0	.1	.0	.0
140.	.1	.0	.2	.0	.0
150.	.2	.0	.2	.0	.0
160.	.2	.0	.2	.0	.0
170.	.2	.0	.2	.0	.0
180.	.1	.1	.1	.1	.1
190.	.0	.3	.0	.3	.0
200.	.0	.2	.0	.2	.0
210.	.0	.1	.0	.1	.0
220.	.0	.1	.0	.1	.0
230.	.0	.0	.0	.1	.0
240.	.0	.0	.0	.1	.0
250.	.0	.0	.0	.1	.0
260.	.0	.1	.0	.1	.0
270.	.0	.1	.0	.1	.0
280.	.0	.1	.0	.1	.0
290.	.0	.1	.0	.1	.0
300.	.0	.1	.0	.1	.0
310.	.0	.1	.0	.0	.0
320.	.0	.1	.0	.0	.0
330.	.0	.1	.0	.1	.0
340.	.0	.2	.0	.2	.0
350.	.0	.3	.0	.3	.0
360.	.1	.1	.1	.1	.1
MAX	.2	.3	.2	.3	.0
DEGR.	10	190	10	190	.0

THE HIGHEST CONCENTRATION OF .30 PPM OCCURRED AT RECEPTOR REC2 .

JOB: Orange-Pearl\_PM\_EX

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 17:40:33

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
		X1	Y1	X2	Y2								
1. nba	*	518.0	.0	518.0	500.0	*	500.	360. AG	933.	4.1	.0	56.0	
2. nbd	*	518.0	500.0	518.0	1000.0	*	500.	360. AG	1330.	4.1	.0	44.0	
3. nbq	*	518.0	488.0	518.0	443.8	*	44.	180. AG	17.	100.0	.0	36.0	.40 2.2
4. sba	*	488.0	1000.0	488.0	500.0	*	500.	180. AG	381.	4.1	.0	44.0	
5. sbd	*	488.0	500.0	488.0	.0	*	500.	180. AG	591.	4.1	.0	44.0	
6. sbq	*	488.0	512.0	488.0	539.0	*	27.	360. AG	11.	100.0	.0	24.0	.25 1.4
7. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	802.	4.1	.0	32.0	
8. ebd	*	500.0	494.0	1000.0	494.0	*	500.	90. AG	434.	4.1	.0	32.0	
9. ebq	*	476.0	494.0	-1419.5	494.0	*	1896.	270. AG	7.	100.0	.0	12.0	1.26 96.3
10. wba	*	1000.0	506.0	500.0	506.0	*	500.	270. AG	281.	4.1	.0	32.0	
11. wbd	*	500.0	506.0	.0	506.0	*	500.	270. AG	42.	4.1	.0	32.0	
12. wbq	*	536.0	506.0	583.6	506.0	*	48.	90. AG	7.	100.0	.0	12.0	.44 2.4

JOB: Orange-Pearl\_PM\_EX

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 17:40:33

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. nbq	*	60	26	3.0	933	1600	4.84	3	3
6. sbq	*	60	26	3.0	381	1600	4.84	3	3
9. ebq	*	60	31	3.0	802	1600	4.84	3	3
12. wbq	*	60	31	3.0	281	1600	4.84	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
	*	X	Y	Z	*
1. nw	*	466.0	522.0	5.4	*
2. ne	*	546.0	522.0	5.4	*
3. sw	*	466.0	478.0	5.4	*
4. se	*	546.0	478.0	5.4	*

## MODEL RESULTS

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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM)	REC1	REC2	REC3	REC4
0.	.2	.2	.3	.4	
10.	.4	.0	.5	.1	
20.	.3	.0	.4	.1	
30.	.3	.0	.4	.1	
40.	.3	.0	.4	.1	
50.	.3	.0	.3	.1	
60.	.3	.0	.3	.2	
70.	.2	.0	.6	.2	
80.	.2	.0	.5	.3	
90.	.4	.2	.4	.2	
100.	.4	.2	.2	.0	
110.	.3	.2	.2	.0	
120.	.2	.2	.2	.0	
130.	.2	.2	.2	.0	
140.	.3	.1	.2	.0	
150.	.3	.1	.2	.0	
160.	.4	.1	.4	.0	
170.	.5	.1	.4	.0	
180.	.4	.3	.3	.2	
190.	.1	.5	.0	.4	
200.	.1	.4	.0	.3	
210.	.1	.4	.0	.3	
220.	.1	.4	.0	.3	
230.	.1	.5	.0	.2	
240.	.2	.4	.0	.3	
250.	.2	.4	.0	.3	
260.	.2	.4	.1	.3	
270.	.1	.3	.4	.6	
280.	.0	.2	.5	.5	
290.	.0	.2	.3	.3	
300.	.0	.2	.2	.3	
310.	.0	.2	.2	.3	
320.	.0	.2	.1	.4	
330.	.0	.4	.1	.5	
340.	.0	.5	.1	.6	
350.	.0	.5	.1	.6	
360.	.2	.2	.3	.4	
MAX	.5	.5	.6	.6	
DEGR.	170	190	70	270	

THE HIGHEST CONCENTRATION OF .60 PPM OCCURRED AT RECEPTOR REC3 .

JOB: Orange-Pearl\_PM\_NP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 17:44:32

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
		X1	Y1	X2	Y2								
1. nba	*	518.0	.0	518.0	500.0	*	500.	360. AG	1065.	1.4	.0	56.0	
2. nbd	*	518.0	500.0	518.0	1000.0	*	500.	360. AG	1501.	1.4	.0	44.0	
3. nbq	*	518.0	488.0	518.0	439.5	*	49.	180. AG	17.	100.0	.0	36.0	.44 2.5
4. sba	*	488.0	1000.0	488.0	500.0	*	500.	180. AG	424.	1.4	.0	44.0	
5. sbd	*	488.0	500.0	488.0	.0	*	500.	180. AG	657.	1.4	.0	44.0	
6. sbq	*	488.0	512.0	488.0	541.0	*	29.	360. AG	11.	100.0	.0	24.0	.27 1.5
7. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	891.	1.4	.0	32.0	
8. ebd	*	500.0	494.0	1000.0	494.0	*	500.	90. AG	487.	1.4	.0	32.0	
9. ebq	*	476.0	494.0	-2592.2	494.0	*	3068.	270. AG	7.	100.0	.0	12.0	1.45 155.9
10. wba	*	1000.0	506.0	500.0	506.0	*	500.	270. AG	312.	1.4	.0	32.0	
11. wbd	*	500.0	506.0	.0	506.0	*	500.	270. AG	47.	1.4	.0	32.0	
12. wbq	*	536.0	506.0	590.6	506.0	*	55.	90. AG	7.	100.0	.0	12.0	.51 2.8

JOB: Orange-Pearl\_PM\_NP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 17:44:32

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. nbq	*	60	25	3.0	1065	1600	5.06	3	3
6. sbq	*	60	25	3.0	424	1600	5.06	3	3
9. ebq	*	60	32	3.0	891	1600	5.06	3	3
12. wbq	*	60	32	3.0	312	1600	5.06	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
	*	X	Y	Z	*
1. nw	*	466.0	522.0	5.4	*
2. ne	*	546.0	522.0	5.4	*
3. sw	*	466.0	478.0	5.4	*
4. se	*	546.0	478.0	5.4	*

## MODEL RESULTS

-----

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.0	.1	.0	.1
10.	.2	.0	.1	.0
20.	.1	.0	.1	.0
30.	.1	.0	.1	.0
40.	.1	.0	.1	.0
50.	.1	.0	.1	.0
60.	.1	.0	.0	.0
70.	.1	.0	.0	.1
80.	.0	.0	.1	.1
90.	.1	.0	.0	.1
100.	.0	.0	.0	.0
110.	.0	.0	.0	.0
120.	.0	.0	.0	.0
130.	.0	.0	.0	.0
140.	.0	.0	.0	.0
150.	.1	.0	.1	.0
160.	.1	.0	.2	.0
170.	.2	.0	.2	.0
180.	.1	.1	.1	.1
190.	.0	.1	.0	.1
200.	.0	.1	.0	.1
210.	.0	.1	.0	.1
220.	.0	.0	.0	.1
230.	.0	.0	.0	.2
240.	.1	.1	.0	.1
250.	.1	.2	.0	.1
260.	.1	.2	.0	.1
270.	.0	.1	.2	.3
280.	.0	.1	.2	.1
290.	.0	.1	.1	.0
300.	.0	.1	.1	.0
310.	.0	.1	.1	.0
320.	.0	.1	.1	.1
330.	.0	.1	.0	.1
340.	.0	.1	.0	.1
350.	.0	.2	.0	.2
360.	.0	.1	.0	.1
MAX	.2	.2	.2	.3
DEGR.	10	250	160	270

THE HIGHEST CONCENTRATION OF .30 PPM OCCURRED AT RECEPTOR REC4 .

JOB: Orange-Pearl\_PM\_WP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 17:48: 5

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 100. CM  
 U = 1.0 M/S      CLAS = 6 (F)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG TYPE (DEG)	VPH	EF (G/MI)	H (FT)	W (FT)	V/C QUEUE (VEH)
		X1	Y1	X2	Y2								
1. nba	*	518.0	.0	518.0	500.0	*	500.	360. AG	1370.	1.4	.0	56.0	
2. nbd	*	518.0	500.0	518.0	1000.0	*	500.	360. AG	1853.	1.4	.0	44.0	
3. nbq	*	518.0	488.0	518.0	423.2	*	65.	180. AG	18.	100.0	.0	36.0	.59 3.3
4. sba	*	488.0	1000.0	488.0	500.0	*	500.	180. AG	528.	1.4	.0	44.0	
5. sbd	*	488.0	500.0	488.0	.0	*	500.	180. AG	752.	1.4	.0	44.0	
6. sbq	*	488.0	512.0	488.0	549.5	*	38.	360. AG	12.	100.0	.0	24.0	.34 1.9
7. eba	*	.0	494.0	500.0	494.0	*	500.	90. AG	1092.	1.4	.0	32.0	
8. ebd	*	500.0	494.0	1000.0	494.0	*	500.	90. AG	694.	1.4	.0	32.0	
9. ebq	*	476.0	494.0	-4379.2	494.0	*	4855.	270. AG	7.	100.0	.0	12.0	1.71 246.6
10. wba	*	1000.0	506.0	500.0	506.0	*	500.	270. AG	463.	1.4	.0	32.0	
11. wbd	*	500.0	506.0	.0	506.0	*	500.	270. AG	154.	1.4	.0	32.0	
12. wbq	*	536.0	506.0	615.4	506.0	*	79.	90. AG	7.	100.0	.0	12.0	.72 4.0

JOB: Orange-Pearl\_PM\_WP

RUN: CAL3QHC RUN

DATE : 5/27/10  
 TIME : 17:48: 5

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3. nbq	*	60	26	3.0	1370	1600	5.06	3	3
6. sbq	*	60	26	3.0	528	1600	5.06	3	3
9. ebq	*	60	31	3.0	1092	1600	5.06	3	3
12. wbq	*	60	31	3.0	463	1600	5.06	3	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT)			*
	*	X	Y	Z	*
1. nw	*	466.0	522.0	5.4	*
2. ne	*	546.0	522.0	5.4	*
3. sw	*	466.0	478.0	5.4	*
4. se	*	546.0	478.0	5.4	*

## MODEL RESULTS

-----

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4
0.	.1	.1	.1	.1
10.	.2	.0	.3	.0
20.	.2	.0	.2	.0
30.	.1	.0	.2	.0
40.	.1	.0	.2	.0
50.	.1	.0	.2	.0
60.	.1	.0	.2	.1
70.	.1	.0	.1	.1
80.	.1	.0	.1	.1
90.	.1	.1	.1	.1
100.	.3	.2	.0	.0
110.	.0	.1	.0	.0
120.	.0	.0	.1	.0
130.	.0	.0	.1	.0
140.	.1	.0	.1	.0
150.	.1	.0	.2	.0
160.	.2	.0	.2	.0
170.	.2	.0	.2	.0
180.	.1	.1	.1	.1
190.	.0	.1	.0	.2
200.	.0	.2	.0	.1
210.	.0	.1	.0	.2
220.	.1	.1	.0	.2
230.	.1	.0	.0	.2
240.	.1	.1	.0	.2
250.	.1	.2	.0	.2
260.	.1	.2	.0	.2
270.	.1	.3	.2	.4
280.	.0	.1	.3	.2
290.	.0	.1	.1	.1
300.	.0	.1	.1	.0
310.	.0	.1	.1	.1
320.	.0	.1	.1	.1
330.	.0	.1	.1	.1
340.	.0	.2	.1	.1
350.	.0	.2	.1	.2
360.	.1	.1	.1	.1
MAX	.3	.3	.3	.4
DEGR.	100	270	10	270

THE HIGHEST CONCENTRATION OF .40 PPM OCCURRED AT RECEPTOR REC4 .

# CO Parking Structure Calculations

05/24/10

13:54:29

\*\*\* SCREEN3 MODEL RUN \*\*\*  
\*\*\* VERSION DATED 96043 \*\*\*

D:\Scrn3\Redlands\L1.scr

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = AREA  
EMISSION RATE (G/(S-M\*\*2)) = 0.440340E-05  
SOURCE HEIGHT (M) = 0.0000  
LENGTH OF LARGER SIDE (M) = 46.2000  
LENGTH OF SMALLER SIDE (M) = 46.2000  
RECEPTOR HEIGHT (M) = 0.0000  
URBAN/RURAL OPTION = URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.  
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M\*\*4/S\*\*3; MOM. FLUX = 0.000 M\*\*4/S\*\*2.

\*\*\* FULL METEOROLOGY \*\*\*

\*\*\*\*\*  
\*\*\* SCREEN DISCRETE DISTANCES \*\*\*  
\*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
25.	176.4	6	1.0	1.0	10000.0	0.00	45.
50.	62.76	6	1.0	1.0	10000.0	0.00	45.
100.	23.70	6	1.0	1.0	10000.0	0.00	45.

\*\*\*\*\*  
\*\*\* SUMMARY OF SCREEN MODEL RESULTS \*\*\*  
\*\*\*\*\*

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	176.4	25.	0.

\*\*\*\*\*  
\*\* REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS \*\*  
\*\*\*\*\*

05/24/10  
13:56:44

\*\*\* SCREEN3 MODEL RUN \*\*\*  
\*\*\* VERSION DATED 96043 \*\*\*

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE = AREA  
EMISSION RATE (G/(S-M\*\*2)) = 0.330250E-05  
SOURCE HEIGHT (M) = 3.0480  
LENGTH OF LARGER SIDE (M) = 46.2000  
LENGTH OF SMALLER SIDE (M) = 46.2000  
RECEPTOR HEIGHT (M) = 0.0000  
URBAN/RURAL OPTION = URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.  
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M\*\*4/S\*\*3; MOM. FLUX = 0.000 M\*\*4/S\*\*2.

\*\*\* FULL METEOROLOGY \*\*\*

\*\*\*\*\*  
\*\*\* SCREEN DISCRETE DISTANCES \*\*\*  
\*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
25.	18.11	4	1.0	1.0	320.0	3.05	45.
50.	26.12	5	1.0	1.0	10000.0	3.05	45.
100.	16.16	5	1.0	1.0	10000.0	3.05	45.

\*\*\*\*\*  
\*\*\* SUMMARY OF SCREEN MODEL RESULTS \*\*\*  
\*\*\*\*\*

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	26.12	50.	0.

\*\*\*\*\*  
\*\* REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS \*\*  
\*\*\*\*\*

05/24/10  
13:56:31

\*\*\* SCREEN3 MODEL RUN \*\*\*  
\*\*\* VERSION DATED 96043 \*\*\*

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SIMPLE TERRAIN INPUTS:

SOURCE TYPE = AREA  
EMISSION RATE (G/(S-M\*\*2)) = 0.220170E-05  
SOURCE HEIGHT (M) = 6.0960  
LENGTH OF LARGER SIDE (M) = 46.2000  
LENGTH OF SMALLER SIDE (M) = 46.2000  
RECEPTOR HEIGHT (M) = 0.0000  
URBAN/RURAL OPTION = URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.  
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M\*\*4/S\*\*3; MOM. FLUX = 0.000 M\*\*4/S\*\*2.

\*\*\* FULL METEOROLOGY \*\*\*

\*\*\*\*\*  
\*\*\* SCREEN DISCRETE DISTANCES \*\*\*  
\*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
25.	5.565	3	1.0	1.0	320.0	6.10	43.
50.	8.165	4	1.0	1.0	320.0	6.10	45.
100.	8.123	5	1.0	1.0	10000.0	6.10	45.

\*\*\*\*\*  
\*\*\* SUMMARY OF SCREEN MODEL RESULTS \*\*\*  
\*\*\*\*\*

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	8.165	50.	0.

\*\*\*\*\*  
\*\* REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS \*\*  
\*\*\*\*\*

05/24/10  
13:57:12

\*\*\* SCREEN3 MODEL RUN \*\*\*  
\*\*\* VERSION DATED 96043 \*\*\*

D:\Scrn3\Redlands\L4.scr

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = AREA  
EMISSION RATE (G/(S-M\*\*2)) = 0.110080E-05  
SOURCE HEIGHT (M) = 9.1440  
LENGTH OF LARGER SIDE (M) = 46.2000  
LENGTH OF SMALLER SIDE (M) = 46.2000  
RECEPTOR HEIGHT (M) = 0.0000  
URBAN/RURAL OPTION = URBAN  
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.  
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M\*\*4/S\*\*3; MOM. FLUX = 0.000 M\*\*4/S\*\*2.

\*\*\* FULL METEOROLOGY \*\*\*

\*\*\*\*\*  
\*\*\* SCREEN DISCRETE DISTANCES \*\*\*  
\*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
25.	1.537	1	1.0	1.0	320.0	9.14	39.
50.	2.514	3	1.0	1.0	320.0	9.14	45.
100.	2.577	5	1.0	1.0	10000.0	9.14	45.

\*\*\*\*\*  
\*\*\* SUMMARY OF SCREEN MODEL RESULTS \*\*\*  
\*\*\*\*\*

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	2.577	100.	0.

\*\*\*\*\*  
\*\* REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS \*\*  
\*\*\*\*\*

# Greenhouse Gas Calculations

## GHG Emissions Summary - NET PROJECT USES

NET PROJECT USES		Tons/Year		
Source	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	
[OTHER SOURCES]				
Mobile Emissions	55,999.78	4,107.23	633.71	
Natural Gas Emissions	4,976.64	18.64	4.66	
General Electricity Emissions	8,197.10	1.43	11.68	
Water Cycle Electricity Emissions	749.58	0.13	1.07	
<b>TOTAL</b>			<b>74,702</b>	

### TOTAL EMISSIONS

tons/year	74,702
tons/day	205
pounds/year	149,404,000
pounds/day	409,326

### California GHG Emissions Inventory

528,820,000	Emissions Inventory (CO <sub>2</sub> E)
0.00014	Proposed Project's Percent of Total

## GHG Emissions Summary - NET UNPLANNED USES

NET UNPLANNED USES		Tons/Year		
Source	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	
[OTHER SOURCES]				
Mobile Emissions	62,384.74	4,575.52	705.96	
Natural Gas Emissions	4,976.64	18.64	4.66	
General Electricity Emissions	8,628.52	1.51	12.29	
Water Cycle Electricity Emissions	749.58	0.13	1.07	
<b>TOTAL</b>			<b>82,059</b>	

### TOTAL EMISSIONS

tons/year	82,059
tons/day	225
pounds/year	164,118,000
pounds/day	449,638

### California GHG Emissions Inventory

528,820,000	Emissions Inventory (CO <sub>2</sub> E)
0.00016	Proposed Project's Percent of Total

## COMPARISON - NET PROJECT VS. NET UNPLANNED

NET UNPLANNED USES		Tons/Year		
Source	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	
Mobile Emissions	(6,384.96)	(468.30)	(72.25)	
Natural Gas Emissions	0.00	0.00	0.00	
General Electricity Emissions	(431.43)	(0.08)	(0.61)	
Water Cycle Electricity Emissions	0.00	0.00	0.00	
<b>TOTAL</b>			<b>-7,358</b>	

## GREENHOUSE GAS EMISSIONS CALCULATION - Mobile Source

INPUTS (From Traffic Study & URBEMIS2007)	
Estimated VMT for Net Project <sup>a</sup>	294,394
Estimated VMT for Net Unplanned Uses	327,960

INPUTS (From EMFAC 2007 for project operational year)	
Daily VMT	243,606,000
NO <sub>x</sub> (tons/day)	96.55
CH <sub>4</sub> (tons/day)	443.40

NO <sub>x</sub> (tons/mi)	0.000000396
N <sub>2</sub> O (tons/mi)	0.000000019
CH <sub>4</sub> (tons/mi)	0.000001820
N <sub>2</sub> O to NO <sub>x</sub> Ratio	0.048

Estimated Greenhouse Gas Emissions (mobile sources)		
Land Use	N <sub>2</sub> O tons/year	CH <sub>4</sub> tons/year
Net Project	2.044	195.582
Net Unplanned	2.277	217.882

OUTPUTS			
Estimated Carbon Equivalent (mobile sources)			
Land Use	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Carbon Equivalent	310	21	1
	tons/year	tons/year	tons/year
Net Project	<b>633.71</b>	<b>4,107.23</b>	<b>55,999.78</b>
Net Unplanned	<b>705.96</b>	<b>4,575.52</b>	<b>62,384.74</b>

a) URBEMIS2007

Note: CO<sub>2</sub> emissions obtained from URBEMIS2007.

## GREENHOUSE GAS EMISSIONS CALCULATION - Area Source

### Natural Gas Usage Rate

Land Use	Quantity	Unit	Natural Gas Consumption/a/	Natural Gas Use	
			(kwh/unit)	(cu ft/unit/month)	(mmBTU/year)
<b>Existing Uses - To Remain</b>					
Residential Units	58	Residential Unit	6,665	386,570	4,639
Retail Uses	401,751	square feet	2.9	1,165,078	13,981
Restaurants	41,096	square feet	2.9	119,178	1,430
Office Space	44,500	square feet	2.0	89,000	1,068
Theater	16,818	seats	2.9	48,772	585
<b>Subtotal Existing Uses - To Remain</b>				<b>1,808,599</b>	<b>21,703</b>

<b>Existing Uses - To Be Removed</b>					
Government/Civic	(112,100)	square feet	2.0	(224,200)	(2,690)
Warehouse	(57,800)	square feet	2.9	(167,620)	(2,011)
Industrial	(48,100)	square feet	2.9	(139,490)	(1,674)
<b>Subtotal Existing Uses - To Be Removed</b>				<b>(531,310)</b>	<b>(6,376)</b>

<b>Proposed Uses - To Be Added</b>					
Residential	1,618	Residential Unit	6,665	10,783,970	129,408
Retail Uses	391,362	square feet	2.9	1,134,950	13,619
Restaurants	78,650	square feet	2.9	228,085	2,737
Office Space	285,500	square feet	2.0	571,000	6,852
Theater	5,400	Square feet	2.9	15,660	188
Hotel	20,000	square feet	4.8	96,000	1,152
Government/Civic	120,000	square feet	2.0	240,000	2,880
<b>Subtotal Proposed Uses</b>				<b>13,069,665</b>	<b>156,836</b>

<b>Build Out</b>					
Residential	1,676	Residential Unit	6,665	11,170,540	134,046
Retail Uses	793,113	square feet	2.9	2,300,028	27,600
Restaurants	119,746	square feet	2.9	347,263	4,167
Office Space	330,000	square feet	2.0	660,000	7,920
Theater	22,218	Square feet	2.9	64,432	773
Hotel - rooms	20,000	square feet	4.8	96,000	1,152
Government/Civic	120,000	square feet	2.0	240,000	2,880
<b>Subtotal Proposed Uses</b>				<b>14,878,263</b>	<b>178,539</b>

### Natural Gas - Summary

<b>Net Proposed Project Uses</b>	<b>12,538,355</b>	<b>150,460</b>
<b>Gross Build Out</b>	<b>14,878,263</b>	<b>178,539</b>

Emission Factor (kg/mmBTU)		
	N <sub>2</sub> O	CH <sub>4</sub>
	0.0001	0.01

Estimated Greenhouse Gas Emissions (Natural Gas)		
Land Use	N <sub>2</sub> O	CH <sub>4</sub>
	tons	tons
Net Project	0.02	0.89

OUTPUTS			
Estimated Carbon Equivalent (Natural Gas)			
Land Use	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Carbon Equivalent	310	21	1
	tons	tons	tons
<b>Net Project / Net Unplanned</b>	<b>4.66</b>	<b>18.64</b>	<b>4,976.64</b>

a) Natural gas usage rates from Table A9-12-A of the SCAQMD CEQA Air Quality Handbook.

b) California Climate Action Registry, *General Reporting Protocol*, March, 2007.

## GREENHOUSE GAS EMISSIONS CALCULATION - General Electricity

### Electricity Usage Rates

Land Use	Quantity	Unit	Electricity Use Factor /a/	Electricity Use
			(kwh/unit)	(kWh/year)
<b>Existing Uses - To Remain</b>				
Residential Units	58	Residential Unit	5,626.50	326,337
Retail Uses	401,751	square feet	13.55	5,443,726
Restaurants	41,096	square feet	47.45	1,950,005
Office Space	44,500	square feet	12.95	576,275
Theater	16,818	square feet	10.50	176,589
<b>Subtotal Existing Uses - To Remain</b>				<b>8,472,932</b>

<b>Existing Uses - To Be Removed</b>				
Government/Civic	(112,100)	square feet	12.95	(1,451,695)
Warehouse	(57,800)	square feet	4.35	(251,430)
Industrial	(48,100)	square feet	10.50	(505,050)
<b>Subtotal Existing Uses - To Be Removed</b>				<b>(2,208,175)</b>

<b>Proposed Uses - To Be Added</b>				
Residential	1,618	Residential Unit	5,626.50	9,103,677
Retail Uses	391,362	square feet	13.55	5,302,955
Restaurants	78,650	square feet	47.45	3,731,943
Office Space	285,500	square feet	12.95	3,697,225
Theater	5,400	Square feet	10.50	56,700
Hotel	20,000	square feet	9.95	199,000
Government/Civic	120,000	square feet	12.95	1,554,000
<b>Subtotal Proposed Uses</b>				<b>23,645,500</b>

<b>Build Out</b>				
Residential	1,676	Residential Unit	5,626.50	9,430,014
Retail Uses	793,113	square feet	13.55	10,746,681
Restaurants	119,746	square feet	47.45	5,681,948
Office Space	330,000	square feet	12.95	4,273,500
Theater - Seats	22,218	Square feet	10.50	233,289
Hotel - rooms	20,000	square feet	9.95	199,000
Government/Civic	120,000	square feet	12.95	1,554,000
<b>Subtotal Build Out</b>				<b>32,118,432</b>

### Electricity - Summary

<b>Net Proposed Project Uses</b>	<b>20,365,458</b>
<b>Net Unplanned Uses</b>	<b>21,437,325</b>
<b>Gross Build Out</b>	<b>32,118,432</b>

Emission Factor (pounds/Kwh) <sup>b</sup>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
	0.000004	0.000007	0.805000

Estimated Greenhouse Gas Emissions (Electricity)	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
	tons	tons	tons
<b>Net Project</b>	0.04	0.07	8197.10
<b>Net Unplanned</b>	0.04	0.07	8628.52

<b>OUTPUTS</b>			
Estimated Carbon Equivalent (Electricity)	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
<b>Carbon Equivalen</b>	<b>310</b>	<b>21</b>	<b>1</b>
	tons	tons	tons
<b>Net Project</b>	11.68	1.43	8197.10
<b>Net Unplanned</b>	12.29	1.51	8628.52

a) General electricity usage rates obtained from Table A9-11-A of the SCAQMD CEQA Air Quality Handbook, November 2005.

c) California Climate Action Registry, *General Reporting Protocol*, March 2007.

**GREENHOUSE GAS EMISSIONS CALCULATION - Water Cycle Electricity  
Electrical Usage Rate**

Land Use	Quantity	Unit	Water Use Factor	Water Use	MG/Yr	Kwh/Yr <sup>b</sup>
			/a/ (gpd/unit)	(gpd)		
<b>Existing Uses - To Remain</b>						
Residential Units	58	Residential Unit	180	10,440	4	48,395
Retail Uses	401,751	square feet	0.080	32,140	12	148,985
Restaurants	41,096	square feet	0.300	12,329	5	57,150
Office Space	44,500	square feet	0.150	6,675	2	30,942
Theater - Seats	2,803	seats	4	11,212	4	51,973
<b>Total Existing Uses - To Remain</b>				<b>72,795.88</b>	<b>27</b>	<b>337,445</b>

<b>Existing Uses - To Be Removed</b>						
Government/Civic	(112,100)	square feet	0.150	(16,815)	(6)	(77,946)
Warehouse	(57,800)	square feet	0.020	(1,156)	(0)	(5,359)
Industrial	(48,100)	square feet	0.080	(3,848)	(1)	(17,837)
<b>Total Existing Uses - To Be Removed</b>				<b>(21,819.00)</b>	<b>(8)</b>	<b>(101,142)</b>

<b>Proposed Project Uses - To Be Added</b>						
Residential Units	1,618	Residential Unit	180	291,240	106	1,350,043
Retail Uses	391,362	square feet	0.080	31,309	11	145,133
Restaurants	78,650	square feet	0.300	23,595	9	109,375
Office Space	285,500	square feet	0.150	42,825	16	198,515
Theater - Seats	900	seats	4	3,600	1	16,688
Hotel - rooms	100	rooms	130	13,000	5	60,262
Government/Civic	120,000	square feet	0.150	18,000	7	83,439
<b>Total Proposed Project Uses - To Be Added</b>				<b>423,568.96</b>	<b>155</b>	<b>1,963,454</b>

<b>Build Out</b>						
Residential Units	1,676	Residential Unit	180	301,680	110	1,398,438
Retail Uses	793,113	square feet	0.080	63,449	23	294,118
Restaurants	119,746	square feet	0.300	35,924	13	166,525
Office Space	330,000	square feet	0.150	49,500	18	229,457
Theater - Seats	3,703	seats	4	14,812	5	68,661
Hotel - rooms	100	rooms	130	13,000	5	60,262
Government/Civic	120,000	square feet	0.150	18,000	7	83,439
<b>Total Estimated Build Out Development</b>				<b>496,365</b>	<b>181</b>	<b>2,300,899</b>

<b>Net Proposed Project Uses</b>				<b>401,750</b>	<b>147</b>	<b>1,862,312</b>
<b>Build Out</b>				<b>496,365</b>	<b>181</b>	<b>2,300,899</b>

<b>Water Cycle Usage Factor</b>	
Unit	Usage Factor
Kilowatt-Hour/Million Gallons/Year	12,700

<b>Emission Factor (pounds/Kwh)<sup>c</sup></b>			
	<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
	0.0000037	0.0000067	0.8050000

<b>Estimated Greenhouse Gas Emissions</b>			
<b>Land Use</b>	<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
	tons	tons	tons
<b>Net Project / Net Unplanned</b>	0.0034	0.0062	749.5806

<b>OUTPUTS</b>			
<b>Estimated Carbon Equivalent (Electricity)</b>			
<b>Land Use</b>	<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
<b>Carbon Equivalent</b>	<b>310</b>	<b>21</b>	<b>1</b>
	tons	tons	tons
<b>Net Project / Net Unplanned</b>	1.07	0.13	749.58

- a) General electricity usage rates obtained from Table A9-11-A of the SCAQMD CEQA Air Quality Handbook.  
b) Water cycle electricity rate obtained from California Energy Commission, 2005 Integrated Energy Policy Report, November 2005.  
c) California Climate Action Registry, General Reporting Protocol, March 2007.

# SCAQMD Rule 403

(Adopted May 7, 1976) (Amended November 6, 1992)  
(Amended July 9, 1993) (Amended February 14, 1997)  
(Amended December 11, 1998)(Amended April 2, 2004)  
(Amended June 3, 2005)

**RULE 403. FUGITIVE DUST**

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

- (1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.
- (2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.
- (3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.
- (4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.
- (5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

- (6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.
- (7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.
- (8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.
- (9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.
- (10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.
- (11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.
- (12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.
- (13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

- (14) **DISTURBED SURFACE AREA** means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:
- (A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;
  - (B) been paved or otherwise covered by a permanent structure; or
  - (C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.
- (15) **DUST SUPPRESSANTS** are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.
- (16) **EARTH-MOVING ACTIVITIES** means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.
- (17) **DUST CONTROL SUPERVISOR** means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.
- (18) **FUGITIVE DUST** means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.
- (19) **HIGH WIND CONDITIONS** means that instantaneous wind speeds exceed 25 miles per hour.
- (20) **INACTIVE DISTURBED SURFACE AREA** means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.
- (21) **LARGE OPERATIONS** means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

- (22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.
- (23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.
- (24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.
- (25) PM<sub>10</sub> means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.
- (26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.
- (27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.
- (28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.
- (29) SIMULTANEOUS SAMPLING means the operation of two PM<sub>10</sub> samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.
- (30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

- (31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.
  - (32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
  - (33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.
  - (34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.
  - (35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
  - (36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.
  - (37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.
- (d) Requirements
- (1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

- (A) the dust remains visible in the atmosphere beyond the property line of the emission source; or
  - (B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.
- (2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.
- (3) No person shall cause or allow PM<sub>10</sub> levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM<sub>10</sub> monitoring. If sampling is conducted, samplers shall be:
- (A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM<sub>10</sub>.
  - (B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.
- (4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.
- (5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.
- (A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

- (B) Pave the surface extending at least 100 feet and at least 20 feet wide.
  - (C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
  - (D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
  - (E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).
- (6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.
- (e) Additional Requirements for Large Operations
- (1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:
    - (A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;
    - (B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;
    - (C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

- (D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;
  - (E) identify a dust control supervisor that:
    - (i) is employed by or contracted with the property owner or developer;
    - (ii) is on the site or available on-site within 30 minutes during working hours;
    - (iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;
    - (iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and
  - (F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).
- (2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).
- (f) **Compliance Schedule**  
The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

- (A) Dairy farms.
- (B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.
- (C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.
- (D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:
  - (i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;
  - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and
  - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.
- (E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:
  - (i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and
  - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and
  - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.

- (F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.
  - (G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.
  - (H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.
  - (I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.
  - (J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:
    - (i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and
    - (ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.
  - (K) sandblasting operations.
- (2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:
- (A) When wind gusts exceed 25 miles per hour, provided that:

- (i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;
    - (ii) records are maintained in accordance with subparagraph (e)(1)(C).
  - (B) To unpaved roads, provided such roads:
    - (i) are used solely for the maintenance of wind-generating equipment; or
    - (ii) are unpaved public alleys as defined in Rule 1186; or
    - (iii) are service roads that meet all of the following criteria:
      - (a) are less than 50 feet in width at all points along the road;
      - (b) are within 25 feet of the property line; and
      - (c) have a traffic volume less than 20 vehicle-trips per day.
  - (C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.
- (3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.
  - (4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:
    - (A) Blasting operations which have been permitted by the California Division of Industrial Safety; and
    - (B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.
  - (5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

- (6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.
- (7) The provisions of subdivision (e) shall not apply to:
  - (A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.
  - (B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.
  - (C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.
- (8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM<sub>10</sub> pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

**TABLE 1**  
**BEST AVAILABLE CONTROL MEASURES**  
**(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	<ul style="list-style-type: none"> <li>✓ Mix backfill soil with water prior to moving</li> <li>✓ Dedicate water truck or high capacity hose to backfilling equipment</li> <li>✓ Empty loader bucket slowly so that no dust plumes are generated</li> <li>✓ Minimize drop height from loader bucket</li> </ul>
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	<ul style="list-style-type: none"> <li>✓ Maintain live perennial vegetation where possible</li> <li>✓ Apply water in sufficient quantity to prevent generation of dust plumes</li> </ul>
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	<ul style="list-style-type: none"> <li>✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements</li> </ul>
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	<ul style="list-style-type: none"> <li>✓ Follow permit conditions for crushing equipment</li> <li>✓ Pre-water material prior to loading into crusher</li> <li>✓ Monitor crusher emissions opacity</li> <li>✓ Apply water to crushed material to prevent dust plumes</li> </ul>

**TABLE 1**  
**BEST AVAILABLE CONTROL MEASURES**  
**(Applicable to All Construction Activity Sources)**

<b>Source Category</b>	<b>Control Measure</b>	<b>Guidance</b>
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration
	05-2 Stabilize soil during and after cut and fill activities.	✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
	06-2 Stabilize surface soil where support equipment and vehicles will operate; and	
	06-3 Stabilize loose soil and demolition debris; and	
	06-4 Comply with AQMD Rule 1403.	
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and	✓ Limit vehicular traffic and disturbances on soils where possible
	07-2 Stabilize disturbed soil between structures	✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and	✓ Grade each project phase separately, timed to coincide with construction phase
	08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and	✓ Upwind fencing can prevent material movement on site
	08-3 Stabilize soils once earth-moving activities are complete.	✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

**TABLE 1**  
**BEST AVAILABLE CONTROL MEASURES**  
**(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	<p>09-1 Stabilize material while loading to reduce fugitive dust emissions; and</p> <p>09-2 Maintain at least six inches of freeboard on haul vehicles; and</p> <p>09-3 Stabilize material while transporting to reduce fugitive dust emissions; and</p> <p>09-4 Stabilize material while unloading to reduce fugitive dust emissions; and</p> <p>09-5 Comply with Vehicle Code Section 23114.</p>	<ul style="list-style-type: none"> <li>✓ Use tarps or other suitable enclosures on haul trucks</li> <li>✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage</li> <li>✓ Comply with track-out prevention/mitigation requirements</li> <li>✓ Provide water while loading and unloading to reduce visible dust plumes</li> </ul>
Landscaping	10-1 Stabilize soils, materials, slopes	<ul style="list-style-type: none"> <li>✓ Apply water to materials to stabilize</li> <li>✓ Maintain materials in a crusted condition</li> <li>✓ Maintain effective cover over materials</li> <li>✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes</li> <li>✓ Hydroseed prior to rain season</li> </ul>
Road shoulder maintenance	<p>11-1 Apply water to unpaved shoulders prior to clearing; and</p> <p>11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.</p>	<ul style="list-style-type: none"> <li>✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs</li> <li>✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs</li> </ul>

**TABLE 1**  
**BEST AVAILABLE CONTROL MEASURES**  
**(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	<ul style="list-style-type: none"> <li>✓ Dedicate water truck or high capacity hose to screening operation</li> <li>✓ Drop material through the screen slowly and minimize drop height</li> <li>✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point</li> </ul>
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	<ul style="list-style-type: none"> <li>✓ Limit size of staging area</li> <li>✓ Limit vehicle speeds to 15 miles per hour</li> <li>✓ Limit number and size of staging area entrances/exists</li> </ul>
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	<ul style="list-style-type: none"> <li>✓ Add or remove material from the downwind portion of the storage pile</li> <li>✓ Maintain storage piles to avoid steep sides or faces</li> </ul>

**TABLE 1**  
**BEST AVAILABLE CONTROL MEASURES**  
**(Applicable to All Construction Activity Sources)**

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	<ul style="list-style-type: none"> <li>✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas</li> <li>✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes</li> </ul>
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	<ul style="list-style-type: none"> <li>✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching</li> <li>✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment</li> </ul>
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	<ul style="list-style-type: none"> <li>✓ Empty loader bucket such that no visible dust plumes are created</li> <li>✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading</li> </ul>
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	<ul style="list-style-type: none"> <li>✓ Haul waste material immediately off-site</li> </ul>

**TABLE 1**  
**BEST AVAILABLE CONTROL MEASURES**  
**(Applicable to All Construction Activity Sources)**

<b>Source Category</b>	<b>Control Measure</b>	<b>Guidance</b>
Unpaved roads/parking lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

**Table 2**  
**DUST CONTROL MEASURES FOR LARGE OPERATIONS**

<b>FUGITIVE DUST SOURCE CATEGORY</b>	<b>CONTROL ACTIONS</b>
<b>Earth-moving (except construction cutting and filling areas, and mining operations)</b>	<p>(1a) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR</p> <p>(1a-1) For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.</p>
<b>Earth-moving: Construction fill areas:</b>	<p>(1b) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.</p>

Table 2 (Continued)

<b>FUGITIVE DUST SOURCE CATEGORY</b>	<b>CONTROL ACTIONS</b>
<b>Earth-moving: Construction cut areas and mining operations:</b>	(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
<b>Disturbed surface areas (except completed grading areas)</b>	(2a/b) Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
<b>Disturbed surface areas: Completed grading areas</b>	(2c) Apply chemical stabilizers within five working days of grading completion; OR  (2d) Take actions (3a) or (3c) specified for inactive disturbed surface areas.
<b>Inactive disturbed surface areas</b>	(3a) Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR  (3b) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR  (3c) Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR  (3d) Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

<b>FUGITIVE DUST SOURCE CATEGORY</b>	<b>CONTROL ACTIONS</b>
<b>Unpaved Roads</b>	<p>(4a) Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR</p> <p>(4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR</p> <p>(4c) Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.</p>
<b>Open storage piles</b>	<p>(5a) Apply chemical stabilizers; OR</p> <p>(5b) Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR</p> <p>(5c) Install temporary coverings; OR</p> <p>(5d) Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.</p>
<b>All Categories</b>	<p>(6a) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.</p>

**TABLE 3**  
**CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS**

<b>FUGITIVE DUST SOURCE CATEGORY</b>	<b>CONTROL MEASURES</b>
<b>Earth-moving</b>	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
<b>Disturbed surface areas</b>	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
<b>Unpaved roads</b>	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
<b>Open storage piles</b>	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
<b>Paved road track-out</b>	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
<b>All Categories</b>	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

**Table 4**  
**(Conservation Management Practices for Confined Animal Facilities)**

<b>SOURCE CATEGORY</b>	<b>CONSERVATION MANAGEMENT PRACTICES</b>
<b>Manure Handling</b>  <b>(Only applicable to Commercial Poultry Ranches)</b>	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
<b>Feedstock Handling</b>	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
<b>Disturbed Surfaces</b>	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
<b>Unpaved Roads</b>	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
<b>Equipment Parking Areas</b>	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).