Impact Sciences, Inc., "Construction Emissions: Grading and Improvements Emissions, Indirect Emissions" (2008)

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Adobe Canyon**
Subphase	**Grading - Indirect**
Quarter	**1(2,3)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	40
Months of Grading Activity:	2.0
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	9,755.90
Amount of Off-Site Cut and Fill Per Day (cy)	9,755.90

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,493.79

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,648.14	30% reduction
Replace Ground Cover in Disturbed Areas	824.07	15% reduction
Water Exposed Surfaces Twice Daily	1,867.89	34% reduction
Water Exposed Surfaces Three Times Daily	3,351.21	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,351.21	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2011) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,493.79	1,142.71	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,351.21	697.05		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	2,154.77	456.85	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	2,154.71	456.82	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Adobe Canyon**
Subphase	**Grading - Indirect**
Quarter	**2, 3, 4(10,11)**

Length of Subphase Grading (Work Days):	160
Months of Grading Activity:	8.0
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	11,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	11,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,188.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,856.40	30% reduction
Replace Ground Cover in Disturbed Areas	928.20	15% reduction
Water Exposed Surfaces Twice Daily	2,103.92	34% reduction
Water Exposed Surfaces Three Times Daily	3,774.68	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,774.68	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2011) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

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GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,188.00	1,287.10	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,774.68	785.13		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	2,425.51	513.17	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	2,425.45	513.13	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Adobe Canyon**
Subphase	**Grading - Indirect**
Quarter	**4(12)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	17
Months of Grading Activity:	0.9
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	9,076.63
Amount of Off-Site Cut and Fill Per Day (cy)	9,076.63

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,114.76

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,534.43	30% reduction
Replace Ground Cover in Disturbed Areas	767.21	15% reduction
Water Exposed Surfaces Twice Daily	1,739.02	34% reduction
Water Exposed Surfaces Three Times Daily	3,120.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,120.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

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GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,114.76	1,063.87	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,120.00	648.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	2,006.94	426.11	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	2,006.89	426.07	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquita Estates**
Subphase	**Grading - Indirect**
Quarter	**1(1,2)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	40
Months of Grading Activity:	2.0
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,630.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,689.00	30% reduction
Replace Ground Cover in Disturbed Areas	844.50	15% reduction
Water Exposed Surfaces Twice Daily	1,914.20	34% reduction
Water Exposed Surfaces Three Times Daily	3,434.30	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,434.30	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 1,223.60

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,630.00	1,171.04	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,434.30	714.33		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	2,211.26	470.99	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	2,211.14	470.91	15.44	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquita Estates**
Subphase	**Grading - Indirect**
Quarter	**1(3)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	11
Months of Grading Activity:	0.6
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	5,267.50
Amount of Off-Site Cut and Fill Per Day (cy)	5,267.50

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 2,989.27

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	896.78	30% reduction
Replace Ground Cover in Disturbed Areas	448.39	15% reduction
Water Exposed Surfaces Twice Daily	1,016.35	34% reduction
Water Exposed Surfaces Three Times Daily	1,823.45	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	1,823.45	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2016) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	2,989.27	621.77	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	1,823.45	379.28		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	1,181.37	256.77	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	1,181.26	256.70	15.44	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2(4)**

Length of Subphase Grading (Work Days):	80
Months of Grading Activity:	4.0
Number of Days/Month	20
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	6,383.00
Amount of Off-Site Cut and Fill Per Day (cy)	6,383.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 3,611.71

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,083.51	30% reduction
Replace Ground Cover in Disturbed Areas	541.76	15% reduction
Water Exposed Surfaces Twice Daily	1,227.98	34% reduction
Water Exposed Surfaces Three Times Daily	2,203.15	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,203.15	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2015) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001
Crawler Tractors	4	8	7.9	65.6	28.7	0.1	2.5	8,926.5	0.248	2.051	0.898	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	2	8	3.8	29.0	12.0	0.1	1.0	5,667.5	0.240	1.813	0.752	0.004
Graders	2	8	2.2	18.9	6.7	0.0	0.7	2,845.6	0.136	1.181	0.422	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Water Trucks	6	8	9.4	68.0	28.6	0.1	2.4	13,072.0	0.196	1.416	0.595	0.003
Off-Highway Trucks	2	8	4.4	32.4	13.3	0.1	1.1	6,070.4	0.274	2.024	0.828	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.748	0.497	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.087	0.241	0.275	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers	2	8	5.2	42.6	22.0	0.0	1.7	4,683.6	0.324	2.661	1.375	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.111	0.907	0.472	0.001
Scrapers	3	8	8.7	73.3	32.1	0.1	2.8	9,667.4	0.362	3.055	1.338	0.004
Scraper 2A	3	8	8.2	69.1	30.3	0.1	2.7	9,128.6	0.342	2.877	1.264	0.004
Scraper 2B	3	8	6.3	52.8	22.0	0.1	2.0	6,865.2	0.261	2.201	0.918	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.307	2.573	1.137	0.003
Total Pieces of Equipment	27	Total Emissions:	56.1	451.7	195.8	0.7	17.0	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	3,611.71	751.24	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	56.08	451.69	195.80	0.67	17.00	15.64	17.00	66,926.83	
Grading Worker Commute Trips	0.81	0.74	7.51	0.01	0.11	0.07	--	1,348.32	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,203.15	458.25		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	56.89	452.43	203.32	0.68	1,425.68	308.70	17.00	68,275.15	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	56.08	451.69	195.80	0.67	1,425.57	308.62	17.00	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito Canyon**
Subphase	**Grading - Indirect**
Quarter	**2(5,6), 3, 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	160
Months of Grading Activity:	8.0
Number of Days/Month	20
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,630.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,689.00	30% reduction
Replace Ground Cover in Disturbed Areas	844.50	15% reduction
Water Exposed Surfaces Twice Daily	1,914.20	34% reduction
Water Exposed Surfaces Three Times Daily	3,434.30	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,434.30	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001
Crawler Tractors	4	8	7.9	65.6	28.7	0.1	2.5	8,926.5	0.248	2.051	0.898	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	2	8	3.8	29.0	12.0	0.1	1.0	5,667.5	0.240	1.813	0.752	0.004
Graders	2	8	2.2	18.9	6.7	0.0	0.7	2,845.6	0.136	1.181	0.422	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Water Trucks	6	8	9.4	68.0	28.6	0.1	2.4	13,072.0	0.196	1.416	0.595	0.003
Off-Highway Trucks	2	8	4.4	32.4	13.3	0.1	1.1	6,070.4	0.274	2.024	0.828	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.748	0.497	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.087	0.241	0.275	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers	2	8	5.2	42.6	22.0	0.0	1.7	4,683.6	0.324	2.661	1.375	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.111	0.907	0.472	0.001
Scrapers	3	8	8.7	73.3	32.1	0.1	2.8	9,667.4	0.362	3.055	1.338	0.004
Scraper 2A	3	8	8.2	69.1	30.3	0.1	2.7	9,128.6	0.342	2.877	1.264	0.004
Scraper 2B	3	8	6.3	52.8	22.0	0.1	2.0	6,865.2	0.261	2.201	0.918	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.307	2.573	1.137	0.003
Total Pieces of Equipment	27	Total Emissions:	56.1	451.7	195.8	0.7	17.0	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,630.00	1,171.04	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	56.08	451.69	195.80	0.67	17.00	15.64	17.00	66,926.83	
Grading Worker Commute Trips	0.81	0.74	7.51	0.01	0.11	0.07	--	1,348.32	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,434.30	714.33		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	56.89	452.43	203.32	0.68	2,212.81	472.42	17.00	68,275.15	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	56.08	451.69	195.80	0.67	2,212.70	472.35	17.00	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2(4)**

Length of Subphase Grading (Work Days):	80
Months of Grading Activity:	4.0
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,630.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,689.00	30% reduction
Replace Ground Cover in Disturbed Areas	844.50	15% reduction
Water Exposed Surfaces Twice Daily	1,914.20	34% reduction
Water Exposed Surfaces Three Times Daily	3,434.30	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,434.30	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2016) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 1,223.60

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,630.00	1,171.04	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,434.30	714.33		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	2,211.26	470.99	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	2,211.14	470.91	15.44	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito Canyon**
Subphase	**Grading - Indirect**
Quarter	**2(5)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	5
Months of Grading Activity:	0.3
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	2,689.05
Amount of Off-Site Cut and Fill Per Day (cy)	2,689.05

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 1,550.49

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	465.15	30% reduction
Replace Ground Cover in Disturbed Areas	232.57	15% reduction
Water Exposed Surfaces Twice Daily	527.17	34% reduction
Water Exposed Surfaces Three Times Daily	945.80	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	945.80	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	1,550.49	322.50	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	945.80	196.73		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	620.25	140.06	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	620.13	139.98	15.44	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito/Homestead**
Subphase	**Improvements - Sewers**
Quarter	**1, 2, 3, 4**
Length of Subphase Improvement (Work Days):	240
Months of Improvement Activity:	12.0
Number of Days/Month	20
Construction Year:	2016

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001610	0.018874	0.007046	0.000040	0.000944	0.000784	4.210630

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.23	0.08	0.00	0.01	0.01	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.0	0.4	0.4	0.0	0.0	131.9	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes	0.1	8	0.1	0.6	0.2	0.0	0.0	89.7	0.088	0.753	0.263	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.597	6.331	2.231	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	1	8	0.8	6.3	2.7	0.0	0.2	1,269.5	0.105	0.786	0.339	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.122	0.862	0.731	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.186	1.252	0.580	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.133	0.896	0.618	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.511	0.397	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.185	1.307	0.828	0.001
Rubber Tired Loaders	0.9	8	0.7	5.3	4.5	0.0	0.3	765.5	0.102	0.730	0.624	0.001
Scrapers	0.5	8	0.9	7.6	3.1	0.0	0.3	1,043.9	0.229	1.889	0.772	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Total Pieces of Equipment	2.6	Total Emissions:	2.6	20.1	10.9	0.0	0.8	3300.47				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.04	0.44	0.00	0.01	0.00	84.34
Total Emissions	0.05	0.04	0.44	0.00	0.01	0.00	84.34

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.23	0.08	0.00	0.01	0.01	0.01	50.53
Off-Road Diesel Exhaust	2.62	20.13	10.91	0.04	0.82	0.76	0.82	3,300.47
Improvements Worker Commute Trips	0.05	0.04	0.44	0.00	0.01	0.00	--	84.34
Net Emission Totals:	2.68	20.40	11.43	0.04	0.84	0.77	0.83	3,435.33
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.62	20.13	10.91	0.04	0.82	0.76	0.82	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito/Homestead**
Subphase	**Improvements - Sewers**
Quarter	**1, 2(4)**
Length of Subphase Improvement (Work Days):	80
Months of Improvement Activity:	4.0
Number of Days/Month	20
Construction Year:	2017

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2017)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001452	0.016904	0.006505	0.000040	0.000849	0.000697	4.208201

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.20	0.08	0.00	0.01	0.01	50.50

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2017)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.0	0.4	0.4	0.0	0.0	131.9	0.058	0.469	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.068	0.427	0.389	0.001
Cranes	0.1	8	0.1	0.5	0.2	0.0	0.0	89.7	0.083	0.683	0.257	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.567	6.024	2.119	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.870	10.180	2.831	0.013
Excavators	1	8	0.8	5.5	2.7	0.0	0.2	1,269.5	0.099	0.688	0.335	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.778	0.730	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.100	0.400	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	1.103	0.568	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.047	0.219	0.239	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	0.835	0.615	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.074	0.475	0.394	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.074	0.285	0.337	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.176	1.224	0.823	0.001
Rubber Tired Loaders	0.9	8	0.7	4.7	4.5	0.0	0.3	765.5	0.095	0.657	0.623	0.001
Scrapers	0.5	8	0.9	6.9	3.0	0.0	0.3	1,043.9	0.217	1.736	0.738	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.235	1.861	0.830	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.326	2.585	1.202	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.123	1.283	0.492	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.263	0.302	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.097	0.689	0.351	0.002
Total Pieces of Equipment	2.6	Total Emissions:	2.5	18.1	10.7	0.0	0.7	3300.46				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2017)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000601	0.000513	0.005379	0.000011	0.000094	0.000062	1.106275

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.04	0.41	0.00	0.01	0.00	84.30
Total Emissions	0.05	0.04	0.41	0.00	0.01	0.00	84.30

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.20	0.08	0.00	0.01	0.01	0.01	50.50
Off-Road Diesel Exhaust	2.46	18.10	10.73	0.04	0.74	0.68	0.74	3,300.46
Improvements Worker Commute Trips	0.05	0.04	0.41	0.00	0.01	0.00	--	84.30
Net Emission Totals:	2.52	18.34	11.22	0.04	0.75	0.69	0.75	3,435.26
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.46	18.10	10.73	0.04	0.74	0.68	0.74	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito/Homestead**
Subphase	**Improvements - Storm Drains**
Quarter	**2 (5,6), 3, 4(10,11)**
Length of Subphase Improvement (Work Days):	140
Months of Improvement Activity:	7.0
Number of Days/Month	20
Construction Year:	2017

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2017)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001452	0.016904	0.006505	0.000040	0.000849	0.000697	4.208201

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.20	0.08	0.00	0.01	0.01	50.50

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2017)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.469	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.068	0.427	0.389	0.001
Cranes	0.1	8	0.1	0.5	0.2	0.0	0.0	89.7	0.083	0.683	0.257	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.567	6.024	2.119	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.870	10.180	2.831	0.013
Excavators	1	8	0.8	5.5	2.7	0.0	0.2	1,269.5	0.099	0.688	0.335	0.002
Graders	0.1	8	0.1	0.6	0.6	0.0	0.0	99.1	0.114	0.778	0.730	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.100	0.400	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	1.103	0.568	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.047	0.219	0.239	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	0.835	0.615	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.5	8	0.3	1.9	1.6	0.0	0.2	236.0	0.074	0.475	0.394	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.074	0.285	0.337	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.176	1.224	0.823	0.001
Rubber Tired Loaders	0.9	8	0.7	4.7	4.5	0.0	0.3	765.5	0.095	0.657	0.623	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.736	0.738	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.235	1.861	0.830	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.326	2.585	1.202	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.123	1.283	0.492	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.263	0.302	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.097	0.689	0.351	0.002
Total Pieces of Equipment	2.6	Total Emissions:	1.9	13.3	9.5	0.0	0.6	2459.75				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2017)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000601	0.000513	0.005379	0.000011	0.000094	0.000062	1.106275

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.04	0.41	0.00	0.01	0.00	84.30
Total Emissions	0.05	0.04	0.41	0.00	0.01	0.00	84.30

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.20	0.08	0.00	0.01	0.01	0.01	50.50
Off-Road Diesel Exhaust	1.93	13.30	9.54	0.03	0.65	0.60	0.65	2,459.75
Improvements Worker Commute Trips	0.05	0.04	0.41	0.00	0.01	0.00	--	84.30
Net Emission Totals:	2.00	13.54	10.03	0.03	0.67	0.61	0.66	2,594.55
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.93	13.30	9.54	0.03	0.65	0.60	0.65	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito/Homestead**
Subphase	**Improvements - Water**
Quarter	**4(12)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2017

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2017)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001452	0.016904	0.006505	0.000040	0.000849	0.000697	4.208201

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.20	0.08	0.00	0.01	0.01	50.50

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2017)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.469	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.068	0.427	0.389	0.001
Cranes	0.1	8	0.1	0.5	0.2	0.0	0.0	89.7	0.083	0.683	0.257	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.567	6.024	2.119	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.870	10.180	2.831	0.013
Excavators	0.9	8	0.7	5.0	2.4	0.0	0.2	1,142.5	0.099	0.688	0.335	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.778	0.730	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.100	0.400	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	1.103	0.568	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.047	0.219	0.239	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	0.835	0.615	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.5	8	0.3	1.9	1.6	0.0	0.2	236.0	0.074	0.475	0.394	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.074	0.285	0.337	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.176	1.224	0.823	0.001
Rubber Tired Loaders	0.8	8	0.6	4.2	4.0	0.0	0.2	680.4	0.095	0.657	0.623	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.736	0.738	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.235	1.861	0.830	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.326	2.585	1.202	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.123	1.283	0.492	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.263	0.302	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.097	0.689	0.351	0.002
Total Pieces of Equipment	2.3	Total Emissions:	1.7	11.6	8.2	0.0	0.6	2148.61				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2017)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000601	0.000513	0.005379	0.000011	0.000094	0.000062	1.106275

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.04	0.41	0.00	0.01	0.00	84.30
Total Emissions	0.05	0.04	0.41	0.00	0.01	0.00	84.30

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.20	0.08	0.00	0.01	0.01	0.01	50.50
Off-Road Diesel Exhaust	1.69	11.60	8.19	0.02	0.57	0.52	0.57	2,148.61
Improvements Worker Commute Trips	0.05	0.04	0.41	0.00	0.01	0.00	--	84.30
Net Emission Totals:	1.75	11.85	8.68	0.03	0.59	0.54	0.58	2,283.41
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.69	11.60	8.19	0.02	0.57	0.52	0.57	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito/Homestead**
Subphase	**Improvements - Water**
Quarter	**1, 2, 3, 4(10)**
Length of Subphase Improvement (Work Days):	200
Months of Improvement Activity:	10.0
Number of Days/Month	20
Construction Year:	2018

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2018)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001317	0.015264	0.006047	0.000039	0.000768	0.000624	4.207568

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.18	0.07	0.00	0.01	0.01	50.49

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2018)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.054	0.417	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.396	0.385	0.001
Cranes	0.1	8	0.1	0.5	0.2	0.0	0.0	89.7	0.079	0.617	0.252	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.538	5.736	2.017	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.831	9.590	2.757	0.013
Excavators	0.9	8	0.7	4.3	2.4	0.0	0.1	1,142.5	0.093	0.598	0.332	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.106	0.700	0.729	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.024	0.386	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.166	0.971	0.558	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.041	0.210	0.234	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.777	0.612	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.5	8	0.3	1.8	1.6	0.0	0.1	236.0	0.068	0.441	0.392	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.274	0.329	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.168	1.144	0.819	0.001
Rubber Tired Loaders	0.8	8	0.6	3.8	4.0	0.0	0.2	680.4	0.089	0.590	0.623	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.205	1.591	0.709	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.222	1.706	0.795	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.309	2.370	1.148	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.115	1.130	0.486	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.052	0.254	0.297	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.596	0.348	0.002
Total Pieces of Equipment	2.3	Total Emissions:	1.6	10.3	8.1	0.0	0.5	2148.62				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2018)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000572	0.000473	0.005029	0.000011	0.000095	0.000062	1.105626

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.04	0.38	0.00	0.01	0.00	84.25
Total Emissions	0.04	0.04	0.38	0.00	0.01	0.00	84.25

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.18	0.07	0.00	0.01	0.01	0.01	50.49
Off-Road Diesel Exhaust	1.58	10.34	8.15	0.02	0.51	0.47	0.51	2,148.62
Improvements Worker Commute Trips	0.04	0.04	0.38	0.00	0.01	0.00	--	84.25
Net Emission Totals:	1.63	10.56	8.60	0.03	0.52	0.48	0.51	2,283.35
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.58	10.34	8.15	0.02	0.51	0.47	0.51	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Chiquito/Homestead**
Subphase	**Improvements - Streets**
Quarter	**4 (11,12)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2018

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	120
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	6 **Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)**
Daily Vehicle Miles Traveled	24 Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2018)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001317	0.015264	0.006047	0.000039	0.000768	0.000624	4.207568

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.15	0.00	0.02	0.01	100.98

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2018)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.054	0.417	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.396	0.385	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.617	0.252	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.538	5.736	2.017	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.831	9.590	2.757	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.093	0.598	0.332	0.002
Graders	0.8	8	0.7	4.5	4.7	0.0	0.2	793.1	0.106	0.700	0.729	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.024	0.386	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.166	0.971	0.558	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.041	0.210	0.234	0.000
Pavers	0.2	8	0.2	1.2	1.0	0.0	0.1	153.7	0.118	0.777	0.612	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.8	8	0.4	2.8	2.5	0.0	0.2	377.5	0.068	0.441	0.392	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.274	0.329	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.168	1.144	0.819	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.089	0.590	0.623	0.001
Scrapers	0.7	8	1.1	8.9	4.0	0.0	0.3	1,461.4	0.205	1.591	0.709	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.222	1.706	0.795	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.309	2.370	1.148	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.115	1.130	0.486	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.052	0.254	0.297	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.596	0.348	0.002
Total Pieces of Equipment	2.5	Total Emissions:	2.5	17.5	12.1	0.0	0.9	2785.75				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2018)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000572	0.000473	0.005029	0.000011	0.000095	0.000062	1.105626

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.04	0.38	0.00	0.01	0.00	84.25
Total Emissions	0.04	0.04	0.38	0.00	0.01	0.00	84.25

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.15	0.00	0.02	0.01	0.02	100.98
Off-Road Diesel Exhaust	2.45	17.46	12.13	0.03	0.88	0.81	0.88	2,785.75
Improvements Worker Commute Trips	0.04	0.04	0.38	0.00	0.01	0.00	--	84.25
Net Emission Totals:	2.53	17.86	12.65	0.03	0.91	0.83	0.90	2,970.98
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.45	17.46	12.13	0.03	0.88	0.81	0.88	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada North Commercial**
Subphase	**Grading - Indirect**
Quarter	**2(6)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	10
Months of Grading Activity:	0.5
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	6,562.50
Amount of Off-Site Cut and Fill Per Day (cy)	6,562.50

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 3,711.88

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,113.56	30% reduction
Replace Ground Cover in Disturbed Areas	556.78	15% reduction
Water Exposed Surfaces Twice Daily	1,262.04	34% reduction
Water Exposed Surfaces Three Times Daily	2,264.24	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,264.24	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	3,711.88	772.07	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,264.24	470.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	1,459.82	312.30	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	1,459.76	312.27	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada North Commercial**
Subphase	**Grading - Indirect**
Quarter	**2(6), 3, 4(10)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	90
Months of Grading Activity:	4.5
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	7,500.00
Amount of Off-Site Cut and Fill Per Day (cy)	7,500.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 4,235.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,270.50	30% reduction
Replace Ground Cover in Disturbed Areas	635.25	15% reduction
Water Exposed Surfaces Twice Daily	1,439.90	34% reduction
Water Exposed Surfaces Three Times Daily	2,583.35	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,583.35	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	4,235.00	880.88	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,583.35	537.34		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	1,663.84	354.74	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	1,663.78	354.70	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada North Commercial**
Subphase	**Grading - Indirect**
Quarter	**4(11)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	5
Months of Grading Activity:	0.3
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	1,946.00
Amount of Off-Site Cut and Fill Per Day (cy)	1,946.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 1,135.87

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	340.76	30% reduction
Replace Ground Cover in Disturbed Areas	170.38	15% reduction
Water Exposed Surfaces Twice Daily	386.20	34% reduction
Water Exposed Surfaces Three Times Daily	692.88	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	692.88	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

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GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	1,135.87	236.26	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	692.88	144.12		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	455.18	103.34	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	455.12	103.30	12.13	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada North Commercial**
Subphase	**Improvements - Sewers**
Quarter	**4(12)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2011

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002795	0.034558	0.011125	0.000040	0.001661	0.001445	4.220457

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.41	0.13	0.00	0.02	0.02	50.65

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.8	0.4	0.0	0.0	132.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes	0.1	8	0.1	0.9	0.3	0.0	0.0	89.7	0.117	1.152	0.328	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.759	8.172	3.122	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	0.1	8	0.1	1.1	0.3	0.0	0.0	126.9	0.137	1.363	0.376	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.272	0.738	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.237	2.124	0.706	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	1.198	0.640	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.113	0.700	0.414	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.230	1.709	0.860	0.001
Rubber Tired Loaders	0.1	8	0.1	0.9	0.5	0.0	0.1	85.1	0.139	1.082	0.630	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.295	2.737	1.024	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Total Pieces of Equipment	0.4	Total Emissions:	0.4	3.7	1.5	0.0	0.2	433.69				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	1
Number of Passenger Vehicle Trips	1

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 25.40

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.02	0.02	0.21	0.00	0.00	0.00	28.00
Total Emissions	0.02	0.02	0.21	0.00	0.00	0.00	28.00

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.41	0.13	0.00	0.02	0.02	0.02	50.65
Off-Road Diesel Exhaust	0.39	3.68	1.48	0.00	0.16	0.14	0.16	433.69
Improvements Worker Commute Trips	0.02	0.02	0.21	0.00	0.00	0.00	--	28.00
Net Emission Totals:	0.45	4.12	1.82	0.01	0.18	0.16	0.18	512.33
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	0.39	3.68	1.48	0.00	0.16	0.14	0.16	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada North Commercial**
Subphase	**Improvements - Sewers**
Quarter	**1 (1,2)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2012

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.7	0.4	0.0	0.0	132.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	0.1	8	0.1	1.0	0.3	0.0	0.0	126.9	0.130	1.244	0.363	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	0.1	8	0.1	0.8	0.5	0.0	0.0	85.1	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	0.4	Total Emissions:	0.4	3.4	1.4	0.0	0.1	433.69				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	1
Number of Passenger Vehicle Trips	1

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 25.40

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.02	0.02	0.19	0.00	0.00	0.00	27.98
Total Emissions	0.02	0.02	0.19	0.00	0.00	0.00	27.98

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	0.37	3.38	1.45	0.00	0.14	0.13	0.14	433.69
Improvements Worker Commute Trips	0.02	0.02	0.19	0.00	0.00	0.00	--	27.98
Net Emission Totals:	0.42	3.77	1.76	0.01	0.16	0.15	0.16	512.26
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	0.37	3.38	1.45	0.00	0.14	0.13	0.14	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada North Commercial**
Subphase	**Improvements - Storm Drains**
Quarter	**1 (3)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	0.1	8	0.1	1.0	0.3	0.0	0.0	126.9	0.130	1.244	0.363	0.002
Graders	0.1	8	0.1	1.0	0.6	0.0	0.1	99.1	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.1	8	0.1	0.5	0.3	0.0	0.0	47.2	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	0.1	8	0.1	0.8	0.5	0.0	0.0	85.1	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	0.5	Total Emissions:	0.5	4.1	2.0	0.0	0.2	448.05				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	1
Number of Passenger Vehicle Trips	1

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	25.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.02	0.02	0.19	0.00	0.00	0.00	27.98
Total Emissions	0.02	0.02	0.19	0.00	0.00	0.00	27.98

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	0.51	4.15	1.96	0.01	0.21	0.19	0.21	448.05
Improvements Worker Commute Trips	0.02	0.02	0.19	0.00	0.00	0.00	--	27.98
Net Emission Totals:	0.56	4.54	2.28	0.01	0.23	0.21	0.23	526.62
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	0.51	4.15	1.96	0.01	0.21	0.19	0.21	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada North Commercial**
Subphase	**Improvements - Water/Streets**
Quarter	**2**
Length of Subphase Improvement (Work Days):	60
Months of Improvement Activity:	3.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	0.1	8	0.1	1.0	0.3	0.0	0.0	126.9	0.130	1.244	0.363	0.002
Graders	0.1	8	0.1	1.0	0.6	0.0	0.1	99.1	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers	0.1	8	0.1	0.9	0.5	0.0	0.1	76.8	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.2	8	0.2	1.1	0.7	0.0	0.1	94.4	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	0.1	8	0.1	0.8	0.5	0.0	0.0	85.1	0.131	1.013	0.629	0.001
Scrapers	0.1	8	0.2	2.1	0.8	0.0	0.1	208.8	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	0.8	Total Emissions:	0.9	7.6	3.6	0.0	0.4	780.87				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	1
Number of Passenger Vehicle Trips	1

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	25.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.02	0.02	0.19	0.00	0.00	0.00	27.98
Total Emissions	0.02	0.02	0.19	0.00	0.00	0.00	27.98

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	0.95	7.64	3.56	0.01	0.40	0.37	0.40	780.87
Improvements Worker Commute Trips	0.02	0.02	0.19	0.00	0.00	0.00	--	27.98
Net Emission Totals:	1.00	8.03	3.88	0.01	0.42	0.39	0.42	859.44
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	0.95	7.64	3.56	0.01	0.40	0.37	0.40	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Grading - Indirect**
Quarter	**2(6)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	20
Months of Grading Activity:	1.0
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2011) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	2,235.19	473.58	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	2,235.13	473.55	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Grading - Indirect**
Quarter	**3(7,8,9)**

Length of Subphase Grading (Work Days):	55
Months of Grading Activity:	2.8
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	8,451.00
Amount of Off-Site Cut and Fill Per Day (cy)	8,451.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 4,835.66

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,450.70	30% reduction
Replace Ground Cover in Disturbed Areas	725.35	15% reduction
Water Exposed Surfaces Twice Daily	1,644.12	34% reduction
Water Exposed Surfaces Three Times Daily	2,949.75	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,949.75	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	4,835.66	1,005.82	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,949.75	613.55		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	1,898.09	403.46	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	1,898.04	403.43	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Grading - Indirect**
Quarter	**3(9), 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	65
Months of Grading Activity:	3.3
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	2,235.19	473.58	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	2,235.13	473.55	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4(10)**

Length of Subphase Grading (Work Days):	200
Months of Grading Activity:	10.0
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	2	8	4.6	41.3	17.6	0.0	1.6	4,463.3	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1	8	2.2	20.1	6.7	0.0	0.7	2,833.8	0.275	2.512	0.832	0.004
Graders	1	8	1.3	12.5	3.8	0.0	0.4	1,422.8	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	3	8	5.4	46.7	16.0	0.1	1.7	6,536.0	0.226	1.946	0.666	0.003
Off-Highway Trucks	1	8	2.5	22.2	7.4	0.0	0.8	3,035.2	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	1	8	3.0	25.6	13.4	0.0	1.1	2,341.8	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	1.5	8	5.0	45.8	19.5	0.0	1.8	4,833.7	0.418	3.819	1.626	0.004
Scraper 2A	1.5	8	4.7	43.2	18.4	0.0	1.7	4,564.3	0.395	3.597	1.536	0.004
Scraper 2B	1.5	8	3.6	33.0	13.2	0.0	1.3	3,432.6	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	13.5	Total Emissions:	32.4	290.5	116.0	0.3	11.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.49	0.47	4.68	0.01	0.05	0.04	673.91	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.49	0.47	4.68	0.01	0.05	0.04	673.91	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	32.39	290.49	116.02	0.33	11.14	10.25	11.14	33,463.41	
Grading Worker Commute Trips	0.49	0.47	4.68	0.01	0.05	0.04	--	673.91	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	32.88	290.97	120.70	0.34	2,234.19	472.66	11.14	34,137.33	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	32.39	290.49	116.02	0.33	2,234.14	472.63	11.14	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4(11)**

Length of Subphase Grading (Work Days):	11
Months of Grading Activity:	0.6
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	5,657.60
Amount of Off-Site Cut and Fill Per Day (cy)	5,657.60

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 3,276.94

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	983.08	30% reduction
Replace Ground Cover in Disturbed Areas	491.54	15% reduction
Water Exposed Surfaces Twice Daily	1,114.16	34% reduction
Water Exposed Surfaces Three Times Daily	1,998.93	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	1,998.93	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2012) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	2	8	4.6	41.3	17.6	0.0	1.6	4,463.3	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1	8	2.2	20.1	6.7	0.0	0.7	2,833.8	0.275	2.512	0.832	0.004
Graders	1	8	1.3	12.5	3.8	0.0	0.4	1,422.8	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	3	8	5.4	46.7	16.0	0.1	1.7	6,536.0	0.226	1.946	0.666	0.003
Off-Highway Trucks	1	8	2.5	22.2	7.4	0.0	0.8	3,035.2	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	1	8	3.0	25.6	13.4	0.0	1.1	2,341.8	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	1.5	8	5.0	45.8	19.5	0.0	1.8	4,833.7	0.418	3.819	1.626	0.004
Scraper 2A	1.5	8	4.7	43.2	18.4	0.0	1.7	4,564.3	0.395	3.597	1.536	0.004
Scraper 2B	1.5	8	3.6	33.0	13.2	0.0	1.3	3,432.6	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	13.5	Total Emissions:	32.4	290.5	116.0	0.3	11.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

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GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.49	0.47	4.68	0.01	0.05	0.04	673.91	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.49	0.47	4.68	0.01	0.05	0.04	673.91	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	3,276.94	681.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	32.39	290.49	116.02	0.33	11.14	10.25	11.14	33,463.41	
Grading Worker Commute Trips	0.49	0.47	4.68	0.01	0.05	0.04	--	673.91	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	1,998.93	415.78		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	32.88	290.97	120.70	0.34	1,289.20	276.11	11.14	34,137.33	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	32.39	290.49	116.02	0.33	1,289.14	276.07	11.14	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Improvements - Sewers**
Quarter	**4 (12)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2011

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002795	0.034558	0.011125	0.000040	0.001661	0.001445	4.220457

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.41	0.13	0.00	0.02	0.02	50.65

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.8	0.4	0.0	0.0	132.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes	0.1	8	0.1	0.9	0.3	0.0	0.0	89.7	0.117	1.152	0.328	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.759	8.172	3.122	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	0.7	8	0.8	7.6	2.1	0.0	0.3	888.6	0.137	1.363	0.376	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.272	0.738	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.237	2.124	0.706	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	1.198	0.640	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers	0.3	8	0.3	1.7	1.0	0.0	0.1	141.6	0.113	0.700	0.414	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.230	1.709	0.860	0.001
Rubber Tired Loaders	0.6	8	0.7	5.2	3.0	0.0	0.3	510.3	0.139	1.082	0.630	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.295	2.737	1.024	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Total Pieces of Equipment	1.8	Total Emissions:	1.9	16.2	6.8	0.0	0.8	1762.20				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.04	0.42	0.00	0.00	0.00	56.00
Total Emissions	0.04	0.04	0.42	0.00	0.00	0.00	56.00

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.41	0.13	0.00	0.02	0.02	0.02	50.65
Off-Road Diesel Exhaust	1.88	16.23	6.80	0.02	0.78	0.72	0.78	1,762.20
Improvements Worker Commute Trips	0.04	0.04	0.42	0.00	0.00	0.00	--	56.00
Net Emission Totals:	1.95	16.69	7.35	0.02	0.80	0.74	0.80	1,868.84
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.88	16.23	6.80	0.02	0.78	0.72	0.78	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Improvements - Sewers**
Quarter	**1, 2, 3, 4(10)**
Length of Subphase Improvement (Work Days):	200
Months of Improvement Activity:	10.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.7	0.4	0.0	0.0	132.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	0.7	8	0.7	7.0	2.0	0.0	0.2	888.6	0.130	1.244	0.363	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.3	8	0.3	1.6	1.0	0.0	0.1	141.6	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	0.6	8	0.6	4.9	3.0	0.0	0.3	510.3	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	1.8	Total Emissions:	1.8	15.0	6.7	0.0	0.7	1762.20				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.04	0.39	0.00	0.00	0.00	55.96
Total Emissions	0.04	0.04	0.39	0.00	0.00	0.00	55.96

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	1.77	15.00	6.69	0.02	0.71	0.65	0.71	1,762.20
Improvements Worker Commute Trips	0.04	0.04	0.39	0.00	0.00	0.00	--	55.96
Net Emission Totals:	1.84	15.41	7.20	0.02	0.73	0.67	0.73	1,868.75
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.77	15.00	6.69	0.02	0.71	0.65	0.71	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Improvements - Storm Drains**
Quarter	**4 (11,12)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	0.7	8	0.7	7.0	2.0	0.0	0.2	888.6	0.130	1.244	0.363	0.002
Graders	0.1	8	0.1	1.0	0.6	0.0	0.1	99.1	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.3	8	0.3	1.6	1.0	0.0	0.1	141.6	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	0.6	8	0.6	4.9	3.0	0.0	0.3	510.3	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	1.8	Total Emissions:	1.8	15.2	6.9	0.0	0.7	1729.37				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.04	0.39	0.00	0.00	0.00	55.96
Total Emissions	0.04	0.04	0.39	0.00	0.00	0.00	55.96

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	1.82	15.23	6.87	0.02	0.74	0.68	0.74	1,729.37
Improvements Worker Commute Trips	0.04	0.04	0.39	0.00	0.00	0.00	--	55.96
Net Emission Totals:	1.89	15.64	7.38	0.02	0.76	0.70	0.75	1,835.92
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.82	15.23	6.87	0.02	0.74	0.68	0.74	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**	
Subphase	**Improvements - Storm Drains**	
Quarter	**1**	
Length of Subphase Improvement (Work Days):	60	
Months of Improvement Activity:	3.0	
Number of Days/Month	20	
Construction Year:	2013	

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60	
Round Trip Length (miles):	4	
Capacity of Haul Truck (cy)	20	
Number of Haul Truck Trips/Day:	3	**Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)**
Daily Vehicle Miles Traveled	12	Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):

ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_X	PM10	CO_2	Emission Factors in lbs/hr (2013) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes	0.1	8	0.1	0.8	0.2	0.0	0.0	89.7	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	0.7	8	0.7	6.4	2.0	0.0	0.2	888.6	0.124	1.136	0.354	0.002
Graders	0.1	8	0.1	0.9	0.6	0.0	0.1	99.1	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.3	8	0.2	1.5	1.0	0.0	0.1	141.6	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	0.6	8	0.6	4.6	3.0	0.0	0.3	510.3	0.124	0.950	0.627	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	1.8	Total Emissions:	1.7	14.1	6.8	0.0	0.7	1729.37				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.04	0.36	0.00	0.00	0.00	55.92
Total Emissions	0.04	0.04	0.36	0.00	0.00	0.00	55.92

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	1.73	14.11	6.79	0.02	0.67	0.62	0.67	1,729.37
Improvements Worker Commute Trips	0.04	0.04	0.36	0.00	0.00	0.00	--	55.92
Net Emission Totals:	1.79	14.48	7.27	0.02	0.69	0.63	0.69	1,835.88
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.73	14.11	6.79	0.02	0.67	0.62	0.67	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Improvements - Water**
Quarter	**2, 3, 4 (10,11)**
Length of Subphase Improvement (Work Days):	160
Months of Improvement Activity:	8.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes	0.1	8	0.1	0.8	0.2	0.0	0.0	89.7	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	0.6	8	0.6	5.5	1.7	0.0	0.2	761.7	0.124	1.136	0.354	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.3	8	0.2	1.5	1.0	0.0	0.1	141.6	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	0.6	8	0.6	4.6	3.0	0.0	0.3	510.3	0.124	0.950	0.627	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	1.6	Total Emissions:	1.5	12.3	5.9	0.0	0.6	1503.29				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.04	0.36	0.00	0.00	0.00	55.92
Total Emissions	0.04	0.04	0.36	0.00	0.00	0.00	55.92

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	1.51	12.31	5.92	0.02	0.59	0.54	0.59	1,503.29
Improvements Worker Commute Trips	0.04	0.04	0.36	0.00	0.00	0.00	--	55.92
Net Emission Totals:	1.58	12.68	6.39	0.02	0.61	0.56	0.61	1,609.80
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.51	12.31	5.92	0.02	0.59	0.54	0.59	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Improvements - Streets**
Quarter	**4 (12)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	1.136	0.354	0.002
Graders	0.4	8	0.5	3.6	2.4	0.0	0.2	396.5	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers	0.1	8	0.1	0.9	0.5	0.0	0.1	76.8	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.4	8	0.3	2.0	1.3	0.0	0.2	188.8	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.950	0.627	0.001
Scrapers	0.4	8	0.9	7.7	2.9	0.0	0.3	835.1	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	1.3	Total Emissions:	1.8	14.2	7.0	0.0	0.7	1497.26				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.04	0.36	0.00	0.00	0.00	55.92
Total Emissions	0.04	0.04	0.36	0.00	0.00	0.00	55.92

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	1.77	14.15	7.04	0.02	0.73	0.67	0.73	1,497.26
Improvements Worker Commute Trips	0.04	0.04	0.36	0.00	0.00	0.00	--	55.92
Net Emission Totals:	1.83	14.52	7.52	0.02	0.75	0.69	0.75	1,603.77
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.77	14.15	7.04	0.02	0.73	0.67	0.73	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Entrada Terrazo**
Subphase	**Improvements - Streets**
Quarter	**4 (12)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	1.010	0.348	0.002
Graders	0.4	8	0.4	3.4	2.3	0.0	0.2	396.5	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers	0.1	8	0.1	0.8	0.5	0.0	0.1	76.8	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.4	8	0.3	1.9	1.3	0.0	0.2	188.8	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.117	0.892	0.626	0.001
Scrapers	0.4	8	0.8	7.1	2.7	0.0	0.3	835.1	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	1.3	Total Emissions:	1.7	13.2	6.9	0.0	0.7	1497.26				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.03	0.34	0.00	0.00	0.00	56.01
Total Emissions	0.04	0.03	0.34	0.00	0.00	0.00	56.01

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	1.67	13.20	6.87	0.02	0.67	0.62	0.67	1,497.26
Improvements Worker Commute Trips	0.04	0.03	0.34	0.00	0.00	0.00	--	56.01
Net Emission Totals:	1.73	13.52	7.31	0.02	0.69	0.63	0.69	1,603.83
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.67	13.20	6.87	0.02	0.67	0.62	0.67	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Homestead Central**
Subphase	**Grading - Indirect**
Quarter	**1, 2(4)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	80
Months of Grading Activity:	4.0
Number of Days/Month	20
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	6,383.00
Amount of Off-Site Cut and Fill Per Day (cy)	6,383.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 3,681.71

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,104.51	30% reduction
Replace Ground Cover in Disturbed Areas	552.26	15% reduction
Water Exposed Surfaces Twice Daily	1,251.78	34% reduction
Water Exposed Surfaces Three Times Daily	2,245.85	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,245.85	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001
Crawler Tractors	4	8	7.9	65.6	28.7	0.1	2.5	8,926.5	0.248	2.051	0.898	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	2	8	3.8	29.0	12.0	0.1	1.0	5,667.5	0.240	1.813	0.752	0.004
Graders	2	8	2.2	18.9	6.7	0.0	0.7	2,845.6	0.136	1.181	0.422	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Water Trucks	6	8	9.4	68.0	28.6	0.1	2.4	13,072.0	0.196	1.416	0.595	0.003
Off-Highway Trucks	2	8	4.4	32.4	13.3	0.1	1.1	6,070.4	0.274	2.024	0.828	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.748	0.497	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.087	0.241	0.275	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers	2	8	5.2	42.6	22.0	0.0	1.7	4,683.6	0.324	2.661	1.375	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.111	0.907	0.472	0.001
Scrapers	3	8	8.7	73.3	32.1	0.1	2.8	9,667.4	0.362	3.055	1.338	0.004
Scraper 2A	3	8	8.2	69.1	30.3	0.1	2.7	9,128.6	0.342	2.877	1.264	0.004
Scraper 2B	3	8	6.3	52.8	22.0	0.1	2.0	6,865.2	0.261	2.201	0.918	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.307	2.573	1.137	0.003
Total Pieces of Equipment	27	Total Emissions:	56.1	451.7	195.8	0.7	17.0	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	3,681.71	765.80	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	56.08	451.69	195.80	0.67	17.00	15.64	17.00	66,926.83	
Grading Worker Commute Trips	0.81	0.74	7.51	0.01	0.11	0.07	--	1,348.32	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,245.85	467.14		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	56.89	452.43	203.32	0.68	1,452.98	314.37	17.00	68,275.15	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	56.08	451.69	195.80	0.67	1,452.87	314.30	17.00	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Homestead Central**
Subphase	**Grading - Indirect**
Quarter	**2(5,6), 3, 4**

Length of Subphase Grading (Work Days):	160
Months of Grading Activity:	8.0
Number of Days/Month	20
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001
Crawler Tractors	4	8	7.9	65.6	28.7	0.1	2.5	8,926.5	0.248	2.051	0.898	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	2	8	3.8	29.0	12.0	0.1	1.0	5,667.5	0.240	1.813	0.752	0.004
Graders	2	8	2.2	18.9	6.7	0.0	0.7	2,845.6	0.136	1.181	0.422	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Water Trucks	6	8	9.4	68.0	28.6	0.1	2.4	13,072.0	0.196	1.416	0.595	0.003
Off-Highway Trucks	2	8	4.4	32.4	13.3	0.1	1.1	6,070.4	0.274	2.024	0.828	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.748	0.497	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.087	0.241	0.275	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers	2	8	5.2	42.6	22.0	0.0	1.7	4,683.6	0.324	2.661	1.375	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.111	0.907	0.472	0.001
Scrapers	3	8	8.7	73.3	32.1	0.1	2.8	9,667.4	0.362	3.055	1.338	0.004
Scraper 2A	3	8	8.2	69.1	30.3	0.1	2.7	9,128.6	0.342	2.877	1.264	0.004
Scraper 2B	3	8	6.3	52.8	22.0	0.1	2.0	6,865.2	0.261	2.201	0.918	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.307	2.573	1.137	0.003
Total Pieces of Equipment	27	Total Emissions:	56.1	451.7	195.8	0.7	17.0	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	56.08	451.69	195.80	0.67	17.00	15.64	17.00	66,926.83	
Grading Worker Commute Trips	0.81	0.74	7.51	0.01	0.11	0.07	--	1,348.32	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	56.89	452.43	203.32	0.68	2,240.11	478.10	17.00	68,275.15	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	56.08	451.69	195.80	0.67	2,240.00	478.02	17.00	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Homestead Central**
Subphase	**Grading - Indirect**
Quarter	**1, 2. 3. 4(10,11)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	220
Months of Grading Activity:	11.0
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	2,238.56	476.67	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	2,238.44	476.59	15.44	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Homestead Central**
Subphase	**Grading - Indirect**
Quarter	**4(12)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	2
Months of Grading Activity:	0.1
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	1,136.15
Amount of Off-Site Cut and Fill Per Day (cy)	1,136.15

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 753.97

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	226.19	30% reduction
Replace Ground Cover in Disturbed Areas	113.10	15% reduction
Water Exposed Surfaces Twice Daily	256.35	34% reduction
Water Exposed Surfaces Three Times Daily	459.92	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	459.92	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	753.97	156.83	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	459.92	95.66		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	309.61	75.44	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	309.49	75.37	15.44	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Homestead West**
Subphase	**Grading - Indirect**
Quarter	**2(6), 3(7)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	40
Months of Grading Activity:	2.0
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	6,383.00
Amount of Off-Site Cut and Fill Per Day (cy)	6,383.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 3,681.71

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,104.51	30% reduction
Replace Ground Cover in Disturbed Areas	552.26	15% reduction
Water Exposed Surfaces Twice Daily	1,251.78	34% reduction
Water Exposed Surfaces Three Times Daily	2,245.85	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,245.85	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

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GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	3,681.71	765.80	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,245.85	467.14		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	1,451.43	312.94	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	1,451.31	312.87	15.44	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Homestead West**
Subphase	**Grading - Indirect**
Quarter	**3(8,9), 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	100
Months of Grading Activity:	5.0
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	2,238.56	476.67	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	2,238.44	476.59	15.44	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Homestead West**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2017
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2017)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.469	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.068	0.427	0.389	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.107	0.862	0.415	0.001
Crawler Tractors	4	8	7.1	55.3	25.9	0.1	2.1	8,926.5	0.223	1.728	0.810	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.870	10.180	2.831	0.013
Excavators	2	8	3.4	22.4	11.5	0.1	0.8	5,667.5	0.215	1.398	0.721	0.004
Graders	2	8	1.9	15.3	6.4	0.0	0.5	2,845.6	0.121	0.956	0.400	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.100	0.400	0.001
Off-Highway Water Trucks	6	8	8.4	53.0	27.2	0.1	1.9	13,072.0	0.175	1.103	0.568	0.003
Off-Highway Trucks	2	8	3.9	25.2	12.6	0.1	0.9	6,070.4	0.245	1.574	0.791	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.047	0.219	0.239	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.661	0.489	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.224	0.261	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.074	0.285	0.337	0.000
Rubber Tired Dozers	2	8	4.7	37.1	19.4	0.0	1.5	4,683.6	0.294	2.322	1.212	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.098	0.734	0.462	0.001
Scrapers	3	8	7.8	62.0	28.9	0.1	2.4	9,667.4	0.326	2.585	1.202	0.004
Scraper 2A	3	8	7.4	58.4	27.3	0.1	2.2	9,128.6	0.308	2.434	1.135	0.004
Scraper 2B	3	8	5.6	44.7	19.9	0.1	1.7	6,865.2	0.235	1.861	0.830	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.235	1.861	0.830	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.326	2.585	1.202	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.123	1.283	0.492	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.263	0.302	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.097	0.689	0.351	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.276	2.176	1.021	0.003
Total Pieces of Equipment	27	Total Emissions:	50.4	373.3	179.2	0.7	14.0	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2017)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000601	0.000513	0.005379	0.000011	0.000094	0.000062	1.106275

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.74	0.63	6.58	0.01	0.12	0.08	1,353.64	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.74	0.63	6.58	0.01	0.12	0.08	1,353.64	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	50.39	373.34	179.18	0.67	13.99	12.87	13.99	66,926.83	
Grading Worker Commute Trips	0.74	0.63	6.58	0.01	0.12	0.08	--	1,353.64	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	51.12	373.97	185.76	0.68	2,237.11	475.33	13.99	68,280.47	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	50.39	373.34	179.18	0.67	2,236.99	475.25	13.99	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Homestead West**
Subphase	**Grading - Indirect**
Quarter	**1(1)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	12
Months of Grading Activity:	0.6
Number of Days/Month	20
Grading Year:	2018
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	6,076.00
Amount of Off-Site Cut and Fill Per Day (cy)	6,076.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 3,510.41

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,053.12	30% reduction
Replace Ground Cover in Disturbed Areas	526.56	15% reduction
Water Exposed Surfaces Twice Daily	1,193.54	34% reduction
Water Exposed Surfaces Three Times Daily	2,141.35	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,141.35	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2018) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.054	0.417	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.396	0.385	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.101	0.791	0.406	0.001
Crawler Tractors	4	8	6.8	50.6	24.8	0.1	1.9	8,926.5	0.211	1.580	0.775	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.831	9.590	2.757	0.013
Excavators	2	8	3.3	19.5	11.4	0.1	0.7	5,667.5	0.203	1.219	0.710	0.004
Graders	2	8	1.8	13.7	6.3	0.0	0.5	2,845.6	0.115	0.857	0.392	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.024	0.386	0.001
Off-Highway Water Trucks	6	8	7.9	46.6	26.8	0.1	1.7	13,072.0	0.166	0.971	0.558	0.003
Off-Highway Trucks	2	8	3.7	22.0	12.4	0.1	0.8	6,070.4	0.231	1.378	0.777	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.041	0.210	0.234	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.103	0.621	0.486	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.217	0.255	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.274	0.329	0.000
Rubber Tired Dozers	2	8	4.5	34.6	18.3	0.0	1.4	4,683.6	0.280	2.165	1.142	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.658	0.459	0.001
Scrapers	3	8	7.4	56.9	27.5	0.1	2.1	9,667.4	0.309	2.370	1.148	0.004
Scraper 2A	3	8	7.0	53.6	26.0	0.1	2.0	9,128.6	0.291	2.232	1.084	0.004
Scraper 2B	3	8	5.3	40.9	19.1	0.1	1.5	6,865.2	0.222	1.706	0.795	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.222	1.706	0.795	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.309	2.370	1.148	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.115	1.130	0.486	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.052	0.254	0.297	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.596	0.348	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.262	1.995	0.975	0.003
Total Pieces of Equipment	27	Total Emissions:	47.7	338.5	172.5	0.7	12.6	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2018)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000572	0.000473	0.005029	0.000011	0.000095	0.000062	1.105626

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 1,223.60

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.70	0.58	6.15	0.01	0.12	0.08	1,352.84	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.70	0.58	6.15	0.01	0.12	0.08	1,352.84	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	3,510.41	730.16	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	47.70	338.47	172.54	0.67	12.65	11.63	12.65	66,926.82	
Grading Worker Commute Trips	0.70	0.58	6.15	0.01	0.12	0.08	--	1,352.84	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,141.35	445.40		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	48.40	339.04	178.69	0.68	1,381.82	296.47	12.65	68,279.67	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	47.70	338.47	172.54	0.67	1,381.71	296.40	12.65	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Landmark Village**
Subphase	**Grading - Indirect**
Quarter	**3, 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	120
Months of Grading Activity:	6.0
Number of Days/Month	20
Grading Year:	2008
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	9,408.00
Amount of Off-Site Cut and Fill Per Day (cy)	9,408.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,369.66

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,610.90	30% reduction
Replace Ground Cover in Disturbed Areas	805.45	15% reduction
Water Exposed Surfaces Twice Daily	1,825.69	34% reduction
Water Exposed Surfaces Three Times Daily	3,275.50	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,275.50	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2008)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.130	1.342	0.528	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.146	0.726	0.441	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.178	1.610	0.601	0.001
Crawler Tractors	4	8	10.9	104.7	48.3	0.1	4.2	8,926.5	0.342	3.272	1.511	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.528	17.075	5.559	0.013
Excavators	2	8	5.3	55.3	17.2	0.1	2.0	5,667.5	0.332	3.454	1.072	0.004
Graders	2	8	3.2	32.9	9.3	0.0	1.2	2,845.6	0.201	2.059	0.582	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.205	1.867	0.585	0.001
Off-Highway Water Trucks	6	8	13.1	127.7	41.9	0.1	4.7	13,072.0	0.273	2.660	0.874	0.003
Off-Highway Trucks	2	8	6.1	60.7	19.4	0.1	2.2	6,070.4	0.382	3.792	1.215	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.288	0.314	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.182	1.066	0.536	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.017	0.106	0.053	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.144	0.284	0.335	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.187	0.368	0.448	0.000
Rubber Tired Dozers	2	8	6.9	62.2	35.1	0.0	2.6	4,683.6	0.431	3.890	2.192	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	1.540	0.545	0.001
Scrapers	3	8	12.0	115.4	53.7	0.1	4.6	9,667.4	0.500	4.807	2.239	0.004
Scraper 2A	3	8	11.3	108.7	50.8	0.1	4.4	9,128.6	0.472	4.529	2.116	0.004
Scraper 2B	3	8	8.7	83.3	35.6	0.1	3.4	6,865.2	0.363	3.470	1.483	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.363	3.470	1.483	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.500	4.807	2.239	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.235	2.779	0.690	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.183	0.345	0.426	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.160	1.794	0.445	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.424	4.055	1.905	0.003
Total Pieces of Equipment	27	Total Emissions:	77.6	750.8	311.4	0.7	29.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2008)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.001079	0.001103	0.010548	0.000011	0.000085	0.000053	1.099532

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.32	1.35	12.91	0.01	0.10	0.06	1,345.39	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.32	1.35	12.91	0.01	0.10	0.06	1,345.39	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,369.66	1,116.89	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	77.59	750.85	311.39	0.67	29.40	27.05	29.40	66,926.82	
Grading Worker Commute Trips	1.32	1.35	12.91	0.01	0.10	0.06	--	1,345.39	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,275.50	681.30		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	78.91	752.20	324.30	0.68	2,123.68	462.70	29.40	68,272.21	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	Yes	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	77.59	750.85	311.39	0.67	2,123.57	462.64	29.40	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Landmark Village**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2009
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	12,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	12,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,816.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,044.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,022.40	15% reduction
Water Exposed Surfaces Twice Daily	2,317.44	34% reduction
Water Exposed Surfaces Three Times Daily	4,157.76	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,157.76	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.168	1.529	0.571	0.001
Crawler Tractors	4	8	10.5	99.3	44.5	0.1	4.0	8,926.5	0.327	3.103	1.391	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators	2	8	5.1	51.5	16.0	0.1	1.9	5,667.5	0.316	3.220	0.998	0.004
Graders	2	8	3.0	31.0	8.8	0.0	1.2	2,845.6	0.190	1.937	0.548	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Water Trucks	6	8	12.5	119.1	38.9	0.1	4.4	13,072.0	0.260	2.482	0.810	0.003
Off-Highway Trucks	2	8	5.8	56.6	18.0	0.1	2.1	6,070.4	0.364	3.539	1.127	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	1.016	0.529	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.279	0.326	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers	2	8	6.6	59.5	32.9	0.0	2.5	4,683.6	0.415	3.721	2.053	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.157	1.448	0.530	0.001
Scrapers	3	8	11.5	109.5	49.5	0.1	4.4	9,667.4	0.478	4.564	2.061	0.004
Scraper 2A	3	8	10.8	103.2	46.7	0.1	4.2	9,128.6	0.451	4.300	1.947	0.004
Scraper 2B	3	8	8.3	79.1	32.9	0.1	3.2	6,865.2	0.347	3.294	1.372	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.405	3.849	1.752	0.003
Total Pieces of Equipment	27	Total Emissions:	74.2	708.9	288.1	0.7	27.8	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.21	1.23	11.85	0.01	0.11	0.07	1,342.97	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.21	1.23	11.85	0.01	0.11	0.07	1,342.97	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,816.00	1,417.73	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	74.15	708.85	288.13	0.67	27.82	25.59	27.82	66,926.82	
Grading Worker Commute Trips	1.21	1.23	11.85	0.01	0.11	0.07	--	1,342.97	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,157.76	864.81		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	75.37	710.08	299.98	0.68	2,686.16	578.57	27.82	68,269.79	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	Yes	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	74.15	708.85	288.13	0.67	2,686.06	578.51	27.82	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Landmark Village**
Subphase	**Grading - Indirect**
Quarter	**1**

Length of Subphase Grading (Work Days):	8
Months of Grading Activity:	0.4
Number of Days/Month	20
Grading Year:	2010
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	11,733.13
Amount of Off-Site Cut and Fill Per Day (cy)	11,733.13

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,667.08

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,000.13	30% reduction
Replace Ground Cover in Disturbed Areas	1,000.06	15% reduction
Water Exposed Surfaces Twice Daily	2,266.81	34% reduction
Water Exposed Surfaces Three Times Daily	4,066.92	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,066.92	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2010)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	1.133	0.515	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.127	0.657	0.427	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.159	1.451	0.543	0.001
Crawler Tractors	4	8	10.0	94.2	41.1	0.1	3.8	8,926.5	0.314	2.943	1.283	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.382	16.075	4.801	0.013
Excavators	2	8	4.8	48.1	14.9	0.1	1.7	5,667.5	0.303	3.006	0.932	0.004
Graders	2	8	2.9	29.2	8.3	0.0	1.1	2,845.6	0.180	1.823	0.519	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	1.705	0.535	0.001
Off-Highway Water Trucks	6	8	12.0	111.3	36.2	0.1	4.2	13,072.0	0.249	2.319	0.754	0.003
Off-Highway Trucks	2	8	5.6	52.9	16.8	0.1	2.0	6,070.4	0.349	3.306	1.049	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.103	0.279	0.293	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	0.969	0.522	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.099	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.127	0.275	0.317	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.159	0.356	0.419	0.000
Rubber Tired Dozers	2	8	6.4	57.0	30.7	0.0	2.4	4,683.6	0.400	3.560	1.921	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.361	0.517	0.001
Scrapers	3	8	11.0	104.0	45.6	0.1	4.2	9,667.4	0.458	4.334	1.899	0.004
Scraper 2A	3	8	10.4	98.0	43.0	0.1	3.9	9,128.6	0.432	4.083	1.794	0.004
Scraper 2B	3	8	8.0	75.0	30.5	0.1	3.0	6,865.2	0.332	3.127	1.271	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.332	3.127	1.271	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.458	4.334	1.899	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.205	2.509	0.614	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	0.330	0.389	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.549	0.404	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.389	3.655	1.614	0.003
Total Pieces of Equipment	27	Total Emissions:	71.1	669.7	267.1	0.7	26.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2010)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000914	0.000918	0.008263	0.000011	0.000087	0.000055	1.095682

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.12	1.12	10.11	0.01	0.11	0.07	1,340.68	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.12	1.12	10.11	0.01	0.11	0.07	1,340.68	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,667.08	1,386.75	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	71.06	669.66	267.14	0.67	26.37	24.26	26.37	66,926.83	
Grading Worker Commute Trips	1.12	1.12	10.11	0.01	0.11	0.07	--	1,340.68	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,066.92	845.92		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	72.18	670.78	277.25	0.68	2,626.64	565.16	26.37	68,267.50	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	71.06	669.66	267.14	0.67	2,626.53	565.09	26.37	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Landmark Village**
Subphase	**Improvements - Sewers**
Quarter	**1, 2, 3(7,8)**
Length of Subphase Improvement (Work Days):	160
Months of Improvement Activity:	8.0
Number of Days/Month	20
Construction Year:	2009

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.003293	0.041846	0.012822	0.000040	0.001996	0.001752	4.210808

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.04	0.50	0.15	0.00	0.02	0.02	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	1.0	0.4	0.0	0.0	131.9	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes	0.1	8	0.1	1.0	0.3	0.0	0.0	89.7	0.131	1.310	0.366	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.838	8.913	3.650	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators	1.1	8	1.3	14.1	3.6	0.0	0.5	1,396.4	0.153	1.605	0.414	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.185	1.439	0.744	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.260	2.482	0.810	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.192	1.320	0.654	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers	0.5	8	0.5	3.1	1.7	0.0	0.3	236.0	0.128	0.778	0.422	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.250	1.871	0.877	0.001
Rubber Tired Loaders	0.9	8	1.1	8.8	4.6	0.0	0.5	765.5	0.156	1.225	0.635	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	3.072	1.177	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Total Pieces of Equipment	2.7	Total Emissions:	3.2	28.1	10.6	0.0	1.3	2619.47				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.08	0.08	0.74	0.00	0.01	0.00	83.63
Total Emissions	0.08	0.08	0.74	0.00	0.01	0.00	83.63

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.04	0.50	0.15	0.00	0.02	0.02	0.02	50.53
Off-Road Diesel Exhaust	3.18	28.09	10.61	0.03	1.34	1.24	1.34	2,619.47
Improvements Worker Commute Trips	0.08	0.08	0.74	0.00	0.01	0.00	--	83.63
Net Emission Totals:	3.30	28.67	11.50	0.03	1.37	1.26	1.37	2,753.63
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.18	28.09	10.61	0.03	1.34	1.24	1.34	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Landmark Village**
Subphase	**Improvements - Storm Drains**
Quarter	**3(9), 4**
Length of Subphase Improvement (Work Days):	80
Months of Improvement Activity:	4.0
Number of Days/Month	20
Construction Year:	2009

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.003293	0.041846	0.012822	0.000040	0.001996	0.001752	4.210808

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.04	0.50	0.15	0.00	0.02	0.02	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes	0.1	8	0.1	1.0	0.3	0.0	0.0	89.7	0.131	1.310	0.366	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.838	8.913	3.650	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators	1	8	1.2	12.8	3.3	0.0	0.4	1,269.5	0.153	1.605	0.414	0.002
Graders	0.1	8	0.1	1.2	0.6	0.0	0.1	99.1	0.185	1.439	0.744	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.260	2.482	0.810	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.192	1.320	0.654	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers	0.5	8	0.5	3.1	1.7	0.0	0.3	236.0	0.128	0.778	0.422	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.250	1.871	0.877	0.001
Rubber Tired Loaders	0.9	8	1.1	8.8	4.6	0.0	0.5	765.5	0.156	1.225	0.635	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	3.072	1.177	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Total Pieces of Equipment	2.6	Total Emissions:	3.1	27.0	10.5	0.0	1.3	2459.75				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.08	0.08	0.74	0.00	0.01	0.00	83.63
Total Emissions	0.08	0.08	0.74	0.00	0.01	0.00	83.63

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.04	0.50	0.15	0.00	0.02	0.02	0.02	50.53
Off-Road Diesel Exhaust	3.11	26.97	10.46	0.03	1.32	1.22	1.32	2,459.75
Improvements Worker Commute Trips	0.08	0.08	0.74	0.00	0.01	0.00	--	83.63
Net Emission Totals:	3.23	27.55	11.35	0.03	1.35	1.24	1.35	2,593.91
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.11	26.97	10.46	0.03	1.32	1.22	1.32	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Landmark Village**
Subphase	**Improvements - Water**
Quarter	**1, 2(4,5)**
Length of Subphase Improvement (Work Days):	100
Months of Improvement Activity:	5.0
Number of Days/Month	20
Construction Year:	2010

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2010)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.003042	0.038221	0.011955	0.000041	0.001831	0.001601	4.211206

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.04	0.46	0.14	0.00	0.02	0.02	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2010)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	1.133	0.515	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.127	0.657	0.427	0.001
Cranes	0.1	8	0.1	1.0	0.3	0.0	0.0	89.7	0.124	1.237	0.346	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.798	8.600	3.373	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.382	16.075	4.801	0.013
Excavators	1.1	8	1.3	13.1	3.5	0.0	0.5	1,396.4	0.145	1.494	0.393	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.174	1.353	0.741	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	1.705	0.535	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.249	2.319	0.754	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.103	0.279	0.293	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.182	1.257	0.647	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.099	0.052	0.000
Rollers	0.6	8	0.6	3.5	2.0	0.0	0.3	283.1	0.120	0.738	0.418	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.159	0.356	0.419	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.240	1.788	0.869	0.001
Rubber Tired Loaders	1	8	1.2	9.2	5.1	0.0	0.5	850.5	0.148	1.151	0.633	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.309	2.916	1.096	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.332	3.127	1.271	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.458	4.334	1.899	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.205	2.509	0.614	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	0.330	0.389	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.549	0.404	0.002
Total Pieces of Equipment	2.8	Total Emissions:	3.1	26.9	10.8	0.0	1.3	2619.80				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	4
Number of Passenger Vehicle Trips	4

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2010)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000914	0.000918	0.008263	0.000011	0.000087	0.000055	1.095682

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	101.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.09	0.09	0.84	0.00	0.01	0.01	111.32
Total Emissions	0.09	0.09	0.84	0.00	0.01	0.01	111.32

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.04	0.46	0.14	0.00	0.02	0.02	0.02	50.53
Off-Road Diesel Exhaust	3.13	26.89	10.80	0.03	1.33	1.23	1.33	2,619.80
Improvements Worker Commute Trips	0.09	0.09	0.84	0.00	0.01	0.01	--	111.32
Net Emission Totals:	3.26	27.44	11.79	0.03	1.36	1.25	1.36	2,781.66
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.13	26.89	10.80	0.03	1.33	1.23	1.33	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Landmark Village**
Subphase	**Improvements - Streets**
Quarter	**2(6)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2010

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2010)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.003042	0.038221	0.011955	0.000041	0.001831	0.001601	4.211206

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.04	0.46	0.14	0.00	0.02	0.02	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2010)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	1.133	0.515	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.127	0.657	0.427	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	1.237	0.346	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.798	8.600	3.373	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.382	16.075	4.801	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	1.494	0.393	0.002
Graders	0.9	8	1.3	9.7	5.3	0.0	0.6	892.2	0.174	1.353	0.741	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	1.705	0.535	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.249	2.319	0.754	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.103	0.279	0.293	0.000
Pavers	0.2	8	0.3	2.0	1.0	0.0	0.1	153.7	0.182	1.257	0.647	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.099	0.052	0.000
Rollers	0.9	8	0.9	5.3	3.0	0.0	0.5	424.7	0.120	0.738	0.418	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.159	0.356	0.419	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.240	1.788	0.869	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.148	1.151	0.633	0.001
Scrapers	0.8	8	2.0	18.7	7.0	0.0	0.8	1,670.2	0.309	2.916	1.096	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.332	3.127	1.271	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.458	4.334	1.899	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.205	2.509	0.614	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	0.330	0.389	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.549	0.404	0.002
Total Pieces of Equipment	2.8	Total Emissions:	4.4	35.7	16.4	0.0	1.9	3140.86				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	4
Number of Passenger Vehicle Trips	4

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2010)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000914	0.000918	0.008263	0.000011	0.000087	0.000055	1.095682

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	101.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.09	0.09	0.84	0.00	0.01	0.01	111.32
Total Emissions	0.09	0.09	0.84	0.00	0.01	0.01	111.32

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.04	0.46	0.14	0.00	0.02	0.02	0.02	50.53
Off-Road Diesel Exhaust	4.39	35.73	16.39	0.03	1.92	1.77	1.92	3,140.86
Improvements Worker Commute Trips	0.09	0.09	0.84	0.00	0.01	0.01	--	111.32
Net Emission Totals:	4.52	36.28	17.38	0.04	1.95	1.79	1.94	3,302.71
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	4.39	35.73	16.39	0.03	1.92	1.77	1.92	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Grading - Indirect**
Quarter	**2(6), 3(7,8)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	50
Months of Grading Activity:	2.5
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	7,878.00
Amount of Off-Site Cut and Fill Per Day (cy)	7,878.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 4,515.92

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,354.78	30% reduction
Replace Ground Cover in Disturbed Areas	677.39	15% reduction
Water Exposed Surfaces Twice Daily	1,535.41	34% reduction
Water Exposed Surfaces Three Times Daily	2,754.71	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,754.71	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2012) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	3.5	8	8.0	72.3	30.8	0.1	2.8	7,810.7	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1.5	8	3.3	30.1	10.0	0.0	1.1	4,250.6	0.275	2.512	0.832	0.004
Graders	1.5	8	1.9	18.8	5.7	0.0	0.7	2,134.2	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	5	8	9.1	77.9	26.6	0.1	2.8	10,893.4	0.226	1.946	0.666	0.003
Off-Highway Trucks	2	8	5.1	44.4	14.8	0.1	1.6	6,070.4	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	1.5	8	4.4	38.4	20.2	0.0	1.6	3,512.7	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	2.5	8	8.4	76.4	32.5	0.1	3.0	8,056.2	0.418	3.819	1.626	0.004
Scraper 2A	2.5	8	7.9	71.9	30.7	0.1	2.8	7,607.2	0.395	3.597	1.536	0.004
Scraper 2B	2.5	8	6.1	55.1	22.0	0.1	2.2	5,721.0	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	22.5	Total Emissions:	54.1	485.3	193.3	0.6	18.6	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.81	0.78	7.74	0.01	0.09	0.06	1,113.86	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.81	0.78	7.74	0.01	0.09	0.06	1,113.86	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	4,515.92	939.31	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	54.14	485.30	193.33	0.56	18.59	17.10	18.59	56,056.29	
Grading Worker Commute Trips	0.81	0.78	7.74	0.01	0.09	0.06	--	1,113.86	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,754.71	572.98		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	54.94	486.08	201.07	0.57	1,779.89	383.49	18.59	57,170.16	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	54.14	485.30	193.33	0.56	1,779.80	383.44	18.59	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Grading - Indirect**
Quarter	**3(8,9), 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	90
Months of Grading Activity:	4.5
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	3.5	8	8.0	72.3	30.8	0.1	2.8	7,810.7	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1.5	8	3.3	30.1	10.0	0.0	1.1	4,250.6	0.275	2.512	0.832	0.004
Graders	1.5	8	1.9	18.8	5.7	0.0	0.7	2,134.2	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	5	8	9.1	77.9	26.6	0.1	2.8	10,893.4	0.226	1.946	0.666	0.003
Off-Highway Trucks	2	8	5.1	44.4	14.8	0.1	1.6	6,070.4	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	1.5	8	4.4	38.4	20.2	0.0	1.6	3,512.7	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	2.5	8	8.4	76.4	32.5	0.1	3.0	8,056.2	0.418	3.819	1.626	0.004
Scraper 2A	2.5	8	7.9	71.9	30.7	0.1	2.8	7,607.2	0.395	3.597	1.536	0.004
Scraper 2B	2.5	8	6.1	55.1	22.0	0.1	2.2	5,721.0	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	22.5	Total Emissions:	54.1	485.3	193.3	0.6	18.6	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.81	0.78	7.74	0.01	0.09	0.06	1,113.86	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.81	0.78	7.74	0.01	0.09	0.06	1,113.86	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	54.14	485.30	193.33	0.56	18.59	17.10	18.59	56,056.29	
Grading Worker Commute Trips	0.81	0.78	7.74	0.01	0.09	0.06	--	1,113.86	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	54.94	486.08	201.07	0.57	2,241.68	479.55	18.59	57,170.16	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	54.14	485.30	193.33	0.56	2,241.59	479.49	18.59	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Grading - Indirect**
Quarter	**1(1,2)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	40
Months of Grading Activity:	2.0
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	3.5	8	7.7	67.7	28.6	0.1	2.6	7,810.7	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1.5	8	3.2	27.6	9.6	0.0	1.0	4,250.6	0.264	2.302	0.798	0.004
Graders	1.5	8	1.8	17.3	5.4	0.0	0.6	2,134.2	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	5	8	8.7	71.5	25.4	0.1	2.5	10,893.4	0.217	1.787	0.636	0.003
Off-Highway Trucks	2	8	4.9	40.8	14.2	0.1	1.4	6,070.4	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	1.5	8	4.3	36.4	18.8	0.0	1.5	3,512.7	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	2.5	8	8.0	71.7	30.3	0.1	2.8	8,056.2	0.400	3.583	1.516	0.004
Scraper 2A	2.5	8	7.6	67.5	28.6	0.1	2.6	7,607.2	0.378	3.375	1.432	0.004
Scraper 2B	2.5	8	5.8	51.6	20.6	0.1	2.0	5,721.0	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	22.5	Total Emissions:	51.8	452.1	181.7	0.6	17.0	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.75	0.72	7.17	0.01	0.09	0.06	1,113.20	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.75	0.72	7.17	0.01	0.09	0.06	1,113.20	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	51.80	452.09	181.67	0.56	17.03	15.67	17.03	56,056.29	
Grading Worker Commute Trips	0.75	0.72	7.17	0.01	0.09	0.06	--	1,113.20	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	52.56	452.81	188.84	0.57	2,240.12	478.11	17.03	57,169.49	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	51.80	452.09	181.67	0.56	2,240.03	478.05	17.03	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Grading - Indirect**
Quarter	**1(3)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	17
Months of Grading Activity:	0.9
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	8,583.40
Amount of Off-Site Cut and Fill Per Day (cy)	8,583.40

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 4,909.54

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,472.86	30% reduction
Replace Ground Cover in Disturbed Areas	736.43	15% reduction
Water Exposed Surfaces Twice Daily	1,669.24	34% reduction
Water Exposed Surfaces Three Times Daily	2,994.82	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,994.82	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2013) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	3.5	8	7.7	67.7	28.6	0.1	2.6	7,810.7	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1.5	8	3.2	27.6	9.6	0.0	1.0	4,250.6	0.264	2.302	0.798	0.004
Graders	1.5	8	1.8	17.3	5.4	0.0	0.6	2,134.2	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	5	8	8.7	71.5	25.4	0.1	2.5	10,893.4	0.217	1.787	0.636	0.003
Off-Highway Trucks	2	8	4.9	40.8	14.2	0.1	1.4	6,070.4	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	1.5	8	4.3	36.4	18.8	0.0	1.5	3,512.7	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	2.5	8	8.0	71.7	30.3	0.1	2.8	8,056.2	0.400	3.583	1.516	0.004
Scraper 2A	2.5	8	7.6	67.5	28.6	0.1	2.6	7,607.2	0.378	3.375	1.432	0.004
Scraper 2B	2.5	8	5.8	51.6	20.6	0.1	2.0	5,721.0	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	22.5	Total Emissions:	51.8	452.1	181.7	0.6	17.0	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.75	0.72	7.17	0.01	0.09	0.06	1,113.20	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.75	0.72	7.17	0.01	0.09	0.06	1,113.20	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	4,909.54	1,021.18	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	51.80	452.09	181.67	0.56	17.03	15.67	17.03	56,056.29	
Grading Worker Commute Trips	0.75	0.72	7.17	0.01	0.09	0.06	--	1,113.20	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,994.82	622.92		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	52.56	452.81	188.84	0.57	1,931.84	413.99	17.03	57,169.49	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	51.80	452.09	181.67	0.56	1,931.75	413.93	17.03	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Improvements - Sewers**
Quarter	**4(12)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2012

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.7	0.4	0.0	0.0	132.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1	8	1.0	10.0	2.9	0.0	0.3	1,269.5	0.130	1.244	0.363	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.5	8	0.4	2.6	1.6	0.0	0.2	236.0	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	0.9	8	0.9	7.3	4.5	0.0	0.4	765.5	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	2.6	Total Emissions:	2.6	21.5	9.7	0.0	1.0	2492.58				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 76.20

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.06	0.58	0.00	0.01	0.00	83.94
Total Emissions	0.06	0.06	0.58	0.00	0.01	0.00	83.94

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	2.56	21.47	9.72	0.03	1.04	0.96	1.04	2,492.58
Improvements Worker Commute Trips	0.06	0.06	0.58	0.00	0.01	0.00	--	83.94
Net Emission Totals:	2.66	21.90	10.43	0.03	1.07	0.98	1.06	2,627.11
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.56	21.47	9.72	0.03	1.04	0.96	1.04	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Improvements - Sewers**
Quarter	**1, 2, 3(7)**
Length of Subphase Improvement (Work Days):	140
Months of Improvement Activity:	7.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.6	0.4	0.0	0.0	132.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes	0.1	8	0.1	0.8	0.2	0.0	0.0	89.7	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1	8	1.0	9.1	2.8	0.0	0.3	1,269.5	0.124	1.136	0.354	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.5	8	0.4	2.5	1.6	0.0	0.2	236.0	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	0.9	8	0.9	6.8	4.5	0.0	0.4	765.5	0.124	0.950	0.627	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	2.6	Total Emissions:	2.4	19.9	9.6	0.0	0.9	2492.57				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.05	0.54	0.00	0.01	0.00	83.89
Total Emissions	0.06	0.05	0.54	0.00	0.01	0.00	83.89

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	2.43	19.88	9.61	0.03	0.95	0.87	0.95	2,492.57
Improvements Worker Commute Trips	0.06	0.05	0.54	0.00	0.01	0.00	--	83.89
Net Emission Totals:	2.51	20.26	10.27	0.03	0.97	0.89	0.96	2,627.04
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.43	19.88	9.61	0.03	0.95	0.87	0.95	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Improvements - Storm Drains**
Quarter	**3 (8,9), 4(10)**
Length of Subphase Improvement (Work Days):	60
Months of Improvement Activity:	3.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes	0.1	8	0.1	0.8	0.2	0.0	0.0	89.7	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1.2	8	1.2	10.9	3.4	0.0	0.4	1,523.4	0.124	1.136	0.354	0.002
Graders	0.1	8	0.1	0.9	0.6	0.0	0.1	99.1	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.6	8	0.5	3.0	2.0	0.0	0.3	283.1	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	1.1	8	1.1	8.4	5.5	0.0	0.5	935.6	0.124	0.950	0.627	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	3.1	Total Emissions:	3.0	24.0	11.7	0.0	1.2	2930.94				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	4
Number of Passenger Vehicle Trips	4

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	101.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.08	0.07	0.72	0.00	0.01	0.01	111.85
Total Emissions	0.08	0.07	0.72	0.00	0.01	0.01	111.85

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	2.96	23.96	11.69	0.03	1.16	1.07	1.16	2,930.94
Improvements Worker Commute Trips	0.08	0.07	0.72	0.00	0.01	0.01	--	111.85
Net Emission Totals:	3.06	24.36	12.53	0.03	1.19	1.09	1.18	3,093.37
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.96	23.96	11.69	0.03	1.16	1.07	1.16	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Improvements - Water**
Quarter	**4(11,12)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes	0.1	8	0.1	0.8	0.2	0.0	0.0	89.7	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1	8	1.0	9.1	2.8	0.0	0.3	1,269.5	0.124	1.136	0.354	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.6	8	0.5	3.0	2.0	0.0	0.3	283.1	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	0.9	8	0.9	6.8	4.5	0.0	0.4	765.5	0.124	0.950	0.627	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	2.6	Total Emissions:	2.4	19.7	9.5	0.0	1.0	2407.80				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.05	0.54	0.00	0.01	0.00	83.89
Total Emissions	0.06	0.05	0.54	0.00	0.01	0.00	83.89

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	2.44	19.73	9.54	0.03	0.97	0.89	0.97	2,407.80
Improvements Worker Commute Trips	0.06	0.05	0.54	0.00	0.01	0.00	--	83.89
Net Emission Totals:	2.53	20.11	10.19	0.03	0.99	0.91	0.98	2,542.27
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.44	19.73	9.54	0.03	0.97	0.89	0.97	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Improvements - Water**
Quarter	**1**
Length of Subphase Improvement (Work Days):	60
Months of Improvement Activity:	3.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes	0.1	8	0.1	0.7	0.2	0.0	0.0	89.7	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1	8	0.9	8.1	2.8	0.0	0.3	1,269.5	0.118	1.010	0.348	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.6	8	0.4	2.8	1.9	0.0	0.2	283.1	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders	0.9	8	0.8	6.4	4.5	0.0	0.4	765.5	0.117	0.892	0.626	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	2.6	Total Emissions:	2.3	18.1	9.5	0.0	0.9	2407.80				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.05	0.50	0.00	0.01	0.00	84.02
Total Emissions	0.05	0.05	0.50	0.00	0.01	0.00	84.02

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	2.31	18.06	9.45	0.03	0.88	0.81	0.88	2,407.80
Improvements Worker Commute Trips	0.05	0.05	0.50	0.00	0.01	0.00	--	84.02
Net Emission Totals:	2.38	18.40	10.06	0.03	0.90	0.83	0.90	2,542.37
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.31	18.06	9.45	0.03	0.88	0.81	0.88	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon North**
Subphase	**Improvements - Streets**
Quarter	**2 (4)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	1.010	0.348	0.002
Graders	0.8	8	0.9	6.7	4.7	0.0	0.4	793.1	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers	0.2	8	0.2	1.6	1.0	0.0	0.1	153.7	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.8	8	0.6	3.8	2.6	0.0	0.3	377.5	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.117	0.892	0.626	0.001
Scrapers	0.7	8	1.4	12.5	4.8	0.0	0.5	1,461.4	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	2.5	Total Emissions:	3.1	24.6	13.1	0.0	1.3	2785.75				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.05	0.50	0.00	0.01	0.00	84.02
Total Emissions	0.05	0.05	0.50	0.00	0.01	0.00	84.02

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	3.14	24.61	13.06	0.03	1.28	1.18	1.28	2,785.75
Improvements Worker Commute Trips	0.05	0.05	0.50	0.00	0.01	0.00	--	84.02
Net Emission Totals:	3.22	24.95	13.66	0.03	1.30	1.19	1.29	2,920.32
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.14	24.61	13.06	0.03	1.28	1.18	1.28	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon South**
Subphase	**Grading - Indirect**
Quarter	**1**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	50
Months of Grading Activity:	2.5
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	7,878.00
Amount of Off-Site Cut and Fill Per Day (cy)	7,878.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 4,515.92

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,354.78	30% reduction
Replace Ground Cover in Disturbed Areas	677.39	15% reduction
Water Exposed Surfaces Twice Daily	1,535.41	34% reduction
Water Exposed Surfaces Three Times Daily	2,754.71	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,754.71	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2013) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	3.5	8	7.7	67.7	28.6	0.1	2.6	7,810.7	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1.5	8	3.2	27.6	9.6	0.0	1.0	4,250.6	0.264	2.302	0.798	0.004
Graders	1.5	8	1.8	17.3	5.4	0.0	0.6	2,134.2	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	5	8	8.7	71.5	25.4	0.1	2.5	10,893.4	0.217	1.787	0.636	0.003
Off-Highway Trucks	2	8	4.9	40.8	14.2	0.1	1.4	6,070.4	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	1.5	8	4.3	36.4	18.8	0.0	1.5	3,512.7	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	2.5	8	8.0	71.7	30.3	0.1	2.8	8,056.2	0.400	3.583	1.516	0.004
Scraper 2A	2.5	8	7.6	67.5	28.6	0.1	2.6	7,607.2	0.378	3.375	1.432	0.004
Scraper 2B	2.5	8	5.8	51.6	20.6	0.1	2.0	5,721.0	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	22.5	Total Emissions:	51.8	452.1	181.7	0.6	17.0	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.75	0.72	7.17	0.01	0.09	0.06	1,113.20	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.75	0.72	7.17	0.01	0.09	0.06	1,113.20	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	4,515.92	939.31	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	51.80	452.09	181.67	0.56	17.03	15.67	17.03	56,056.29	
Grading Worker Commute Trips	0.75	0.72	7.17	0.01	0.09	0.06	--	1,113.20	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,754.71	572.98		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	52.56	452.81	188.84	0.57	1,778.34	382.06	17.03	57,169.49	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	51.80	452.09	181.67	0.56	1,778.24	382.00	17.03	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon South**
Subphase	**Grading - Indirect**
Quarter	**1(3), 2, 3, 4**

Length of Subphase Grading (Work Days):	190
Months of Grading Activity:	9.5
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	3.5	8	7.7	67.7	28.6	0.1	2.6	7,810.7	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1.5	8	3.2	27.6	9.6	0.0	1.0	4,250.6	0.264	2.302	0.798	0.004
Graders	1.5	8	1.8	17.3	5.4	0.0	0.6	2,134.2	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	5	8	8.7	71.5	25.4	0.1	2.5	10,893.4	0.217	1.787	0.636	0.003
Off-Highway Trucks	2	8	4.9	40.8	14.2	0.1	1.4	6,070.4	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	1.5	8	4.3	36.4	18.8	0.0	1.5	3,512.7	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	2.5	8	8.0	71.7	30.3	0.1	2.8	8,056.2	0.400	3.583	1.516	0.004
Scraper 2A	2.5	8	7.6	67.5	28.6	0.1	2.6	7,607.2	0.378	3.375	1.432	0.004
Scraper 2B	2.5	8	5.8	51.6	20.6	0.1	2.0	5,721.0	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	22.5	Total Emissions:	51.8	452.1	181.7	0.6	17.0	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.75	0.72	7.17	0.01	0.09	0.06	1,113.20	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.75	0.72	7.17	0.01	0.09	0.06	1,113.20	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	51.80	452.09	181.67	0.56	17.03	15.67	17.03	56,056.29	
Grading Worker Commute Trips	0.75	0.72	7.17	0.01	0.09	0.06	--	1,113.20	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	52.56	452.81	188.84	0.57	2,240.12	478.11	17.03	57,169.49	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	51.80	452.09	181.67	0.56	2,240.03	478.05	17.03	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon South**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2014
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.107	0.455	0.001
Crawler Tractors	3.5	8	7.3	62.4	26.8	0.1	2.4	7,810.7	0.261	2.229	0.956	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1.5	8	3.0	24.6	9.3	0.0	0.9	4,250.6	0.252	2.048	0.773	0.004
Graders	1.5	8	1.7	15.7	5.2	0.0	0.5	2,134.2	0.144	1.308	0.436	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Water Trucks	5	8	8.3	63.8	24.5	0.1	2.3	10,893.4	0.207	1.595	0.613	0.003
Off-Highway Trucks	2	8	4.6	36.4	13.7	0.1	1.3	6,070.4	0.289	2.277	0.854	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.795	0.501	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.095	0.249	0.283	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers	1.5	8	4.1	34.1	17.6	0.0	1.4	3,512.7	0.340	2.842	1.469	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	1.004	0.478	0.001
Scrapers	2.5	8	7.6	66.2	28.4	0.1	2.6	8,056.2	0.381	3.312	1.421	0.004
Scraper 2A	2.5	8	7.2	62.4	26.8	0.1	2.4	7,607.2	0.359	3.119	1.342	0.004
Scraper 2B	2.5	8	5.5	47.7	19.4	0.1	1.8	5,721.0	0.275	2.386	0.971	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	2.790	1.208	0.003
Total Pieces of Equipment	22.5	Total Emissions:	49.3	413.4	171.8	0.6	15.6	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.71	0.66	6.68	0.01	0.09	0.06	1,114.92	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.71	0.66	6.68	0.01	0.09	0.06	1,114.92	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	49.32	413.36	171.78	0.56	15.57	14.32	15.57	56,056.29	
Grading Worker Commute Trips	0.71	0.66	6.68	0.01	0.09	0.06	--	1,114.92	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	50.03	414.02	178.46	0.57	2,238.66	476.77	15.57	57,171.21	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	49.32	413.36	171.78	0.56	2,238.57	476.71	15.57	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon South**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001
Crawler Tractors	3.5	8	6.9	57.4	25.2	0.1	2.2	7,810.7	0.248	2.051	0.898	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	1.5	8	2.9	21.8	9.0	0.0	0.8	4,250.6	0.240	1.813	0.752	0.004
Graders	1.5	8	1.6	14.2	5.1	0.0	0.5	2,134.2	0.136	1.181	0.422	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Water Trucks	5	8	7.8	56.7	23.8	0.1	2.0	10,893.4	0.196	1.416	0.595	0.003
Off-Highway Trucks	2	8	4.4	32.4	13.3	0.1	1.1	6,070.4	0.274	2.024	0.828	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.748	0.497	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.087	0.241	0.275	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers	1.5	8	3.9	31.9	16.5	0.0	1.3	3,512.7	0.324	2.661	1.375	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.111	0.907	0.472	0.001
Scrapers	2.5	8	7.2	61.1	26.8	0.1	2.3	8,056.2	0.362	3.055	1.338	0.004
Scraper 2A	2.5	8	6.8	57.5	25.3	0.1	2.2	7,607.2	0.342	2.877	1.264	0.004
Scraper 2B	2.5	8	5.2	44.0	18.4	0.1	1.7	5,721.0	0.261	2.201	0.918	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.307	2.573	1.137	0.003
Total Pieces of Equipment	22.5	Total Emissions:	46.9	377.0	163.2	0.6	14.2	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.67	0.61	6.21	0.01	0.09	0.06	1,114.27	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.67	0.61	6.21	0.01	0.09	0.06	1,114.27	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	46.86	377.00	163.18	0.56	14.18	13.04	14.18	56,056.29	
Grading Worker Commute Trips	0.67	0.61	6.21	0.01	0.09	0.06	--	1,114.27	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	47.53	377.61	169.39	0.57	2,237.27	475.49	14.18	57,170.56	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	46.86	377.00	163.18	0.56	2,237.18	475.43	14.18	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon South**
Subphase	**Grading - Indirect**
Quarter	**1(1,2)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	40
Months of Grading Activity:	2.0
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	3.5	8	6.6	52.8	23.8	0.1	2.0	7,810.7	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	1.5	8	2.7	19.2	8.8	0.0	0.7	4,250.6	0.228	1.597	0.735	0.004
Graders	1.5	8	1.5	12.8	4.9	0.0	0.4	2,134.2	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	5	8	7.4	50.1	23.2	0.1	1.8	10,893.4	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	1.5	8	3.7	29.8	15.5	0.0	1.2	3,512.7	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	2.5	8	6.9	56.3	25.3	0.1	2.1	8,056.2	0.344	2.813	1.265	0.004
Scraper 2A	2.5	8	6.5	53.0	23.9	0.1	2.0	7,607.2	0.324	2.649	1.195	0.004
Scraper 2B	2.5	8	5.0	40.5	17.4	0.1	1.5	5,721.0	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	22.5	Total Emissions:	44.4	343.0	155.7	0.6	12.9	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.64	0.56	5.82	0.01	0.09	0.06	1,119.17	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.64	0.56	5.82	0.01	0.09	0.06	1,119.17	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	44.44	343.00	155.74	0.56	12.87	11.84	12.87	56,056.29	
Grading Worker Commute Trips	0.64	0.56	5.82	0.01	0.09	0.06	--	1,119.17	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	45.08	343.57	161.56	0.57	2,235.97	474.29	12.87	57,175.46	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	44.44	343.00	155.74	0.56	2,235.87	474.23	12.87	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Long Canyon South**
Subphase	**Grading - Indirect**
Quarter	**1(1,2)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	16
Months of Grading Activity:	0.8
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	7,840.05
Amount of Off-Site Cut and Fill Per Day (cy)	7,840.05

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 4,494.75

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,348.42	30% reduction
Replace Ground Cover in Disturbed Areas	674.21	15% reduction
Water Exposed Surfaces Twice Daily	1,528.21	34% reduction
Water Exposed Surfaces Three Times Daily	2,741.80	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,741.80	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	3.5	8	6.6	52.8	23.8	0.1	2.0	7,810.7	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	1.5	8	2.7	19.2	8.8	0.0	0.7	4,250.6	0.228	1.597	0.735	0.004
Graders	1.5	8	1.5	12.8	4.9	0.0	0.4	2,134.2	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	5	8	7.4	50.1	23.2	0.1	1.8	10,893.4	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	1.5	8	3.7	29.8	15.5	0.0	1.2	3,512.7	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	2.5	8	6.9	56.3	25.3	0.1	2.1	8,056.2	0.344	2.813	1.265	0.004
Scraper 2A	2.5	8	6.5	53.0	23.9	0.1	2.0	7,607.2	0.324	2.649	1.195	0.004
Scraper 2B	2.5	8	5.0	40.5	17.4	0.1	1.5	5,721.0	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	22.5	Total Emissions:	44.4	343.0	155.7	0.6	12.9	56,056.3				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	28
Number of Construction Worker Trucks/Pick-Ups	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,011.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.64	0.56	5.82	0.01	0.09	0.06	1,119.17	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.64	0.56	5.82	0.01	0.09	0.06	1,119.17	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	4,494.75	934.91	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	44.44	343.00	155.74	0.56	12.87	11.84	12.87	56,056.29	
Grading Worker Commute Trips	0.64	0.56	5.82	0.01	0.09	0.06	--	1,119.17	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,741.80	570.29		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	45.08	343.57	161.56	0.57	1,765.92	376.52	12.87	57,175.46	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	44.44	343.00	155.74	0.56	1,765.83	376.46	12.87	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West Indirect**
Subphase	**Grading - Indirect**
Quarter	**1(2,3), 2**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	100
Months of Grading Activity:	5.0
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	8,869.00
Amount of Off-Site Cut and Fill Per Day (cy)	8,869.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,068.90

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,520.67	30% reduction
Replace Ground Cover in Disturbed Areas	760.34	15% reduction
Water Exposed Surfaces Twice Daily	1,723.43	34% reduction
Water Exposed Surfaces Three Times Daily	3,092.03	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,092.03	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2011) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,068.90	1,054.33	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,092.03	643.14		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	1,989.06	422.39	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	1,989.00	422.35	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West Indirect**
Subphase	**Grading - Indirect**
Quarter	**3, 4**

Length of Subphase Grading (Work Days):	120
Months of Grading Activity:	6.0
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.52	0.52	5.06	0.01	0.05	0.03	674.42	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.52	0.52	5.06	0.01	0.05	0.03	674.42	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.52	0.52	5.06	0.01	0.05	0.03	--	674.42	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.43	312.40	129.27	0.34	2,235.19	473.58	12.13	34,137.83	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	2,235.13	473.55	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West Indirect**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	2	8	4.6	41.3	17.6	0.0	1.6	4,463.3	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1	8	2.2	20.1	6.7	0.0	0.7	2,833.8	0.275	2.512	0.832	0.004
Graders	1	8	1.3	12.5	3.8	0.0	0.4	1,422.8	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	3	8	5.4	46.7	16.0	0.1	1.7	6,536.0	0.226	1.946	0.666	0.003
Off-Highway Trucks	1	8	2.5	22.2	7.4	0.0	0.8	3,035.2	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	1	8	3.0	25.6	13.4	0.0	1.1	2,341.8	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	1.5	8	5.0	45.8	19.5	0.0	1.8	4,833.7	0.418	3.819	1.626	0.004
Scraper 2A	1.5	8	4.7	43.2	18.4	0.0	1.7	4,564.3	0.395	3.597	1.536	0.004
Scraper 2B	1.5	8	3.6	33.0	13.2	0.0	1.3	3,432.6	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	13.5	Total Emissions:	32.4	290.5	116.0	0.3	11.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.49	0.47	4.68	0.01	0.05	0.04	673.91	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.49	0.47	4.68	0.01	0.05	0.04	673.91	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	32.39	290.49	116.02	0.33	11.14	10.25	11.14	33,463.41	
Grading Worker Commute Trips	0.49	0.47	4.68	0.01	0.05	0.04	--	673.91	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	32.88	290.97	120.70	0.34	2,234.19	472.66	11.14	34,137.33	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	32.39	290.49	116.02	0.33	2,234.14	472.63	11.14	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West Indirect**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4(10)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	200
Months of Grading Activity:	10.0
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	2	8	4.4	38.7	16.4	0.0	1.5	4,463.3	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1	8	2.1	18.4	6.4	0.0	0.6	2,833.8	0.264	2.302	0.798	0.004
Graders	1	8	1.2	11.6	3.6	0.0	0.4	1,422.8	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	3	8	5.2	42.9	15.3	0.1	1.5	6,536.0	0.217	1.787	0.636	0.003
Off-Highway Trucks	1	8	2.4	20.4	7.1	0.0	0.7	3,035.2	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	1	8	2.8	24.3	12.6	0.0	1.0	2,341.8	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	1.5	8	4.8	43.0	18.2	0.0	1.7	4,833.7	0.400	3.583	1.516	0.004
Scraper 2A	1.5	8	4.5	40.5	17.2	0.0	1.6	4,564.3	0.378	3.375	1.432	0.004
Scraper 2B	1.5	8	3.5	31.0	12.4	0.0	1.2	3,432.6	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	13.5	Total Emissions:	31.0	270.7	109.0	0.3	10.2	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.46	0.44	4.34	0.01	0.06	0.04	673.51	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.46	0.44	4.34	0.01	0.06	0.04	673.51	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	31.00	270.66	109.02	0.33	10.21	9.39	10.21	33,463.41	
Grading Worker Commute Trips	0.46	0.44	4.34	0.01	0.06	0.04	--	673.51	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	31.45	271.10	113.36	0.34	2,233.26	471.81	10.21	34,136.93	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	31.00	270.66	109.02	0.33	2,233.21	471.77	10.21	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West Indirect**
Subphase	**Grading - Indirect**
Quarter	**4(11)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	6
Months of Grading Activity:	0.3
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	3,162.05
Amount of Off-Site Cut and Fill Per Day (cy)	3,162.05

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 1,884.42

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	565.33	30% reduction
Replace Ground Cover in Disturbed Areas	282.66	15% reduction
Water Exposed Surfaces Twice Daily	640.70	34% reduction
Water Exposed Surfaces Three Times Daily	1,149.50	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	1,149.50	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	2	8	4.4	38.7	16.4	0.0	1.5	4,463.3	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1	8	2.1	18.4	6.4	0.0	0.6	2,833.8	0.264	2.302	0.798	0.004
Graders	1	8	1.2	11.6	3.6	0.0	0.4	1,422.8	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	3	8	5.2	42.9	15.3	0.1	1.5	6,536.0	0.217	1.787	0.636	0.003
Off-Highway Trucks	1	8	2.4	20.4	7.1	0.0	0.7	3,035.2	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	1	8	2.8	24.3	12.6	0.0	1.0	2,341.8	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	1.5	8	4.8	43.0	18.2	0.0	1.7	4,833.7	0.400	3.583	1.516	0.004
Scraper 2A	1.5	8	4.5	40.5	17.2	0.0	1.6	4,564.3	0.378	3.375	1.432	0.004
Scraper 2B	1.5	8	3.5	31.0	12.4	0.0	1.2	3,432.6	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	13.5	Total Emissions:	31.0	270.7	109.0	0.3	10.2	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.46	0.44	4.34	0.01	0.06	0.04	673.51	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.46	0.44	4.34	0.01	0.06	0.04	673.51	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	1,884.42	391.96	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	31.00	270.66	109.02	0.33	10.21	9.39	10.21	33,463.41	
Grading Worker Commute Trips	0.46	0.44	4.34	0.01	0.06	0.04	--	673.51	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	1,149.50	239.10		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	31.45	271.10	113.36	0.34	745.19	162.29	10.21	34,136.93	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	31.00	270.66	109.02	0.33	745.13	162.25	10.21	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West**
Subphase	**Improvements - Sewers**
Quarter	**3(8,9), 4**
Length of Subphase Improvement (Work Days):	100
Months of Improvement Activity:	5.0
Number of Days/Month	20
Construction Year:	2011

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002795	0.034558	0.011125	0.000040	0.001661	0.001445	4.220457

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.41	0.13	0.00	0.02	0.02	50.65

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.8	0.4	0.0	0.0	132.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes	0.1	8	0.1	0.9	0.3	0.0	0.0	89.7	0.117	1.152	0.328	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.759	8.172	3.122	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1.1	8	1.2	12.0	3.3	0.0	0.4	1,396.4	0.137	1.363	0.376	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.272	0.738	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.237	2.124	0.706	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	1.198	0.640	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers	0.5	8	0.5	2.8	1.7	0.0	0.2	236.0	0.113	0.700	0.414	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.230	1.709	0.860	0.001
Rubber Tired Loaders	0.9	8	1.0	7.8	4.5	0.0	0.5	765.5	0.139	1.082	0.630	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.295	2.737	1.024	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Total Pieces of Equipment	2.7	Total Emissions:	2.8	24.3	10.2	0.0	1.2	2619.52				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.06	0.63	0.00	0.01	0.00	84.00
Total Emissions	0.06	0.06	0.63	0.00	0.01	0.00	84.00

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.41	0.13	0.00	0.02	0.02	0.02	50.65
Off-Road Diesel Exhaust	2.83	24.31	10.17	0.03	1.18	1.08	1.18	2,619.52
Improvements Worker Commute Trips	0.06	0.06	0.63	0.00	0.01	0.00	--	84.00
Net Emission Totals:	2.93	24.79	10.94	0.03	1.20	1.11	1.20	2,754.17
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.83	24.31	10.17	0.03	1.18	1.08	1.18	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West**
Subphase	**Improvements - Sewers**
Quarter	**1, 2, 3(7,8)**
Length of Subphase Improvement (Work Days):	160
Months of Improvement Activity:	8.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.7	0.4	0.0	0.0	132.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1.1	8	1.1	10.9	3.2	0.0	0.4	1,396.4	0.130	1.244	0.363	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.5	8	0.4	2.6	1.6	0.0	0.2	236.0	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	0.9	8	0.9	7.3	4.5	0.0	0.4	765.5	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	2.7	Total Emissions:	2.7	22.5	10.0	0.0	1.1	2619.53				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.06	0.58	0.00	0.01	0.00	83.94
Total Emissions	0.06	0.06	0.58	0.00	0.01	0.00	83.94

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	2.67	22.47	10.01	0.03	1.08	0.99	1.08	2,619.53
Improvements Worker Commute Trips	0.06	0.06	0.58	0.00	0.01	0.00	--	83.94
Net Emission Totals:	2.76	22.90	10.72	0.03	1.10	1.01	1.09	2,754.05
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.67	22.47	10.01	0.03	1.08	0.99	1.08	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West**
Subphase	**Improvements - Storm Drains**
Quarter	**3(9), 4**
Length of Subphase Improvement (Work Days):	80
Months of Improvement Activity:	4.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1.1	8	1.1	10.9	3.2	0.0	0.4	1,396.4	0.130	1.244	0.363	0.002
Graders	0.1	8	0.1	1.0	0.6	0.0	0.1	99.1	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.5	8	0.4	2.6	1.6	0.0	0.2	236.0	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	1	8	1.0	8.1	5.0	0.0	0.5	850.5	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	2.8	Total Emissions:	2.8	23.5	10.7	0.0	1.1	2671.75				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	4
Number of Passenger Vehicle Trips	4

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	101.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.08	0.08	0.78	0.00	0.01	0.01	111.91
Total Emissions	0.08	0.08	0.78	0.00	0.01	0.01	111.91

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	2.83	23.51	10.70	0.03	1.15	1.06	1.15	2,671.75
Improvements Worker Commute Trips	0.08	0.08	0.78	0.00	0.01	0.01	--	111.91
Net Emission Totals:	2.94	23.96	11.60	0.03	1.17	1.08	1.17	2,834.25
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.83	23.51	10.70	0.03	1.15	1.06	1.15	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West**
Subphase	**Improvements - Water**
Quarter	**1, 2, 3**
Length of Subphase Improvement (Work Days):	180
Months of Improvement Activity:	9.0
Number of Days/Month	20
Construction Year:	2013

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.6	0.4	0.0	0.0	132.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1	8	1.0	9.1	2.8	0.0	0.3	1,269.5	0.124	1.136	0.354	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.5	8	0.4	2.5	1.6	0.0	0.2	236.0	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	0.9	8	0.9	6.8	4.5	0.0	0.4	765.5	0.124	0.950	0.627	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	2.5	Total Emissions:	2.3	19.1	9.4	0.0	0.9	2402.85				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.05	0.54	0.00	0.01	0.00	83.89
Total Emissions	0.06	0.05	0.54	0.00	0.01	0.00	83.89

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	2.34	19.08	9.38	0.03	0.92	0.85	0.92	2,402.85
Improvements Worker Commute Trips	0.06	0.05	0.54	0.00	0.01	0.00	--	83.89
Net Emission Totals:	2.43	19.46	10.03	0.03	0.94	0.87	0.94	2,537.32
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.34	19.08	9.38	0.03	0.92	0.85	0.92	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mesas West**
Subphase	**Improvements - Streets**
Quarter	**4 (10,11)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2013

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	1.136	0.354	0.002
Graders	0.7	8	0.8	6.3	4.1	0.0	0.4	694.0	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers	0.2	8	0.3	1.7	1.0	0.0	0.1	153.7	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.7	8	0.6	3.5	2.3	0.0	0.3	330.3	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.950	0.627	0.001
Scrapers	0.6	8	1.3	11.6	4.3	0.0	0.4	1,252.7	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	2.2	Total Emissions:	2.9	23.1	11.7	0.0	1.2	2430.65				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.05	0.54	0.00	0.01	0.00	83.89
Total Emissions	0.06	0.05	0.54	0.00	0.01	0.00	83.89

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	2.91	23.06	11.73	0.03	1.22	1.12	1.22	2,430.65
Improvements Worker Commute Trips	0.06	0.05	0.54	0.00	0.01	0.00	--	83.89
Net Emission Totals:	3.00	23.44	12.38	0.03	1.24	1.14	1.24	2,565.12
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.91	23.06	11.73	0.03	1.22	1.12	1.22	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**	
Subphase	**Grading - Indirect**	
Quarter	**4**	
Length of Subphase Grading (Work Days):	60	
Months of Grading Activity:	3.0	
Number of Days/Month	20	
Grading Year:	2009	
Maximum Daily Acreage Graded in Subphase (ac):	20.00	
Amount of On-Site Cut and Fill Per Day (cy)	10,726.80	
Amount of Off-Site Cut and Fill Per Day (cy)	10,726.80	

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,185.55

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,855.67	30% reduction
Replace Ground Cover in Disturbed Areas	927.83	15% reduction
Water Exposed Surfaces Twice Daily	2,103.09	34% reduction
Water Exposed Surfaces Three Times Daily	3,773.19	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,773.19	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.168	1.529	0.571	0.001
Crawler Tractors	4	8	10.5	99.3	44.5	0.1	4.0	8,926.5	0.327	3.103	1.391	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators	2	8	5.1	51.5	16.0	0.1	1.9	5,667.5	0.316	3.220	0.998	0.004
Graders	2	8	3.0	31.0	8.8	0.0	1.2	2,845.6	0.190	1.937	0.548	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Water Trucks	6	8	12.5	119.1	38.9	0.1	4.4	13,072.0	0.260	2.482	0.810	0.003
Off-Highway Trucks	2	8	5.8	56.6	18.0	0.1	2.1	6,070.4	0.364	3.539	1.127	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	1.016	0.529	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.279	0.326	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers	2	8	6.6	59.5	32.9	0.0	2.5	4,683.6	0.415	3.721	2.053	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.157	1.448	0.530	0.001
Scrapers	3	8	11.5	109.5	49.5	0.1	4.4	9,667.4	0.478	4.564	2.061	0.004
Scraper 2A	3	8	10.8	103.2	46.7	0.1	4.2	9,128.6	0.451	4.300	1.947	0.004
Scraper 2B	3	8	8.3	79.1	32.9	0.1	3.2	6,865.2	0.347	3.294	1.372	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.405	3.849	1.752	0.003
Total Pieces of Equipment	27	Total Emissions:	74.2	708.9	288.1	0.7	27.8	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 1,223.60

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.21	1.23	11.85	0.01	0.11	0.07	1,342.97	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.21	1.23	11.85	0.01	0.11	0.07	1,342.97	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,185.55	1,286.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	74.15	708.85	288.13	0.67	27.82	25.59	27.82	66,926.82	
Grading Worker Commute Trips	1.21	1.23	11.85	0.01	0.11	0.07	--	1,342.97	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,773.19	784.82		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	75.37	710.08	299.98	0.68	2,440.29	527.43	27.82	68,269.79	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	Yes	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	74.15	708.85	288.13	0.67	2,440.19	527.37	27.82	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Grading - Indirect**
Quarter (Month)	**1 (1, 2)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	40
Months of Grading Activity:	2.0
Number of Days/Month	20
Grading Year:	2010
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	10,726.80
Amount of Off-Site Cut and Fill Per Day (cy)	10,726.80

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,185.55

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,855.67	30% reduction
Replace Ground Cover in Disturbed Areas	927.83	15% reduction
Water Exposed Surfaces Twice Daily	2,103.09	34% reduction
Water Exposed Surfaces Three Times Daily	3,773.19	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,773.19	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2010) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	1.133	0.515	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.127	0.657	0.427	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.159	1.451	0.543	0.001
Crawler Tractors	4	8	10.0	94.2	41.1	0.1	3.8	8,926.5	0.314	2.943	1.283	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.382	16.075	4.801	0.013
Excavators	2	8	4.8	48.1	14.9	0.1	1.7	5,667.5	0.303	3.006	0.932	0.004
Graders	2	8	2.9	29.2	8.3	0.0	1.1	2,845.6	0.180	1.823	0.519	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	1.705	0.535	0.001
Off-Highway Water Trucks	6	8	12.0	111.3	36.2	0.1	4.2	13,072.0	0.249	2.319	0.754	0.003
Off-Highway Trucks	2	8	5.6	52.9	16.8	0.1	2.0	6,070.4	0.349	3.306	1.049	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.103	0.279	0.293	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	0.969	0.522	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.099	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.127	0.275	0.317	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.159	0.356	0.419	0.000
Rubber Tired Dozers	2	8	6.4	57.0	30.7	0.0	2.4	4,683.6	0.400	3.560	1.921	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.361	0.517	0.001
Scrapers	3	8	11.0	104.0	45.6	0.1	4.2	9,667.4	0.458	4.334	1.899	0.004
Scraper 2A	3	8	10.4	98.0	43.0	0.1	3.9	9,128.6	0.432	4.083	1.794	0.004
Scraper 2B	3	8	8.0	75.0	30.5	0.1	3.0	6,865.2	0.332	3.127	1.271	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.332	3.127	1.271	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.458	4.334	1.899	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.205	2.509	0.614	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	0.330	0.389	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.549	0.404	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.389	3.655	1.614	0.003
Total Pieces of Equipment	27	Total Emissions:	71.1	669.7	267.1	0.7	26.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2010)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000914	0.000918	0.008263	0.000011	0.000087	0.000055	1.095682

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.12	1.12	10.11	0.01	0.11	0.07	1,340.68	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.12	1.12	10.11	0.01	0.11	0.07	1,340.68	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,185.55	1,286.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	71.06	669.66	267.14	0.67	26.37	24.26	26.37	66,926.83	
Grading Worker Commute Trips	1.12	1.12	10.11	0.01	0.11	0.07	--	1,340.68	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,773.19	784.82		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	72.18	670.78	277.25	0.68	2,438.84	526.10	26.37	68,267.50	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	71.06	669.66	267.14	0.67	2,438.74	526.03	26.37	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Grading - Indirect**
Quarter (Month)	**1 (3), 2, 3, 4**

Length of Subphase Grading (Work Days):	200
Months of Grading Activity:	10.0
Number of Days/Month	20
Grading Year:	2010
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	12,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	12,000.00

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,896.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,068.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,034.40	15% reduction
Water Exposed Surfaces Twice Daily	2,344.64	34% reduction
Water Exposed Surfaces Three Times Daily	4,206.56	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,206.56	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2010)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	1.133	0.515	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.127	0.657	0.427	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.159	1.451	0.543	0.001
Crawler Tractors	4	8	10.0	94.2	41.1	0.1	3.8	8,926.5	0.314	2.943	1.283	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.382	16.075	4.801	0.013
Excavators	2	8	4.8	48.1	14.9	0.1	1.7	5,667.5	0.303	3.006	0.932	0.004
Graders	2	8	2.9	29.2	8.3	0.0	1.1	2,845.6	0.180	1.823	0.519	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	1.705	0.535	0.001
Off-Highway Water Trucks	6	8	12.0	111.3	36.2	0.1	4.2	13,072.0	0.249	2.319	0.754	0.003
Off-Highway Trucks	2	8	5.6	52.9	16.8	0.1	2.0	6,070.4	0.349	3.306	1.049	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.103	0.279	0.293	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	0.969	0.522	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.099	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.127	0.275	0.317	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.159	0.356	0.419	0.000
Rubber Tired Dozers	2	8	6.4	57.0	30.7	0.0	2.4	4,683.6	0.400	3.560	1.921	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.361	0.517	0.001
Scrapers	3	8	11.0	104.0	45.6	0.1	4.2	9,667.4	0.458	4.334	1.899	0.004
Scraper 2A	3	8	10.4	98.0	43.0	0.1	3.9	9,128.6	0.432	4.083	1.794	0.004
Scraper 2B	3	8	8.0	75.0	30.5	0.1	3.0	6,865.2	0.332	3.127	1.271	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.332	3.127	1.271	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.458	4.334	1.899	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.205	2.509	0.614	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	0.330	0.389	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.549	0.404	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.389	3.655	1.614	0.003
Total Pieces of Equipment	27	Total Emissions:	71.1	669.7	267.1	0.7	26.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2010)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000914	0.000918	0.008263	0.000011	0.000087	0.000055	1.095682

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.12	1.12	10.11	0.01	0.11	0.07	1,340.68	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.12	1.12	10.11	0.01	0.11	0.07	1,340.68	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,896.00	1,434.37	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	71.06	669.66	267.14	0.67	26.37	24.26	26.37	66,926.83	
Grading Worker Commute Trips	1.12	1.12	10.11	0.01	0.11	0.07	--	1,340.68	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,206.56	874.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	72.18	670.78	277.25	0.68	2,715.92	583.73	26.37	68,267.50	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	71.06	669.66	267.14	0.67	2,715.81	583.66	26.37	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	12,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	12,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,896.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,068.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,034.40	15% reduction
Water Exposed Surfaces Twice Daily	2,344.64	34% reduction
Water Exposed Surfaces Three Times Daily	4,206.56	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,206.56	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2011) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	4	8	9.6	88.2	37.9	0.1	3.5	8,926.5	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	2	8	4.6	44.0	14.0	0.1	1.6	5,667.5	0.288	2.747	0.877	0.004
Graders	2	8	2.7	27.0	7.9	0.0	1.0	2,845.6	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	6	8	11.4	101.9	33.9	0.1	3.8	13,072.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	2	8	5.3	48.5	15.7	0.1	1.8	6,070.4	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	2	8	6.2	54.0	28.7	0.0	2.3	4,683.6	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	3	8	10.5	97.7	42.1	0.1	3.9	9,667.4	0.438	4.069	1.754	0.004
Scraper 2A	3	8	9.9	92.0	39.8	0.1	3.7	9,128.6	0.413	3.834	1.657	0.004
Scraper 2B	3	8	7.6	70.4	28.3	0.1	2.8	6,865.2	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	27	Total Emissions:	67.8	623.8	248.4	0.7	24.3	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.04	1.03	10.11	0.01	0.11	0.07	1,348.84	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.04	1.03	10.11	0.01	0.11	0.07	1,348.84	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,896.00	1,434.37	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	67.82	623.77	248.43	0.67	24.26	22.32	24.26	66,926.82	
Grading Worker Commute Trips	1.04	1.03	10.11	0.01	0.11	0.07	--	1,348.84	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,206.56	874.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	68.86	624.81	258.54	0.68	2,713.81	581.80	24.26	68,275.66	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	67.82	623.77	248.43	0.67	2,713.70	581.73	24.26	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	12,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	12,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,896.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,068.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,034.40	15% reduction
Water Exposed Surfaces Twice Daily	2,344.64	34% reduction
Water Exposed Surfaces Three Times Daily	4,206.56	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,206.56	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	4	8	9.2	82.6	35.2	0.1	3.2	8,926.5	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	2	8	4.4	40.2	13.3	0.1	1.4	5,667.5	0.275	2.512	0.832	0.004
Graders	2	8	2.6	25.0	7.6	0.0	0.9	2,845.6	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	6	8	10.9	93.4	32.0	0.1	3.4	13,072.0	0.226	1.946	0.666	0.003
Off-Highway Trucks	2	8	5.1	44.4	14.8	0.1	1.6	6,070.4	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	2	8	5.9	51.2	26.9	0.0	2.1	4,683.6	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	3	8	10.0	91.7	39.0	0.1	3.6	9,667.4	0.418	3.819	1.626	0.004
Scraper 2A	3	8	9.5	86.3	36.9	0.1	3.4	9,128.6	0.395	3.597	1.536	0.004
Scraper 2B	3	8	7.3	66.1	26.4	0.1	2.6	6,865.2	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	27	Total Emissions:	64.8	581.0	232.0	0.7	22.3	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.97	0.95	9.37	0.01	0.11	0.07	1,347.83	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.97	0.95	9.37	0.01	0.11	0.07	1,347.83	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,896.00	1,434.37	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	64.78	580.98	232.04	0.67	22.27	20.49	22.27	66,926.83	
Grading Worker Commute Trips	0.97	0.95	9.37	0.01	0.11	0.07	--	1,347.83	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,206.56	874.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	65.76	581.93	241.41	0.68	2,711.82	579.96	22.27	68,274.66	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	64.78	580.98	232.04	0.67	2,711.71	579.89	22.27	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	12,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	12,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,896.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,068.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,034.40	15% reduction
Water Exposed Surfaces Twice Daily	2,344.64	34% reduction
Water Exposed Surfaces Three Times Daily	4,206.56	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,206.56	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	4	8	8.8	77.4	32.7	0.1	3.0	8,926.5	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	2	8	4.2	36.8	12.8	0.1	1.3	5,667.5	0.264	2.302	0.798	0.004
Graders	2	8	2.4	23.1	7.2	0.0	0.8	2,845.6	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	6	8	10.4	85.8	30.5	0.1	3.0	13,072.0	0.217	1.787	0.636	0.003
Off-Highway Trucks	2	8	4.9	40.8	14.2	0.1	1.4	6,070.4	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	2	8	5.7	48.5	25.1	0.0	2.0	4,683.6	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	3	8	9.6	86.0	36.4	0.1	3.3	9,667.4	0.400	3.583	1.516	0.004
Scraper 2A	3	8	9.1	81.0	34.4	0.1	3.1	9,128.6	0.378	3.375	1.432	0.004
Scraper 2B	3	8	6.9	62.0	24.7	0.1	2.4	6,865.2	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	27	Total Emissions:	62.0	541.3	218.0	0.7	20.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 1,223.60

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.91	0.87	8.68	0.01	0.11	0.07	1,347.03	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.91	0.87	8.68	0.01	0.11	0.07	1,347.03	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,896.00	1,434.37	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	61.99	541.32	218.05	0.67	20.41	18.78	20.41	66,926.83	
Grading Worker Commute Trips	0.91	0.87	8.68	0.01	0.11	0.07	--	1,347.03	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,206.56	874.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	62.90	542.19	226.73	0.68	2,709.96	578.25	20.41	68,273.86	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	61.99	541.32	218.05	0.67	2,709.85	578.18	20.41	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2014
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	12,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	12,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,896.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,068.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,034.40	15% reduction
Water Exposed Surfaces Twice Daily	2,344.64	34% reduction
Water Exposed Surfaces Three Times Daily	4,206.56	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,206.56	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.107	0.455	0.001
Crawler Tractors	4	8	8.3	71.3	30.6	0.1	2.8	8,926.5	0.261	2.229	0.956	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	2	8	4.0	32.8	12.4	0.1	1.1	5,667.5	0.252	2.048	0.773	0.004
Graders	2	8	2.3	20.9	7.0	0.0	0.7	2,845.6	0.144	1.308	0.436	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Water Trucks	6	8	9.9	76.5	29.4	0.1	2.7	13,072.0	0.207	1.595	0.613	0.003
Off-Highway Trucks	2	8	4.6	36.4	13.7	0.1	1.3	6,070.4	0.289	2.277	0.854	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.795	0.501	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.095	0.249	0.283	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers	2	8	5.4	45.5	23.5	0.0	1.9	4,683.6	0.340	2.842	1.469	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	1.004	0.478	0.001
Scrapers	3	8	9.1	79.5	34.1	0.1	3.1	9,667.4	0.381	3.312	1.421	0.004
Scraper 2A	3	8	8.6	74.9	32.2	0.1	2.9	9,128.6	0.359	3.119	1.342	0.004
Scraper 2B	3	8	6.6	57.3	23.3	0.1	2.2	6,865.2	0.275	2.386	0.971	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	2.790	1.208	0.003
Total Pieces of Equipment	27	Total Emissions:	59.0	495.1	206.2	0.7	18.7	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 1,223.60

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.86	0.80	8.08	0.01	0.11	0.07	1,349.11	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.86	0.80	8.08	0.01	0.11	0.07	1,349.11	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,896.00	1,434.37	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	59.02	495.10	206.16	0.67	18.66	17.17	18.66	66,926.83	
Grading Worker Commute Trips	0.86	0.80	8.08	0.01	0.11	0.07	--	1,349.11	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,206.56	874.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	59.88	495.90	214.24	0.68	2,708.21	576.64	18.66	68,275.93	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	59.02	495.10	206.16	0.67	2,708.10	576.57	18.66	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	12,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	12,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,896.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,068.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,034.40	15% reduction
Water Exposed Surfaces Twice Daily	2,344.64	34% reduction
Water Exposed Surfaces Three Times Daily	4,206.56	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,206.56	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001
Crawler Tractors	4	8	7.9	65.6	28.7	0.1	2.5	8,926.5	0.248	2.051	0.898	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	2	8	3.8	29.0	12.0	0.1	1.0	5,667.5	0.240	1.813	0.752	0.004
Graders	2	8	2.2	18.9	6.7	0.0	0.7	2,845.6	0.136	1.181	0.422	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Water Trucks	6	8	9.4	68.0	28.6	0.1	2.4	13,072.0	0.196	1.416	0.595	0.003
Off-Highway Trucks	2	8	4.4	32.4	13.3	0.1	1.1	6,070.4	0.274	2.024	0.828	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.748	0.497	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.087	0.241	0.275	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers	2	8	5.2	42.6	22.0	0.0	1.7	4,683.6	0.324	2.661	1.375	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.111	0.907	0.472	0.001
Scrapers	3	8	8.7	73.3	32.1	0.1	2.8	9,667.4	0.362	3.055	1.338	0.004
Scraper 2A	3	8	8.2	69.1	30.3	0.1	2.7	9,128.6	0.342	2.877	1.264	0.004
Scraper 2B	3	8	6.3	52.8	22.0	0.1	2.0	6,865.2	0.261	2.201	0.918	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.307	2.573	1.137	0.003
Total Pieces of Equipment	27	Total Emissions:	56.1	451.7	195.8	0.7	17.0	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 1,223.60

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.81	0.74	7.51	0.01	0.11	0.07	1,348.32	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,896.00	1,434.37	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	56.08	451.69	195.80	0.67	17.00	15.64	17.00	66,926.83	
Grading Worker Commute Trips	0.81	0.74	7.51	0.01	0.11	0.07	--	1,348.32	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,206.56	874.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	56.89	452.43	203.32	0.68	2,706.55	575.12	17.00	68,275.15	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	56.08	451.69	195.80	0.67	2,706.44	575.04	17.00	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Grading - Indirect**
Quarter (Month)	**1, 2, 3 (7)**

Length of Subphase Grading (Work Days):	140
Months of Grading Activity:	7.0
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	12,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	12,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,896.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,068.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,034.40	15% reduction
Water Exposed Surfaces Twice Daily	2,344.64	34% reduction
Water Exposed Surfaces Three Times Daily	4,206.56	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,206.56	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,896.00	1,434.37	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,206.56	874.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	2,705.00	573.69	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	2,704.88	573.61	15.44	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Grading - Indirect**
Quarter (Month)	**3 (8)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	3
Months of Grading Activity:	0.2
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	1,742.50
Amount of Off-Site Cut and Fill Per Day (cy)	1,742.50

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 1,172.32

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	351.69	30% reduction
Replace Ground Cover in Disturbed Areas	175.85	15% reduction
Water Exposed Surfaces Twice Daily	398.59	34% reduction
Water Exposed Surfaces Three Times Daily	715.11	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	715.11	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	4	8	7.5	60.3	27.2	0.1	2.3	8,926.5	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2	8	3.6	25.5	11.8	0.1	0.9	5,667.5	0.228	1.597	0.735	0.004
Graders	2	8	2.1	17.0	6.6	0.0	0.6	2,845.6	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	6	8	8.9	60.1	27.8	0.1	2.2	13,072.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2	8	4.2	28.6	12.9	0.1	1.0	6,070.4	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2	8	4.9	39.8	20.6	0.0	1.6	4,683.6	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3	8	8.2	67.5	30.4	0.1	2.6	9,667.4	0.344	2.813	1.265	0.004
Scraper 2A	3	8	7.8	63.6	28.7	0.1	2.4	9,128.6	0.324	2.649	1.195	0.004
Scraper 2B	3	8	5.9	48.6	20.9	0.1	1.9	6,865.2	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	27	Total Emissions:	53.2	411.1	186.8	0.7	15.4	66,926.8				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	34
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,223.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.77	0.68	7.05	0.01	0.11	0.08	1,354.25	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	1,172.32	243.84	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	53.19	411.10	186.83	0.67	15.44	14.21	15.44	66,926.83	
Grading Worker Commute Trips	0.77	0.68	7.05	0.01	0.11	0.08	--	1,354.25	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	715.11	148.74		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	53.96	411.78	193.88	0.68	472.76	109.38	15.44	68,281.08	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	53.19	411.10	186.83	0.67	472.64	109.30	15.44	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Improvements - Sewers**
Quarter	**4**
Length of Subphase Improvement (Work Days):	60
Months of Improvement Activity:	3.0
Number of Days/Month	20
Construction Year:	2010

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2010)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.003042	0.038221	0.011955	0.000041	0.001831	0.001601	4.211206

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.04	0.46	0.14	0.00	0.02	0.02	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2010)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.2	8	0.2	1.8	0.8	0.0	0.1	263.8	0.105	1.133	0.515	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.127	0.657	0.427	0.001
Cranes	0.2	8	0.2	2.0	0.6	0.0	0.1	179.5	0.124	1.237	0.346	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.798	8.600	3.373	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.382	16.075	4.801	0.013
Excavators	1.8	8	2.1	21.5	5.7	0.0	0.7	2,285.0	0.145	1.494	0.393	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.174	1.353	0.741	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	1.705	0.535	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.249	2.319	0.754	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.103	0.279	0.293	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.182	1.257	0.647	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.099	0.052	0.000
Rollers	0.8	8	0.8	4.7	2.7	0.0	0.4	377.5	0.120	0.738	0.418	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.159	0.356	0.419	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.240	1.788	0.869	0.001
Rubber Tired Loaders	1.5	8	1.8	13.8	7.6	0.0	0.8	1,275.8	0.148	1.151	0.633	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.309	2.916	1.096	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.332	3.127	1.271	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.458	4.334	1.899	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.205	2.509	0.614	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	0.330	0.389	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.549	0.404	0.002
Total Pieces of Equipment	4.5	Total Emissions:	5.0	43.8	17.3	0.0	2.1	4381.56				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	6
Number of Passenger Vehicle Trips	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2010)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000914	0.000918	0.008263	0.000011	0.000087	0.000055	1.095682

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	152.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.14	0.14	1.26	0.00	0.01	0.01	166.98
Total Emissions	0.14	0.14	1.26	0.00	0.01	0.01	166.98

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.04	0.46	0.14	0.00	0.02	0.02	0.02	50.53
Off-Road Diesel Exhaust	5.00	43.84	17.31	0.05	2.11	1.94	2.11	4,381.56
Improvements Worker Commute Trips	0.14	0.14	1.26	0.00	0.01	0.01	--	166.98
Net Emission Totals:	5.17	44.44	18.71	0.05	2.15	1.97	2.13	4,599.08
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	5.00	43.84	17.31	0.05	2.11	1.94	2.11	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Improvements - Sewers**
Quarter	**1, 2, 3, 4**
Length of Subphase Improvement (Work Days):	240
Months of Improvement Activity:	12.0
Number of Days/Month	20
Construction Year:	2011

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002795	0.034558	0.011125	0.000040	0.001661	0.001445	4.220457

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.41	0.13	0.00	0.02	0.02	50.65

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.2	8	0.2	1.6	0.8	0.0	0.1	263.9	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes	0.2	8	0.2	1.8	0.5	0.0	0.1	179.5	0.117	1.152	0.328	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.759	8.172	3.122	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1.8	8	2.0	19.6	5.4	0.0	0.7	2,285.0	0.137	1.363	0.376	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.272	0.738	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.237	2.124	0.706	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	1.198	0.640	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers	0.8	8	0.7	4.5	2.6	0.0	0.4	377.5	0.113	0.700	0.414	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.230	1.709	0.860	0.001
Rubber Tired Loaders	1.5	8	1.7	13.0	7.6	0.0	0.8	1,275.8	0.139	1.082	0.630	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.295	2.737	1.024	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Total Pieces of Equipment	4.5	Total Emissions:	4.7	40.5	17.0	0.0	2.0	4381.72				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	6
Number of Passenger Vehicle Trips	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	152.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.13	0.13	1.26	0.00	0.01	0.01	168.00
Total Emissions	0.13	0.13	1.26	0.00	0.01	0.01	168.00

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.41	0.13	0.00	0.02	0.02	0.02	50.65
Off-Road Diesel Exhaust	4.70	40.55	16.97	0.05	1.96	1.80	1.96	4,381.72
Improvements Worker Commute Trips	0.13	0.13	1.26	0.00	0.01	0.01	--	168.00
Net Emission Totals:	4.87	41.09	18.36	0.05	1.99	1.83	1.98	4,600.36
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	4.70	40.55	16.97	0.05	1.96	1.80	1.96	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Improvements - Sewers**
Quarter	**1 (1,2)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.2	8	0.1	1.4	0.8	0.0	0.1	263.9	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.2	8	0.2	1.7	0.5	0.0	0.1	179.5	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1.8	8	1.9	17.9	5.2	0.0	0.6	2,285.0	0.130	1.244	0.363	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.8	8	0.7	4.2	2.6	0.0	0.4	377.5	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	1.5	8	1.6	12.2	7.5	0.0	0.7	1,275.8	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	4.5	Total Emissions:	4.4	37.5	16.7	0.0	1.8	4381.73				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	6
Number of Passenger Vehicle Trips	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	152.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.12	0.12	1.17	0.00	0.01	0.01	167.87
Total Emissions	0.12	0.12	1.17	0.00	0.01	0.01	167.87

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	4.44	37.47	16.70	0.05	1.79	1.64	1.79	4,381.73
Improvements Worker Commute Trips	0.12	0.12	1.17	0.00	0.01	0.01	--	167.87
Net Emission Totals:	4.59	37.95	17.99	0.05	1.82	1.67	1.80	4,600.19
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	4.44	37.47	16.70	0.05	1.79	1.64	1.79	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Improvements - Storm Drains**
Quarter	**1 (3), 2, 3, 4(10)**
Length of Subphase Improvement (Work Days):	160
Months of Improvement Activity:	8.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.2	8	0.2	1.7	0.5	0.0	0.1	179.5	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1.7	8	1.8	16.9	4.9	0.0	0.6	2,158.1	0.130	1.244	0.363	0.002
Graders	0.2	8	0.2	1.9	1.2	0.0	0.1	198.3	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.8	8	0.7	4.2	2.6	0.0	0.4	377.5	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	1.5	8	1.6	12.2	7.5	0.0	0.7	1,275.8	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	4.4	Total Emissions:	4.4	36.9	16.8	0.0	1.8	4189.12				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	6
Number of Passenger Vehicle Trips	6

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	152.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.12	0.12	1.17	0.00	0.01	0.01	167.87
Total Emissions	0.12	0.12	1.17	0.00	0.01	0.01	167.87

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	4.44	36.94	16.78	0.05	1.80	1.66	1.80	4,189.12
Improvements Worker Commute Trips	0.12	0.12	1.17	0.00	0.01	0.01	--	167.87
Net Emission Totals:	4.60	37.43	18.07	0.05	1.84	1.68	1.82	4,407.59
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	4.44	36.94	16.78	0.05	1.80	1.66	1.80	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Improvements - Water**
Quarter	**4 (11,12)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.2	8	0.2	1.7	0.5	0.0	0.1	179.5	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1.5	8	1.6	14.9	4.4	0.0	0.5	1,904.2	0.130	1.244	0.363	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.9	8	0.8	4.8	3.0	0.0	0.4	424.7	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	1.4	8	1.5	11.4	7.0	0.0	0.7	1,190.7	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	4	Total Emissions:	4.0	32.8	14.8	0.0	1.6	3699.10				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	5
Number of Passenger Vehicle Trips	5

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	127.00	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.10	0.10	0.97	0.00	0.01	0.01	139.89
Total Emissions	0.10	0.10	0.97	0.00	0.01	0.01	139.89

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	3.97	32.76	14.85	0.04	1.63	1.50	1.63	3,699.10
Improvements Worker Commute Trips	0.10	0.10	0.97	0.00	0.01	0.01	--	139.89
Net Emission Totals:	4.10	33.23	15.94	0.04	1.66	1.52	1.65	3,889.58
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.97	32.76	14.85	0.04	1.63	1.50	1.63	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Improvements - Water**
Quarter	**1, 2, 3, 4 (10)**
Length of Subphase Improvement (Work Days):	200
Months of Improvement Activity:	10.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes	0.2	8	0.2	1.6	0.5	0.0	0.1	179.5	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1.5	8	1.5	13.6	4.2	0.0	0.4	1,904.2	0.124	1.136	0.354	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.9	8	0.7	4.5	2.9	0.0	0.4	424.7	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	1.4	8	1.4	10.6	7.0	0.0	0.6	1,190.7	0.124	0.950	0.627	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	4	Total Emissions:	3.8	30.4	14.7	0.0	1.5	3699.10				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	5
Number of Passenger Vehicle Trips	5

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	127.00	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.09	0.09	0.90	0.00	0.01	0.01	139.81
Total Emissions	0.09	0.09	0.90	0.00	0.01	0.01	139.81

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	3.75	30.37	14.67	0.04	1.49	1.37	1.49	3,699.10
Improvements Worker Commute Trips	0.09	0.09	0.90	0.00	0.01	0.01	--	139.81
Net Emission Totals:	3.88	30.79	15.69	0.04	1.51	1.39	1.50	3,889.49
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.75	30.37	14.67	0.04	1.49	1.37	1.49	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Mission Village**
Subphase	**Improvements - Streets**
Quarter	**4 (11, 12)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	120
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	6 **Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)**
Daily Vehicle Miles Traveled	24 Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.05	0.66	0.22	0.00	0.03	0.03	101.16

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	1.136	0.354	0.002
Graders	1.5	8	1.8	13.4	8.8	0.0	0.8	1,487.1	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers	0.3	8	0.4	2.6	1.5	0.0	0.2	230.5	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	1.5	8	1.2	7.5	4.9	0.0	0.6	707.9	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.950	0.627	0.001
Scrapers	1.3	8	2.8	25.0	9.4	0.0	1.0	2,714.1	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	4.6	Total Emissions:	6.1	48.6	24.6	0.1	2.5	5139.55				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	6
Number of Passenger Vehicle Trips	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	152.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.11	0.11	1.08	0.00	0.01	0.01	167.77
Total Emissions	0.11	0.11	1.08	0.00	0.01	0.01	167.77

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.05	0.66	0.22	0.00	0.03	0.03	0.03	101.16
Off-Road Diesel Exhaust	6.11	48.57	24.60	0.06	2.55	2.34	2.55	5,139.55
Improvements Worker Commute Trips	0.11	0.11	1.08	0.00	0.01	0.01	--	167.77
Net Emission Totals:	6.28	49.33	25.90	0.06	2.59	2.38	2.58	5,408.49
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	6.11	48.57	24.60	0.06	2.55	2.34	2.55	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**
Subphase	**Grading - Indirect**
Quarter	**1, 2(4,5)**

Length of Subphase Grading (Work Days):	100
Months of Grading Activity:	5.0
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	6,977.00
Amount of Off-Site Cut and Fill Per Day (cy)	6,977.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 4,013.17

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,203.95	30% reduction
Replace Ground Cover in Disturbed Areas	601.97	15% reduction
Water Exposed Surfaces Twice Daily	1,364.48	34% reduction
Water Exposed Surfaces Three Times Daily	2,448.03	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,448.03	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2013) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	2	8	4.4	38.7	16.4	0.0	1.5	4,463.3	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1	8	2.1	18.4	6.4	0.0	0.6	2,833.8	0.264	2.302	0.798	0.004
Graders	1	8	1.2	11.6	3.6	0.0	0.4	1,422.8	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	3	8	5.2	42.9	15.3	0.1	1.5	6,536.0	0.217	1.787	0.636	0.003
Off-Highway Trucks	1	8	2.4	20.4	7.1	0.0	0.7	3,035.2	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	1	8	2.8	24.3	12.6	0.0	1.0	2,341.8	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	1.5	8	4.8	43.0	18.2	0.0	1.7	4,833.7	0.400	3.583	1.516	0.004
Scraper 2A	1.5	8	4.5	40.5	17.2	0.0	1.6	4,564.3	0.378	3.375	1.432	0.004
Scraper 2B	1.5	8	3.5	31.0	12.4	0.0	1.2	3,432.6	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	13.5	Total Emissions:	31.0	270.7	109.0	0.3	10.2	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.46	0.44	4.34	0.01	0.06	0.04	673.51	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.46	0.44	4.34	0.01	0.06	0.04	673.51	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	4,013.17	834.74	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	31.00	270.66	109.02	0.33	10.21	9.39	10.21	33,463.41	
Grading Worker Commute Trips	0.46	0.44	4.34	0.01	0.06	0.04	--	673.51	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,448.03	509.19		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	31.45	271.10	113.36	0.34	1,575.40	334.97	10.21	34,136.93	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	31.00	270.66	109.02	0.33	1,575.34	334.94	10.21	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**
Subphase	**Grading - Indirect**
Quarter	**2(6), 3, 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	140
Months of Grading Activity:	7.0
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	2	8	4.4	38.7	16.4	0.0	1.5	4,463.3	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1	8	2.1	18.4	6.4	0.0	0.6	2,833.8	0.264	2.302	0.798	0.004
Graders	1	8	1.2	11.6	3.6	0.0	0.4	1,422.8	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	3	8	5.2	42.9	15.3	0.1	1.5	6,536.0	0.217	1.787	0.636	0.003
Off-Highway Trucks	1	8	2.4	20.4	7.1	0.0	0.7	3,035.2	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	1	8	2.8	24.3	12.6	0.0	1.0	2,341.8	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	1.5	8	4.8	43.0	18.2	0.0	1.7	4,833.7	0.400	3.583	1.516	0.004
Scraper 2A	1.5	8	4.5	40.5	17.2	0.0	1.6	4,564.3	0.378	3.375	1.432	0.004
Scraper 2B	1.5	8	3.5	31.0	12.4	0.0	1.2	3,432.6	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	13.5	Total Emissions:	31.0	270.7	109.0	0.3	10.2	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.46	0.44	4.34	0.01	0.06	0.04	673.51	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.46	0.44	4.34	0.01	0.06	0.04	673.51	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	31.00	270.66	109.02	0.33	10.21	9.39	10.21	33,463.41	
Grading Worker Commute Trips	0.46	0.44	4.34	0.01	0.06	0.04	--	673.51	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	31.45	271.10	113.36	0.34	2,233.26	471.81	10.21	34,136.93	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	31.00	270.66	109.02	0.33	2,233.21	471.77	10.21	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**
Subphase	**Grading - Indirect**
Quarter	**1(1,2)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	40
Months of Grading Activity:	2.0
Number of Days/Month	20
Grading Year:	2014
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,700.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,710.00	30% reduction
Replace Ground Cover in Disturbed Areas	855.00	15% reduction
Water Exposed Surfaces Twice Daily	1,938.00	34% reduction
Water Exposed Surfaces Three Times Daily	3,477.00	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,477.00	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.107	0.455	0.001
Crawler Tractors	2	8	4.2	35.7	15.3	0.0	1.4	4,463.3	0.261	2.229	0.956	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1	8	2.0	16.4	6.2	0.0	0.6	2,833.8	0.252	2.048	0.773	0.004
Graders	1	8	1.2	10.5	3.5	0.0	0.4	1,422.8	0.144	1.308	0.436	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Water Trucks	3	8	5.0	38.3	14.7	0.1	1.4	6,536.0	0.207	1.595	0.613	0.003
Off-Highway Trucks	1	8	2.3	18.2	6.8	0.0	0.6	3,035.2	0.289	2.277	0.854	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.795	0.501	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.095	0.249	0.283	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers	1	8	2.7	22.7	11.8	0.0	0.9	2,341.8	0.340	2.842	1.469	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	1.004	0.478	0.001
Scrapers	1.5	8	4.6	39.7	17.1	0.0	1.5	4,833.7	0.381	3.312	1.421	0.004
Scraper 2A	1.5	8	4.3	37.4	16.1	0.0	1.4	4,564.3	0.359	3.119	1.342	0.004
Scraper 2B	1.5	8	3.3	28.6	11.7	0.0	1.1	3,432.6	0.275	2.386	0.971	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	2.790	1.208	0.003
Total Pieces of Equipment	13.5	Total Emissions:	29.5	247.5	103.1	0.3	9.3	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.43	0.40	4.04	0.01	0.06	0.04	674.55	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.43	0.40	4.04	0.01	0.06	0.04	674.55	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,700.00	1,185.60	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	29.51	247.55	103.08	0.33	9.33	8.58	9.33	33,463.41	
Grading Worker Commute Trips	0.43	0.40	4.04	0.01	0.06	0.04	--	674.55	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,477.00	723.22		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	29.94	247.95	107.12	0.34	2,232.39	471.00	9.33	34,137.97	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	29.51	247.55	103.08	0.33	2,232.33	470.97	9.33	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**
Subphase	**Grading - Indirect**
Quarter	**1(3)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	18
Months of Grading Activity:	0.9
Number of Days/Month	20
Grading Year:	2014
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	8,794.25
Amount of Off-Site Cut and Fill Per Day (cy)	8,794.25

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,027.19

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,508.16	30% reduction
Replace Ground Cover in Disturbed Areas	754.08	15% reduction
Water Exposed Surfaces Twice Daily	1,709.25	34% reduction
Water Exposed Surfaces Three Times Daily	3,066.59	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,066.59	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.107	0.455	0.001
Crawler Tractors	2	8	4.2	35.7	15.3	0.0	1.4	4,463.3	0.261	2.229	0.956	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1	8	2.0	16.4	6.2	0.0	0.6	2,833.8	0.252	2.048	0.773	0.004
Graders	1	8	1.2	10.5	3.5	0.0	0.4	1,422.8	0.144	1.308	0.436	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Water Trucks	3	8	5.0	38.3	14.7	0.1	1.4	6,536.0	0.207	1.595	0.613	0.003
Off-Highway Trucks	1	8	2.3	18.2	6.8	0.0	0.6	3,035.2	0.289	2.277	0.854	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.795	0.501	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.095	0.249	0.283	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers	1	8	2.7	22.7	11.8	0.0	0.9	2,341.8	0.340	2.842	1.469	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	1.004	0.478	0.001
Scrapers	1.5	8	4.6	39.7	17.1	0.0	1.5	4,833.7	0.381	3.312	1.421	0.004
Scraper 2A	1.5	8	4.3	37.4	16.1	0.0	1.4	4,564.3	0.359	3.119	1.342	0.004
Scraper 2B	1.5	8	3.3	28.6	11.7	0.0	1.1	3,432.6	0.275	2.386	0.971	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	2.790	1.208	0.003
Total Pieces of Equipment	13.5	Total Emissions:	29.5	247.5	103.1	0.3	9.3	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.43	0.40	4.04	0.01	0.06	0.04	674.55	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.43	0.40	4.04	0.01	0.06	0.04	674.55	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,027.19	1,045.66	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	29.51	247.55	103.08	0.33	9.33	8.58	9.33	33,463.41	
Grading Worker Commute Trips	0.43	0.40	4.04	0.01	0.06	0.04	--	674.55	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,066.59	637.85		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	29.94	247.95	107.12	0.34	1,969.99	416.43	9.33	34,137.97	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	29.51	247.55	103.08	0.33	1,969.93	416.39	9.33	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**
Subphase	**Improvements - Sewers**
Quarter	**3, 4**
Length of Subphase Improvement (Work Days):	120
Months of Improvement Activity:	6.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.6	0.4	0.0	0.0	132.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes	0.1	8	0.1	0.8	0.2	0.0	0.0	89.7	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	0.6	8	0.6	5.5	1.7	0.0	0.2	761.7	0.124	1.136	0.354	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.3	8	0.2	1.5	1.0	0.0	0.1	141.6	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	0.5	8	0.5	3.8	2.5	0.0	0.2	425.3	0.124	0.950	0.627	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	1.6	Total Emissions:	1.5	12.2	5.8	0.0	0.6	1550.20				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.04	0.36	0.00	0.00	0.00	55.92
Total Emissions	0.04	0.04	0.36	0.00	0.00	0.00	55.92

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	1.47	12.20	5.82	0.02	0.57	0.53	0.57	1,550.20
Improvements Worker Commute Trips	0.04	0.04	0.36	0.00	0.00	0.00	--	55.92
Net Emission Totals:	1.54	12.57	6.30	0.02	0.59	0.54	0.59	1,656.70
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.47	12.20	5.82	0.02	0.57	0.53	0.57	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**
Subphase	**Improvements - Sewers**
Quarter	**1, 2(4)**
Length of Subphase Improvement (Work Days):	80
Months of Improvement Activity:	4.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.6	0.4	0.0	0.0	132.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes	0.1	8	0.1	0.7	0.2	0.0	0.0	89.7	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	0.6	8	0.6	4.8	1.7	0.0	0.2	761.7	0.118	1.010	0.348	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.3	8	0.2	1.4	1.0	0.0	0.1	141.6	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders	0.5	8	0.5	3.6	2.5	0.0	0.2	425.3	0.117	0.892	0.626	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	1.6	Total Emissions:	1.4	11.1	5.8	0.0	0.5	1550.19				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 50.80

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.03	0.34	0.00	0.00	0.00	56.01
Total Emissions	0.04	0.03	0.34	0.00	0.00	0.00	56.01

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	1.39	11.13	5.77	0.02	0.52	0.48	0.52	1,550.19
Improvements Worker Commute Trips	0.04	0.03	0.34	0.00	0.00	0.00	--	56.01
Net Emission Totals:	1.45	11.45	6.21	0.02	0.54	0.49	0.53	1,656.75
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.39	11.13	5.77	0.02	0.52	0.48	0.52	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**
Subphase	**Improvements - Storm Drains**
Quarter	**2(5,6), 3**
Length of Subphase Improvement (Work Days):	100
Months of Improvement Activity:	5.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes	0.1	8	0.1	0.7	0.2	0.0	0.0	89.7	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	0.5	8	0.5	4.0	1.4	0.0	0.1	634.7	0.118	1.010	0.348	0.002
Graders	0.1	8	0.1	0.8	0.6	0.0	0.0	99.1	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.3	8	0.2	1.4	1.0	0.0	0.1	141.6	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders	0.5	8	0.5	3.6	2.5	0.0	0.2	425.3	0.117	0.892	0.626	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	1.5	Total Emissions:	1.3	10.6	5.7	0.0	0.5	1390.43				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.03	0.34	0.00	0.00	0.00	56.01
Total Emissions	0.04	0.03	0.34	0.00	0.00	0.00	56.01

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	1.35	10.59	5.68	0.02	0.52	0.48	0.52	1,390.43
Improvements Worker Commute Trips	0.04	0.03	0.34	0.00	0.00	0.00	--	56.01
Net Emission Totals:	1.41	10.91	6.11	0.02	0.54	0.49	0.53	1,496.99
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.35	10.59	5.68	0.02	0.52	0.48	0.52	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**	
Subphase	**Improvements - Water**	
Quarter	**4**	
Length of Subphase Improvement (Work Days):	60	
Months of Improvement Activity:	3.0	
Number of Days/Month	20	
Construction Year:	2014	

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60	
Round Trip Length (miles):	4	
Capacity of Haul Truck (cy)	20	
Number of Haul Truck Trips/Day:	3	**Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)**
Daily Vehicle Miles Traveled	12	Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes	0.1	8	0.1	0.7	0.2	0.0	0.0	89.7	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	0.5	8	0.5	4.0	1.4	0.0	0.1	634.7	0.118	1.010	0.348	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.3	8	0.2	1.4	1.0	0.0	0.1	141.6	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders	0.5	8	0.5	3.6	2.5	0.0	0.2	425.3	0.117	0.892	0.626	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	1.4	Total Emissions:	1.2	9.8	5.1	0.0	0.5	1291.29				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.04	0.03	0.34	0.00	0.00	0.00	56.01
Total Emissions	0.04	0.03	0.34	0.00	0.00	0.00	56.01

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	1.24	9.75	5.09	0.01	0.47	0.43	0.47	1,291.29
Improvements Worker Commute Trips	0.04	0.03	0.34	0.00	0.00	0.00	--	56.01
Net Emission Totals:	1.30	10.07	5.53	0.02	0.49	0.45	0.49	1,397.86
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.24	9.75	5.09	0.01	0.47	0.43	0.47	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**
Subphase	**Improvements - Water**
Quarter	**1, 2(4)**
Length of Subphase Improvement (Work Days):	80
Months of Improvement Activity:	4.0
Number of Days/Month	20
Construction Year:	2015

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001786	0.021227	0.007669	0.000041	0.001047	0.000880	4.209022

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.25	0.09	0.00	0.01	0.01	50.51

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes	0.1	8	0.1	0.7	0.2	0.0	0.0	89.7	0.092	0.828	0.271	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.628	6.657	2.364	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	0.5	8	0.4	3.6	1.4	0.0	0.1	634.7	0.112	0.894	0.343	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.130	0.953	0.732	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.416	0.595	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	0.960	0.621	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.3	8	0.2	1.3	1.0	0.0	0.1	141.6	0.086	0.550	0.400	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.194	1.394	0.833	0.001
Rubber Tired Loaders	0.5	8	0.4	3.2	2.5	0.0	0.2	425.3	0.109	0.808	0.625	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.242	2.052	0.811	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Total Pieces of Equipment	1.4	Total Emissions:	1.2	8.8	5.0	0.0	0.4	1291.29				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.03	0.03	0.31	0.00	0.00	0.00	55.98
Total Emissions	0.03	0.03	0.31	0.00	0.00	0.00	55.98

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.25	0.09	0.00	0.01	0.01	0.01	50.51
Off-Road Diesel Exhaust	1.16	8.79	5.05	0.01	0.43	0.39	0.43	1,291.29
Improvements Worker Commute Trips	0.03	0.03	0.31	0.00	0.00	0.00	--	55.98
Net Emission Totals:	1.22	9.07	5.45	0.02	0.45	0.41	0.44	1,397.78
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.16	8.79	5.05	0.01	0.43	0.39	0.43	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Onion Field**
Subphase	**Improvements - Streets**
Quarter	**2(5)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2015

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001786	0.021227	0.007669	0.000041	0.001047	0.000880	4.209022

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.25	0.09	0.00	0.01	0.01	50.51

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.828	0.271	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.628	6.657	2.364	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.112	0.894	0.343	0.002
Graders	0.6	8	0.6	4.6	3.5	0.0	0.3	594.8	0.130	0.953	0.732	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.416	0.595	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers	0.2	8	0.2	1.5	1.0	0.0	0.1	153.7	0.140	0.960	0.621	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.6	8	0.4	2.6	1.9	0.0	0.2	283.1	0.086	0.550	0.400	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.194	1.394	0.833	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.808	0.625	0.001
Scrapers	0.5	8	1.0	8.2	3.2	0.0	0.3	1,043.9	0.242	2.052	0.811	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Total Pieces of Equipment	1.9	Total Emissions:	2.2	17.0	9.7	0.0	0.9	2075.54				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.03	0.03	0.31	0.00	0.00	0.00	55.98
Total Emissions	0.03	0.03	0.31	0.00	0.00	0.00	55.98

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.25	0.09	0.00	0.01	0.01	0.01	50.51
Off-Road Diesel Exhaust	2.23	16.96	9.67	0.02	0.89	0.82	0.89	2,075.54
Improvements Worker Commute Trips	0.03	0.03	0.31	0.00	0.00	0.00	--	55.98
Net Emission Totals:	2.28	17.25	10.07	0.02	0.91	0.83	0.90	2,182.03
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.23	16.96	9.67	0.02	0.89	0.82	0.89	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Ridge**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,630.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,689.00	30% reduction
Replace Ground Cover in Disturbed Areas	844.50	15% reduction
Water Exposed Surfaces Twice Daily	1,914.20	34% reduction
Water Exposed Surfaces Three Times Daily	3,434.30	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,434.30	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	2	8	4.4	38.7	16.4	0.0	1.5	4,463.3	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1	8	2.1	18.4	6.4	0.0	0.6	2,833.8	0.264	2.302	0.798	0.004
Graders	1	8	1.2	11.6	3.6	0.0	0.4	1,422.8	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	3	8	5.2	42.9	15.3	0.1	1.5	6,536.0	0.217	1.787	0.636	0.003
Off-Highway Trucks	1	8	2.4	20.4	7.1	0.0	0.7	3,035.2	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	1	8	2.8	24.3	12.6	0.0	1.0	2,341.8	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	1.5	8	4.8	43.0	18.2	0.0	1.7	4,833.7	0.400	3.583	1.516	0.004
Scraper 2A	1.5	8	4.5	40.5	17.2	0.0	1.6	4,564.3	0.378	3.375	1.432	0.004
Scraper 2B	1.5	8	3.5	31.0	12.4	0.0	1.2	3,432.6	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	13.5	Total Emissions:	31.0	270.7	109.0	0.3	10.2	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.46	0.44	4.34	0.01	0.06	0.04	673.51	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.46	0.44	4.34	0.01	0.06	0.04	673.51	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,630.00	1,171.04	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	31.00	270.66	109.02	0.33	10.21	9.39	10.21	33,463.41	
Grading Worker Commute Trips	0.46	0.44	4.34	0.01	0.06	0.04	--	673.51	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,434.30	714.33		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	31.45	271.10	113.36	0.34	2,205.96	466.13	10.21	34,136.93	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	31.00	270.66	109.02	0.33	2,205.91	466.10	10.21	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Ridge**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2014
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,630.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,689.00	30% reduction
Replace Ground Cover in Disturbed Areas	844.50	15% reduction
Water Exposed Surfaces Twice Daily	1,914.20	34% reduction
Water Exposed Surfaces Three Times Daily	3,434.30	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,434.30	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2014) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.107	0.455	0.001
Crawler Tractors	2	8	4.2	35.7	15.3	0.0	1.4	4,463.3	0.261	2.229	0.956	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1	8	2.0	16.4	6.2	0.0	0.6	2,833.8	0.252	2.048	0.773	0.004
Graders	1	8	1.2	10.5	3.5	0.0	0.4	1,422.8	0.144	1.308	0.436	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Water Trucks	3	8	5.0	38.3	14.7	0.1	1.4	6,536.0	0.207	1.595	0.613	0.003
Off-Highway Trucks	1	8	2.3	18.2	6.8	0.0	0.6	3,035.2	0.289	2.277	0.854	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.795	0.501	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.095	0.249	0.283	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers	1	8	2.7	22.7	11.8	0.0	0.9	2,341.8	0.340	2.842	1.469	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	1.004	0.478	0.001
Scrapers	1.5	8	4.6	39.7	17.1	0.0	1.5	4,833.7	0.381	3.312	1.421	0.004
Scraper 2A	1.5	8	4.3	37.4	16.1	0.0	1.4	4,564.3	0.359	3.119	1.342	0.004
Scraper 2B	1.5	8	3.3	28.6	11.7	0.0	1.1	3,432.6	0.275	2.386	0.971	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	2.790	1.208	0.003
Total Pieces of Equipment	13.5	Total Emissions:	29.5	247.5	103.1	0.3	9.3	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates — Emission Factors in lbs/mile (2014)

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.43	0.40	4.04	0.01	0.06	0.04	674.55
Total Emissions	0.43	0.40	4.04	0.01	0.06	0.04	674.55

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,630.00	1,171.04	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	29.51	247.55	103.08	0.33	9.33	8.58	9.33	33,463.41	
Grading Worker Commute Trips	0.43	0.40	4.04	0.01	0.06	0.04	--	674.55	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,434.30	714.33		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	29.94	247.95	107.12	0.34	2,205.09	465.33	9.33	34,137.97	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	29.51	247.55	103.08	0.33	2,205.03	465.29	9.33	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Ridge**
Subphase	**Grading - Indirect**
Quarter	**1, 2(4)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	80
Months of Grading Activity:	4.0
Number of Days/Month	20
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	10,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	10,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,630.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,689.00	30% reduction
Replace Ground Cover in Disturbed Areas	844.50	15% reduction
Water Exposed Surfaces Twice Daily	1,914.20	34% reduction
Water Exposed Surfaces Three Times Daily	3,434.30	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,434.30	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001
Crawler Tractors	2	8	4.0	32.8	14.4	0.0	1.3	4,463.3	0.248	2.051	0.898	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	1	8	1.9	14.5	6.0	0.0	0.5	2,833.8	0.240	1.813	0.752	0.004
Graders	1	8	1.1	9.4	3.4	0.0	0.3	1,422.8	0.136	1.181	0.422	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Water Trucks	3	8	4.7	34.0	14.3	0.1	1.2	6,536.0	0.196	1.416	0.595	0.003
Off-Highway Trucks	1	8	2.2	16.2	6.6	0.0	0.6	3,035.2	0.274	2.024	0.828	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.748	0.497	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.087	0.241	0.275	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers	1	8	2.6	21.3	11.0	0.0	0.9	2,341.8	0.324	2.661	1.375	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.111	0.907	0.472	0.001
Scrapers	1.5	8	4.3	36.7	16.1	0.0	1.4	4,833.7	0.362	3.055	1.338	0.004
Scraper 2A	1.5	8	4.1	34.5	15.2	0.0	1.3	4,564.3	0.342	2.877	1.264	0.004
Scraper 2B	1.5	8	3.1	26.4	11.0	0.0	1.0	3,432.6	0.261	2.201	0.918	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.307	2.573	1.137	0.003
Total Pieces of Equipment	13.5	Total Emissions:	28.0	225.8	97.9	0.3	8.5	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.41	0.37	3.76	0.01	0.06	0.04	674.16	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.41	0.37	3.76	0.01	0.06	0.04	674.16	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,630.00	1,171.04	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	28.04	225.85	97.90	0.33	8.50	7.82	8.50	33,463.41	
Grading Worker Commute Trips	0.41	0.37	3.76	0.01	0.06	0.04	--	674.16	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,434.30	714.33		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	28.44	226.21	101.66	0.34	2,204.26	464.56	8.50	34,137.57	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	28.04	225.85	97.90	0.33	2,204.20	464.53	8.50	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Ridge**
Subphase	**Grading - Indirect**
Quarter	**2 (5)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	7
Months of Grading Activity:	0.4
Number of Days/Month	20
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	3,422.10
Amount of Off-Site Cut and Fill Per Day (cy)	3,422.10

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 1,959.53

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	587.86	30% reduction
Replace Ground Cover in Disturbed Areas	293.93	15% reduction
Water Exposed Surfaces Twice Daily	666.24	34% reduction
Water Exposed Surfaces Three Times Daily	1,195.31	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	1,195.31	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001
Crawler Tractors	2	8	4.0	32.8	14.4	0.0	1.3	4,463.3	0.248	2.051	0.898	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	1	8	1.9	14.5	6.0	0.0	0.5	2,833.8	0.240	1.813	0.752	0.004
Graders	1	8	1.1	9.4	3.4	0.0	0.3	1,422.8	0.136	1.181	0.422	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Water Trucks	3	8	4.7	34.0	14.3	0.1	1.2	6,536.0	0.196	1.416	0.595	0.003
Off-Highway Trucks	1	8	2.2	16.2	6.6	0.0	0.6	3,035.2	0.274	2.024	0.828	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.748	0.497	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.087	0.241	0.275	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers	1	8	2.6	21.3	11.0	0.0	0.9	2,341.8	0.324	2.661	1.375	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.111	0.907	0.472	0.001
Scrapers	1.5	8	4.3	36.7	16.1	0.0	1.4	4,833.7	0.362	3.055	1.338	0.004
Scraper 2A	1.5	8	4.1	34.5	15.2	0.0	1.3	4,564.3	0.342	2.877	1.264	0.004
Scraper 2B	1.5	8	3.1	26.4	11.0	0.0	1.0	3,432.6	0.261	2.201	0.918	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.307	2.573	1.137	0.003
Total Pieces of Equipment	13.5	Total Emissions:	28.0	225.8	97.9	0.3	8.5	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	611.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.41	0.37	3.76	0.01	0.06	0.04	674.16	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.41	0.37	3.76	0.01	0.06	0.04	674.16	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	1,959.53	407.58	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	28.04	225.85	97.90	0.33	8.50	7.82	8.50	33,463.41	
Grading Worker Commute Trips	0.41	0.37	3.76	0.01	0.06	0.04	--	674.16	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	1,195.31	248.63		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	28.44	226.21	101.66	0.34	772.77	166.81	8.50	34,137.57	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	28.04	225.85	97.90	0.33	772.72	166.78	8.50	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Ridge**
Subphase	**Improvements - Sewers**
Quarter	**1, 2, 3(7)**
Length of Subphase Improvement (Work Days):	140
Months of Improvement Activity:	7.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.6	0.4	0.0	0.0	132.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes	0.1	8	0.1	0.7	0.2	0.0	0.0	89.7	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1	8	0.9	8.1	2.8	0.0	0.3	1,269.5	0.118	1.010	0.348	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.5	8	0.4	2.4	1.6	0.0	0.2	236.0	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders	0.9	8	0.8	6.4	4.5	0.0	0.4	765.5	0.117	0.892	0.626	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	2.6	Total Emissions:	2.3	18.2	9.5	0.0	0.9	2492.56				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.05	0.50	0.00	0.01	0.00	84.02
Total Emissions	0.05	0.05	0.50	0.00	0.01	0.00	84.02

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	2.29	18.16	9.53	0.03	0.86	0.79	0.86	2,492.56
Improvements Worker Commute Trips	0.05	0.05	0.50	0.00	0.01	0.00	--	84.02
Net Emission Totals:	2.37	18.50	10.14	0.03	0.88	0.81	0.88	2,627.13
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.29	18.16	9.53	0.03	0.86	0.79	0.86	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Ridge**
Subphase	**Improvements - Storm Drains**
Quarter	**3 (8,9), 4(10)**
Length of Subphase Improvement (Work Days):	60
Months of Improvement Activity:	3.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes	0.1	8	0.1	0.7	0.2	0.0	0.0	89.7	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1.1	8	1.0	8.9	3.1	0.0	0.3	1,396.4	0.118	1.010	0.348	0.002
Graders	0.1	8	0.1	0.8	0.6	0.0	0.0	99.1	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.5	8	0.4	2.4	1.6	0.0	0.2	236.0	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders	0.9	8	0.8	6.4	4.5	0.0	0.4	765.5	0.117	0.892	0.626	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	2.7	Total Emissions:	2.4	19.2	10.0	0.0	0.9	2586.70				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 76.20

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.05	0.50	0.00	0.01	0.00	84.02
Total Emissions	0.05	0.05	0.50	0.00	0.01	0.00	84.02

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	2.44	19.24	9.99	0.03	0.91	0.84	0.91	2,586.70
Improvements Worker Commute Trips	0.05	0.05	0.50	0.00	0.01	0.00	--	84.02
Net Emission Totals:	2.51	19.58	10.60	0.03	0.94	0.86	0.93	2,721.27
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.44	19.24	9.99	0.03	0.91	0.84	0.91	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Ridge**
Subphase	**Improvements - Water**
Quarter	**4 (11,12)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes	0.1	8	0.1	0.7	0.2	0.0	0.0	89.7	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1.1	8	1.0	8.9	3.1	0.0	0.3	1,396.4	0.118	1.010	0.348	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.6	8	0.4	2.8	1.9	0.0	0.2	283.1	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders	1	8	0.9	7.1	5.0	0.0	0.4	850.5	0.117	0.892	0.626	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	2.8	Total Emissions:	2.5	19.6	10.2	0.0	0.9	2619.80				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	4
Number of Passenger Vehicle Trips	4

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	101.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.07	0.07	0.67	0.00	0.01	0.01	112.02
Total Emissions	0.07	0.07	0.67	0.00	0.01	0.01	112.02

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	2.49	19.58	10.23	0.03	0.95	0.87	0.95	2,619.80
Improvements Worker Commute Trips	0.07	0.07	0.67	0.00	0.01	0.01	--	112.02
Net Emission Totals:	2.59	19.94	11.00	0.03	0.97	0.89	0.96	2,782.38
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.49	19.58	10.23	0.03	0.95	0.87	0.95	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Ridge**
Subphase	**Improvements - Water**
Quarter	**1 (1,2)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2015

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001786	0.021227	0.007669	0.000041	0.001047	0.000880	4.209022

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.25	0.09	0.00	0.01	0.01	50.51

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes	0.1	8	0.1	0.7	0.2	0.0	0.0	89.7	0.092	0.828	0.271	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.628	6.657	2.364	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	1.1	8	1.0	7.9	3.0	0.0	0.3	1,396.4	0.112	0.894	0.343	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.130	0.953	0.732	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.416	0.595	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	0.960	0.621	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.6	8	0.4	2.6	1.9	0.0	0.2	283.1	0.086	0.550	0.400	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.194	1.394	0.833	0.001
Rubber Tired Loaders	1	8	0.9	6.5	5.0	0.0	0.4	850.5	0.109	0.808	0.625	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.242	2.052	0.811	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Total Pieces of Equipment	2.8	Total Emissions:	2.3	17.6	10.2	0.0	0.9	2619.80				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	4
Number of Passenger Vehicle Trips	4

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 101.60

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.07	0.06	0.62	0.00	0.01	0.01	111.96
Total Emissions	0.07	0.06	0.62	0.00	0.01	0.01	111.96

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.25	0.09	0.00	0.01	0.01	0.01	50.51
Off-Road Diesel Exhaust	2.34	17.63	10.16	0.03	0.86	0.79	0.86	2,619.80
Improvements Worker Commute Trips	0.07	0.06	0.62	0.00	0.01	0.01	--	111.96
Net Emission Totals:	2.43	17.94	10.87	0.03	0.88	0.81	0.87	2,782.27
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.34	17.63	10.16	0.03	0.86	0.79	0.86	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Ridge**
Subphase	**Improvements - Streets**
Quarter	**1 (3)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2015

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001786	0.021227	0.007669	0.000041	0.001047	0.000880	4.209022

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.25	0.09	0.00	0.01	0.01	50.51

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.828	0.271	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.628	6.657	2.364	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.112	0.894	0.343	0.002
Graders	0.7	8	0.7	5.3	4.1	0.0	0.3	694.0	0.130	0.953	0.732	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.416	0.595	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers	0.2	8	0.2	1.5	1.0	0.0	0.1	153.7	0.140	0.960	0.621	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.7	8	0.5	3.1	2.2	0.0	0.3	330.3	0.086	0.550	0.400	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.194	1.394	0.833	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.808	0.625	0.001
Scrapers	0.7	8	1.4	11.5	4.5	0.0	0.4	1,461.4	0.242	2.052	0.811	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Total Pieces of Equipment	2.3	Total Emissions:	2.8	21.4	11.9	0.0	1.1	2639.42				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 76.20

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.05	0.47	0.00	0.01	0.00	83.97
Total Emissions	0.05	0.05	0.47	0.00	0.01	0.00	83.97

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.25	0.09	0.00	0.01	0.01	0.01	50.51
Off-Road Diesel Exhaust	2.79	21.45	11.87	0.03	1.09	1.01	1.09	2,639.42
Improvements Worker Commute Trips	0.05	0.05	0.47	0.00	0.01	0.00	--	83.97
Net Emission Totals:	2.86	21.75	12.43	0.03	1.11	1.02	1.11	2,773.90
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.79	21.45	11.87	0.03	1.09	1.01	1.09	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2(4,5)**

Length of Subphase Grading (Work Days):	100
Months of Grading Activity:	5.0
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	16,478.10
Amount of Off-Site Cut and Fill Per Day (cy)	16,478.10

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 9,394.78

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,818.43	30% reduction
Replace Ground Cover in Disturbed Areas	1,409.22	15% reduction
Water Exposed Surfaces Twice Daily	3,194.23	34% reduction
Water Exposed Surfaces Three Times Daily	5,730.82	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	5,730.82	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	5	8	11.5	103.3	44.0	0.1	4.1	11,158.1	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	2.5	8	5.5	50.2	16.6	0.1	1.8	7,084.4	0.275	2.512	0.832	0.004
Graders	2.5	8	3.2	31.3	9.4	0.0	1.1	3,557.0	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	7.5	8	13.6	116.8	40.0	0.2	4.2	16,340.0	0.226	1.946	0.666	0.003
Off-Highway Trucks	2.5	8	6.3	55.5	18.5	0.1	2.0	7,588.0	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	2.5	8	7.4	64.0	33.6	0.1	2.7	5,854.5	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	3.75	8	12.6	114.6	48.8	0.1	4.5	12,084.2	0.418	3.819	1.626	0.004
Scraper 2A	3.75	8	11.8	107.9	46.1	0.1	4.2	11,410.7	0.395	3.597	1.536	0.004
Scraper 2B	3.75	8	9.1	82.6	33.0	0.1	3.3	8,581.5	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	33.75	Total Emissions:	81.0	726.2	290.0	0.8	27.8	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,516.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.21	1.18	11.61	0.02	0.14	0.09	1,670.79	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.21	1.18	11.61	0.02	0.14	0.09	1,670.79	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	9,394.78	1,954.11	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	80.98	726.23	290.05	0.83	27.84	25.61	27.84	83,658.54	
Grading Worker Commute Trips	1.21	1.18	11.61	0.02	0.14	0.09	--	1,670.79	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	5,730.82	1,192.01		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	82.19	727.40	301.66	0.85	3,691.94	787.81	27.84	85,329.33	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	Yes	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	80.98	726.23	290.05	0.83	3,691.81	787.72	27.84	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**2(6), 3, 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	140
Months of Grading Activity:	7.0
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	17,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	17,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 9,686.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,905.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,452.90	15% reduction
Water Exposed Surfaces Twice Daily	3,293.24	34% reduction
Water Exposed Surfaces Three Times Daily	5,908.46	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	5,908.46	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	5	8	11.5	103.3	44.0	0.1	4.1	11,158.1	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	2.5	8	5.5	50.2	16.6	0.1	1.8	7,084.4	0.275	2.512	0.832	0.004
Graders	2.5	8	3.2	31.3	9.4	0.0	1.1	3,557.0	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	7.5	8	13.6	116.8	40.0	0.2	4.2	16,340.0	0.226	1.946	0.666	0.003
Off-Highway Trucks	2.5	8	6.3	55.5	18.5	0.1	2.0	7,588.0	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	2.5	8	7.4	64.0	33.6	0.1	2.7	5,854.5	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	3.75	8	12.6	114.6	48.8	0.1	4.5	12,084.2	0.418	3.819	1.626	0.004
Scraper 2A	3.75	8	11.8	107.9	46.1	0.1	4.2	11,410.7	0.395	3.597	1.536	0.004
Scraper 2B	3.75	8	9.1	82.6	33.0	0.1	3.3	8,581.5	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	33.75	Total Emissions:	81.0	726.2	290.0	0.8	27.8	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,516.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.21	1.18	11.61	0.02	0.14	0.09	1,670.79	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.21	1.18	11.61	0.02	0.14	0.09	1,670.79	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	9,686.00	2,014.69	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	80.98	726.23	290.05	0.83	27.84	25.61	27.84	83,658.54	
Grading Worker Commute Trips	1.21	1.18	11.61	0.02	0.14	0.09	--	1,670.79	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	5,908.46	1,228.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	82.19	727.40	301.66	0.85	3,805.52	811.43	27.84	85,329.33	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	Yes	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	80.98	726.23	290.05	0.83	3,805.38	811.34	27.84	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2013
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	17,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	17,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 9,686.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,905.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,452.90	15% reduction
Water Exposed Surfaces Twice Daily	3,293.24	34% reduction
Water Exposed Surfaces Three Times Daily	5,908.46	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	5,908.46	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	1.193	0.474	0.001
Crawler Tractors	5	8	10.9	96.7	40.9	0.1	3.7	11,158.1	0.274	2.418	1.022	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	2.5	8	5.3	46.0	16.0	0.1	1.6	7,084.4	0.264	2.302	0.798	0.004
Graders	2.5	8	3.1	28.9	9.1	0.0	1.0	3,557.0	0.153	1.445	0.453	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Water Trucks	7.5	8	13.0	107.2	38.2	0.2	3.8	16,340.0	0.217	1.787	0.636	0.003
Off-Highway Trucks	2.5	8	6.1	51.0	17.7	0.1	1.8	7,588.0	0.304	2.550	0.886	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	0.836	0.506	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.258	0.291	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers	2.5	8	7.1	60.6	31.4	0.1	2.5	5,854.5	0.355	3.032	1.571	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.125	1.094	0.486	0.001
Scrapers	3.75	8	12.0	107.5	45.5	0.1	4.2	12,084.2	0.400	3.583	1.516	0.004
Scraper 2A	3.75	8	11.3	101.2	43.0	0.1	3.9	11,410.7	0.378	3.375	1.432	0.004
Scraper 2B	3.75	8	8.7	77.5	30.9	0.1	3.0	8,581.5	0.289	2.582	1.031	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.339	3.019	1.288	0.003
Total Pieces of Equipment	33.75	Total Emissions:	77.5	676.7	272.6	0.8	25.5	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,516.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.13	1.08	10.76	0.02	0.14	0.09	1,669.81	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.13	1.08	10.76	0.02	0.14	0.09	1,669.81	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	9,686.00	2,014.69	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	77.49	676.65	272.56	0.83	25.52	23.47	25.52	83,658.53	
Grading Worker Commute Trips	1.13	1.08	10.76	0.02	0.14	0.09	--	1,669.81	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	5,908.46	1,228.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	78.62	677.73	283.32	0.85	3,803.19	809.29	25.52	85,328.34	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	Yes	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	77.49	676.65	272.56	0.83	3,803.06	809.20	25.52	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2014
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	17,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	17,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 9,686.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,905.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,452.90	15% reduction
Water Exposed Surfaces Twice Daily	3,293.24	34% reduction
Water Exposed Surfaces Three Times Daily	5,908.46	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	5,908.46	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.107	0.455	0.001
Crawler Tractors	5	8	10.4	89.2	38.2	0.1	3.4	11,158.1	0.261	2.229	0.956	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	2.5	8	5.0	41.0	15.5	0.1	1.4	7,084.4	0.252	2.048	0.773	0.004
Graders	2.5	8	2.9	26.2	8.7	0.0	0.9	3,557.0	0.144	1.308	0.436	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Water Trucks	7.5	8	12.4	95.7	36.8	0.2	3.4	16,340.0	0.207	1.595	0.613	0.003
Off-Highway Trucks	2.5	8	5.8	45.5	17.1	0.1	1.6	7,588.0	0.289	2.277	0.854	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.795	0.501	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.095	0.249	0.283	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers	2.5	8	6.8	56.8	29.4	0.1	2.3	5,854.5	0.340	2.842	1.469	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	1.004	0.478	0.001
Scrapers	3.75	8	11.4	99.4	42.6	0.1	3.8	12,084.2	0.381	3.312	1.421	0.004
Scraper 2A	3.75	8	10.8	93.6	40.3	0.1	3.6	11,410.7	0.359	3.119	1.342	0.004
Scraper 2B	3.75	8	8.2	71.6	29.1	0.1	2.8	8,581.5	0.275	2.386	0.971	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	2.790	1.208	0.003
Total Pieces of Equipment	33.75	Total Emissions:	73.8	618.9	257.7	0.8	23.3	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,516.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.07	0.99	10.02	0.02	0.14	0.09	1,672.38	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.07	0.99	10.02	0.02	0.14	0.09	1,672.38	

TOTAL SUBPHASE GRADING EMISSIONS

	Emissions (Pounds per Day)								
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	9,686.00	2,014.69	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	73.78	618.87	257.70	0.83	23.33	21.46	23.33	83,658.53	
Grading Worker Commute Trips	1.07	0.99	10.02	0.02	0.14	0.09	--	1,672.38	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	5,908.46	1,228.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	74.84	619.86	267.71	0.85	3,801.00	807.28	23.33	85,330.91	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	73.78	618.87	257.70	0.83	3,800.87	807.19	23.33	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2015
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	17,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	17,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 9,686.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,905.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,452.90	15% reduction
Water Exposed Surfaces Twice Daily	3,293.24	34% reduction
Water Exposed Surfaces Three Times Daily	5,908.46	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	5,908.46	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.020	0.440	0.001
Crawler Tractors	5	8	9.9	82.0	35.9	0.1	3.2	11,158.1	0.248	2.051	0.898	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	2.5	8	4.8	36.3	15.0	0.1	1.3	7,084.4	0.240	1.813	0.752	0.004
Graders	2.5	8	2.7	23.6	8.4	0.0	0.8	3,557.0	0.136	1.181	0.422	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Water Trucks	7.5	8	11.8	85.0	35.7	0.2	3.0	16,340.0	0.196	1.416	0.595	0.003
Off-Highway Trucks	2.5	8	5.5	40.5	16.6	0.1	1.4	7,588.0	0.274	2.024	0.828	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.748	0.497	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.087	0.241	0.275	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers	2.5	8	6.5	53.2	27.5	0.1	2.2	5,854.5	0.324	2.661	1.375	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.111	0.907	0.472	0.001
Scrapers	3.75	8	10.9	91.7	40.1	0.1	3.5	12,084.2	0.362	3.055	1.338	0.004
Scraper 2A	3.75	8	10.2	86.3	37.9	0.1	3.3	11,410.7	0.342	2.877	1.264	0.004
Scraper 2B	3.75	8	7.8	66.0	27.5	0.1	2.5	8,581.5	0.261	2.201	0.918	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.307	2.573	1.137	0.003
Total Pieces of Equipment	33.75	Total Emissions:	70.1	564.6	244.8	0.8	21.3	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,516.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	1.01	0.91	9.31	0.02	0.14	0.09	1,671.40	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	1.01	0.91	9.31	0.02	0.14	0.09	1,671.40	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	9,686.00	2,014.69	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	70.10	564.61	244.75	0.83	21.25	19.55	21.25	83,658.54	
Grading Worker Commute Trips	1.01	0.91	9.31	0.02	0.14	0.09	--	1,671.40	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	5,908.46	1,228.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	71.10	565.53	254.07	0.85	3,798.93	805.37	21.25	85,329.94	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	70.10	564.61	244.75	0.83	3,798.79	805.28	21.25	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2016
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	17,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	17,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 9,686.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,905.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,452.90	15% reduction
Water Exposed Surfaces Twice Daily	3,293.24	34% reduction
Water Exposed Surfaces Three Times Daily	5,908.46	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	5,908.46	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2016)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.062	0.534	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.076	0.459	0.394	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.939	0.426	0.001
Crawler Tractors	5	8	9.4	75.4	34.0	0.1	2.9	11,158.1	0.235	1.884	0.850	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.915	10.828	2.932	0.013
Excavators	2.5	8	4.6	31.9	14.7	0.1	1.1	7,084.4	0.228	1.597	0.735	0.004
Graders	2.5	8	2.6	21.3	8.2	0.0	0.7	3,557.0	0.128	1.064	0.410	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.180	0.415	0.001
Off-Highway Water Trucks	7.5	8	11.1	75.1	34.8	0.2	2.7	16,340.0	0.186	1.252	0.580	0.003
Off-Highway Trucks	2.5	8	5.2	35.8	16.1	0.1	1.3	7,588.0	0.260	1.790	0.807	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.053	0.227	0.245	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	0.703	0.493	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.080	0.232	0.268	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.295	0.346	0.000
Rubber Tired Dozers	2.5	8	6.2	49.7	25.8	0.1	2.0	5,854.5	0.309	2.487	1.289	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.817	0.466	0.001
Scrapers	3.75	8	10.3	84.4	38.0	0.1	3.2	12,084.2	0.344	2.813	1.265	0.004
Scraper 2A	3.75	8	9.7	79.5	35.9	0.1	3.0	11,410.7	0.324	2.649	1.195	0.004
Scraper 2B	3.75	8	7.4	60.8	26.1	0.1	2.3	8,581.5	0.248	2.026	0.871	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	2.026	0.871	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.344	2.813	1.265	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.448	0.500	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.272	0.308	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.102	0.791	0.353	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.291	2.369	1.075	0.003
Total Pieces of Equipment	33.75	Total Emissions:	66.5	513.9	233.5	0.8	19.3	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2016)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000633	0.000557	0.005758	0.000011	0.000094	0.000061	1.106777

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,516.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.96	0.84	8.73	0.02	0.14	0.09	1,678.76	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.96	0.84	8.73	0.02	0.14	0.09	1,678.76	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	9,686.00	2,014.69	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	66.49	513.88	233.54	0.83	19.30	17.76	19.30	83,658.53	
Grading Worker Commute Trips	0.96	0.84	8.73	0.02	0.14	0.09	--	1,678.76	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	5,908.46	1,228.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	67.45	514.72	242.27	0.85	3,796.98	803.58	19.30	85,337.29	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	66.49	513.88	233.54	0.83	3,796.84	803.49	19.30	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2017
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	17,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	17,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 9,686.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,905.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,452.90	15% reduction
Water Exposed Surfaces Twice Daily	3,293.24	34% reduction
Water Exposed Surfaces Three Times Daily	5,908.46	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	5,908.46	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2017)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.469	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.068	0.427	0.389	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.107	0.862	0.415	0.001
Crawler Tractors	5	8	8.9	69.1	32.4	0.1	2.6	11,158.1	0.223	1.728	0.810	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.870	10.180	2.831	0.013
Excavators	2.5	8	4.3	28.0	14.4	0.1	1.0	7,084.4	0.215	1.398	0.721	0.004
Graders	2.5	8	2.4	19.1	8.0	0.0	0.7	3,557.0	0.121	0.956	0.400	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.100	0.400	0.001
Off-Highway Water Trucks	7.5	8	10.5	66.2	34.1	0.2	2.4	16,340.0	0.175	1.103	0.568	0.003
Off-Highway Trucks	2.5	8	4.9	31.5	15.8	0.1	1.1	7,588.0	0.245	1.574	0.791	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.047	0.219	0.239	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.661	0.489	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.224	0.261	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.074	0.285	0.337	0.000
Rubber Tired Dozers	2.5	8	5.9	46.4	24.2	0.1	1.9	5,854.5	0.294	2.322	1.212	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.098	0.734	0.462	0.001
Scrapers	3.75	8	9.8	77.5	36.1	0.1	2.9	12,084.2	0.326	2.585	1.202	0.004
Scraper 2A	3.75	8	9.2	73.0	34.1	0.1	2.8	11,410.7	0.308	2.434	1.135	0.004
Scraper 2B	3.75	8	7.0	55.8	24.9	0.1	2.1	8,581.5	0.235	1.861	0.830	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.235	1.861	0.830	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.326	2.585	1.202	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.123	1.283	0.492	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.263	0.302	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.097	0.689	0.351	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.276	2.176	1.021	0.003
Total Pieces of Equipment	33.75	Total Emissions:	63.0	466.7	224.0	0.8	17.5	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2017)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000601	0.000513	0.005379	0.000011	0.000094	0.000062	1.106275

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,516.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.91	0.78	8.16	0.02	0.14	0.09	1,678.00	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.91	0.78	8.16	0.02	0.14	0.09	1,678.00	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	9,686.00	2,014.69	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	62.98	466.68	223.97	0.83	17.49	16.09	17.49	83,658.54	
Grading Worker Commute Trips	0.91	0.78	8.16	0.02	0.14	0.09	--	1,678.00	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	5,908.46	1,228.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	63.89	467.46	232.13	0.85	3,795.17	801.91	17.49	85,336.54	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	62.98	466.68	223.97	0.83	3,795.03	801.82	17.49	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	240
Months of Grading Activity:	12.0
Number of Days/Month	20
Grading Year:	2018
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	17,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	17,000.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 9,686.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,905.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,452.90	15% reduction
Water Exposed Surfaces Twice Daily	3,293.24	34% reduction
Water Exposed Surfaces Three Times Daily	5,908.46	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	5,908.46	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2018)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.054	0.417	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.396	0.385	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.101	0.791	0.406	0.001
Crawler Tractors	5	8	8.4	63.2	31.0	0.1	2.4	11,158.1	0.211	1.580	0.775	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.831	9.590	2.757	0.013
Excavators	2.5	8	4.1	24.4	14.2	0.1	0.9	7,084.4	0.203	1.219	0.710	0.004
Graders	2.5	8	2.3	17.1	7.8	0.0	0.6	3,557.0	0.115	0.857	0.392	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.128	1.024	0.386	0.001
Off-Highway Water Trucks	7.5	8	9.9	58.2	33.5	0.2	2.1	16,340.0	0.166	0.971	0.558	0.003
Off-Highway Trucks	2.5	8	4.6	27.6	15.5	0.1	1.0	7,588.0	0.231	1.378	0.777	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.041	0.210	0.234	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.103	0.621	0.486	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.217	0.255	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.066	0.274	0.329	0.000
Rubber Tired Dozers	2.5	8	5.6	43.3	22.8	0.1	1.7	5,854.5	0.280	2.165	1.142	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.658	0.459	0.001
Scrapers	3.75	8	9.3	71.1	34.4	0.1	2.7	12,084.2	0.309	2.370	1.148	0.004
Scraper 2A	3.75	8	8.7	67.0	32.5	0.1	2.5	11,410.7	0.291	2.232	1.084	0.004
Scraper 2B	3.75	8	6.7	51.2	23.9	0.1	1.9	8,581.5	0.222	1.706	0.795	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.222	1.706	0.795	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.309	2.370	1.148	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.115	1.130	0.486	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.052	0.254	0.297	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.596	0.348	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.262	1.995	0.975	0.003
Total Pieces of Equipment	33.75	Total Emissions:	59.6	423.1	215.7	0.8	15.8	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

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Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2018)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000572	0.000473	0.005029	0.000011	0.000095	0.000062	1.105626

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 1,516.80

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.87	0.72	7.63	0.02	0.14	0.09	1,677.01	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.87	0.72	7.63	0.02	0.14	0.09	1,677.01	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	9,686.00	2,014.69	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	59.62	423.08	215.67	0.83	15.81	14.54	15.81	83,658.53	
Grading Worker Commute Trips	0.87	0.72	7.63	0.02	0.14	0.09	--	1,677.01	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	5,908.46	1,228.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	60.49	423.80	223.30	0.85	3,793.49	800.37	15.81	85,335.54	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	59.62	423.08	215.67	0.83	3,793.35	800.27	15.81	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**1, 2, 3, 4(10,11)**

Length of Subphase Grading (Work Days):	220
Months of Grading Activity:	11.0
Number of Days/Month	20
Grading Year:	2019
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	17,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	17,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 9,686.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,905.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,452.90	15% reduction
Water Exposed Surfaces Twice Daily	3,293.24	34% reduction
Water Exposed Surfaces Three Times Daily	5,908.46	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	5,908.46	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2019)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.051	0.376	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.054	0.367	0.381	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.095	0.724	0.398	0.001
Crawler Tractors	5	8	8.0	57.7	29.8	0.1	2.2	11,158.1	0.200	1.443	0.744	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.794	9.036	2.700	0.013
Excavators	2.5	8	3.8	21.3	14.0	0.1	0.8	7,084.4	0.192	1.063	0.702	0.004
Graders	2.5	8	2.2	15.3	7.7	0.0	0.5	3,557.0	0.108	0.766	0.386	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.121	0.952	0.373	0.001
Off-Highway Water Trucks	7.5	8	9.4	51.2	33.0	0.2	1.9	16,340.0	0.157	0.853	0.550	0.003
Off-Highway Trucks	2.5	8	4.4	24.1	15.3	0.1	0.9	7,588.0	0.219	1.206	0.766	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.036	0.203	0.230	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.097	0.583	0.483	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.210	0.249	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.265	0.322	0.000
Rubber Tired Dozers	2.5	8	5.3	40.3	21.6	0.1	1.6	5,854.5	0.266	2.016	1.079	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.086	0.588	0.457	0.001
Scrapers	3.75	8	8.8	65.1	33.0	0.1	2.4	12,084.2	0.293	2.170	1.100	0.004
Scraper 2A	3.75	8	8.3	61.3	31.2	0.1	2.3	11,410.7	0.276	2.043	1.039	0.004
Scraper 2B	3.75	8	6.3	46.8	22.9	0.1	1.7	8,581.5	0.210	1.561	0.764	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.210	1.561	0.764	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.293	2.170	1.100	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.995	0.481	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.047	0.245	0.294	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.086	0.514	0.346	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	1.826	0.935	0.003
Total Pieces of Equipment	33.75	Total Emissions:	56.5	383.2	208.5	0.8	14.3	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2019)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000547	0.000437	0.004718	0.000011	0.000095	0.000063	1.104961

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,516.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.83	0.66	7.16	0.02	0.14	0.09	1,676.00	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.83	0.66	7.16	0.02	0.14	0.09	1,676.00	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	9,686.00	2,014.69	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	56.49	383.15	208.54	0.83	14.28	13.13	14.28	83,658.53	
Grading Worker Commute Trips	0.83	0.66	7.16	0.02	0.14	0.09	--	1,676.00	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	5,908.46	1,228.96		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	57.32	383.82	215.69	0.85	3,791.96	798.96	14.28	85,334.53	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	56.49	383.15	208.54	0.83	3,791.82	798.86	14.28	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Grading - Indirect**
Quarter	**4(12)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	5
Months of Grading Activity:	0.3
Number of Days/Month	20
Grading Year:	2019
Maximum Daily Acreage Graded in Subphase (ac):	20.00
Amount of On-Site Cut and Fill Per Day (cy)	4,046.50
Amount of Off-Site Cut and Fill Per Day (cy)	4,046.50

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 2,457.95

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	737.38	30% reduction
Replace Ground Cover in Disturbed Areas	368.69	15% reduction
Water Exposed Surfaces Twice Daily	835.70	34% reduction
Water Exposed Surfaces Three Times Daily	1,499.35	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	1,499.35	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

	No. of	Hours of	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2019)			
Equipment Type	Vehicles	Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.051	0.376	0.501	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.054	0.367	0.381	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.095	0.724	0.398	0.001
Crawler Tractors	5	8	8.0	57.7	29.8	0.1	2.2	11,158.1	0.200	1.443	0.744	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.794	9.036	2.700	0.013
Excavators	2.5	8	3.8	21.3	14.0	0.1	0.8	7,084.4	0.192	1.063	0.702	0.004
Graders	2.5	8	2.2	15.3	7.7	0.0	0.5	3,557.0	0.108	0.766	0.386	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.121	0.952	0.373	0.001
Off-Highway Water Trucks	7.5	8	9.4	51.2	33.0	0.2	1.9	16,340.0	0.157	0.853	0.550	0.003
Off-Highway Trucks	2.5	8	4.4	24.1	15.3	0.1	0.9	7,588.0	0.219	1.206	0.766	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.036	0.203	0.230	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.097	0.583	0.483	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.210	0.249	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.058	0.265	0.322	0.000
Rubber Tired Dozers	2.5	8	5.3	40.3	21.6	0.1	1.6	5,854.5	0.266	2.016	1.079	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.086	0.588	0.457	0.001
Scrapers	3.75	8	8.8	65.1	33.0	0.1	2.4	12,084.2	0.293	2.170	1.100	0.004
Scraper 2A	3.75	8	8.3	61.3	31.2	0.1	2.3	11,410.7	0.276	2.043	1.039	0.004
Scraper 2B	3.75	8	6.3	46.8	22.9	0.1	1.7	8,581.5	0.210	1.561	0.764	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.210	1.561	0.764	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.293	2.170	1.100	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.995	0.481	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.047	0.245	0.294	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.086	0.514	0.346	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.248	1.826	0.935	0.003
Total Pieces of Equipment	33.75	Total Emissions:	56.5	383.2	208.5	0.8	14.3	83,658.5				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	42
Number of Construction Worker Trucks/Pick-Ups	8

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2019)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000547	0.000437	0.004718	0.000011	0.000095	0.000063	1.104961

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	1,516.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.83	0.66	7.16	0.02	0.14	0.09	1,676.00	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.83	0.66	7.16	0.02	0.14	0.09	1,676.00	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	2,457.95	511.25	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	56.49	383.15	208.54	0.83	14.28	13.13	14.28	83,658.53	
Grading Worker Commute Trips	0.83	0.66	7.16	0.02	0.14	0.09	--	1,676.00	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	1,499.35	311.86		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	57.32	383.82	215.69	0.85	973.02	212.62	14.28	85,334.53	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	56.49	383.15	208.54	0.83	972.88	212.52	14.28	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Improvements - Sewers**
Quarter	**1, 2, 3, 4**
Length of Subphase Improvement (Work Days):	240
Months of Improvement Activity:	12.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.2	8	0.1	1.3	0.8	0.0	0.0	263.9	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes	0.2	8	0.2	1.6	0.5	0.0	0.1	179.5	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	2	8	2.0	18.2	5.7	0.0	0.6	2,538.9	0.124	1.136	0.354	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.9	8	0.7	4.5	2.9	0.0	0.4	424.7	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	1.7	8	1.7	12.9	8.5	0.0	0.7	1,445.9	0.124	0.950	0.627	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	5	Total Emissions:	4.7	38.5	18.4	0.1	1.8	4852.90				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	6
Number of Passenger Vehicle Trips	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	152.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.11	0.11	1.08	0.00	0.01	0.01	167.77
Total Emissions	0.11	0.11	1.08	0.00	0.01	0.01	167.77

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	4.67	38.49	18.40	0.05	1.81	1.67	1.81	4,852.90
Improvements Worker Commute Trips	0.11	0.11	1.08	0.00	0.01	0.01	--	167.77
Net Emission Totals:	4.81	38.93	19.60	0.06	1.84	1.69	1.83	5,071.26
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	4.67	38.49	18.40	0.05	1.81	1.67	1.81	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Improvements - Storm Drains**
Quarter	**1, 2**
Length of Subphase Improvement (Work Days):	120
Months of Improvement Activity:	6.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes	0.2	8	0.2	1.5	0.5	0.0	0.1	179.5	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1.8	8	1.7	14.5	5.0	0.0	0.5	2,285.0	0.118	1.010	0.348	0.002
Graders	0.2	8	0.2	1.7	1.2	0.0	0.1	198.3	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	0.8	8	0.6	3.8	2.6	0.0	0.3	377.5	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders	1.5	8	1.4	10.7	7.5	0.0	0.6	1,275.8	0.117	0.892	0.626	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	4.5	Total Emissions:	4.1	32.2	16.7	0.0	1.5	4316.07				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	6
Number of Passenger Vehicle Trips	6

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 152.40

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.11	0.10	1.01	0.00	0.01	0.01	168.03
Total Emissions	0.11	0.10	1.01	0.00	0.01	0.01	168.03

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	4.07	32.16	16.73	0.05	1.53	1.40	1.53	4,316.07
Improvements Worker Commute Trips	0.11	0.10	1.01	0.00	0.01	0.01	--	168.03
Net Emission Totals:	4.20	32.55	17.84	0.05	1.55	1.42	1.54	4,534.66
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	4.07	32.16	16.73	0.05	1.53	1.40	1.53	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Improvements - Water**
Quarter	**3, 4**
Length of Subphase Improvement (Work Days):	120
Months of Improvement Activity:	6.0
Number of Days/Month	20
Construction Year:	2014

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002016	0.024180	0.008464	0.000041	0.001185	0.001006	4.212793

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.29	0.10	0.00	0.01	0.01	50.55

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2014)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.073	0.714	0.503	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.527	0.403	0.001
Cranes	0.2	8	0.2	1.5	0.5	0.0	0.1	179.5	0.098	0.909	0.282	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.660	7.005	2.518	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.051	12.416	3.357	0.013
Excavators	1.8	8	1.7	14.5	5.0	0.0	0.5	2,285.0	0.118	1.010	0.348	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.139	1.051	0.733	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.353	0.450	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.207	1.595	0.613	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.247	0.257	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.028	0.625	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	1	8	0.7	4.7	3.2	0.0	0.4	471.9	0.092	0.591	0.403	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.318	0.365	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.203	1.485	0.839	0.001
Rubber Tired Loaders	1.7	8	1.6	12.1	8.5	0.0	0.7	1,445.9	0.117	0.892	0.626	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.255	2.225	0.854	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.275	2.386	0.971	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.381	3.312	1.421	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.152	1.806	0.521	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.091	0.294	0.330	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	1.029	0.361	0.002
Total Pieces of Equipment	4.7	Total Emissions:	4.2	32.8	17.2	0.0	1.6	4382.28				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	6
Number of Passenger Vehicle Trips	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2014)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000702	0.000655	0.006604	0.000011	0.000092	0.000059	1.102572

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	152.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.11	0.10	1.01	0.00	0.01	0.01	168.03
Total Emissions	0.11	0.10	1.01	0.00	0.01	0.01	168.03

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.29	0.10	0.00	0.01	0.01	0.01	50.55
Off-Road Diesel Exhaust	4.18	32.85	17.20	0.05	1.59	1.46	1.59	4,382.28
Improvements Worker Commute Trips	0.11	0.10	1.01	0.00	0.01	0.01	--	168.03
Net Emission Totals:	4.31	33.24	18.31	0.05	1.62	1.48	1.60	4,600.87
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	4.18	32.85	17.20	0.05	1.59	1.46	1.59	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Improvements - Water**
Quarter	**1 (1,2)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2015

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001786	0.021227	0.007669	0.000041	0.001047	0.000880	4.209022

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.25	0.09	0.00	0.01	0.01	50.51

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes	0.2	8	0.1	1.3	0.4	0.0	0.0	179.5	0.092	0.828	0.271	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.628	6.657	2.364	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators	1.8	8	1.6	12.9	4.9	0.0	0.4	2,285.0	0.112	0.894	0.343	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.130	0.953	0.732	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.416	0.595	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	0.960	0.621	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	1	8	0.7	4.4	3.2	0.0	0.4	471.9	0.086	0.550	0.400	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.194	1.394	0.833	0.001
Rubber Tired Loaders	1.7	8	1.5	11.0	8.5	0.0	0.6	1,445.9	0.109	0.808	0.625	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.242	2.052	0.811	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Total Pieces of Equipment	4.7	Total Emissions:	3.9	29.6	17.1	0.0	1.4	4382.28				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	6
Number of Passenger Vehicle Trips	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	152.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.10	0.09	0.94	0.00	0.01	0.01	167.93
Total Emissions	0.10	0.09	0.94	0.00	0.01	0.01	167.93

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.25	0.09	0.00	0.01	0.01	0.01	50.51
Off-Road Diesel Exhaust	3.93	29.57	17.08	0.05	1.44	1.33	1.44	4,382.28
Improvements Worker Commute Trips	0.10	0.09	0.94	0.00	0.01	0.01	--	167.93
Net Emission Totals:	4.05	29.92	18.10	0.05	1.47	1.35	1.45	4,600.72
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.93	29.57	17.08	0.05	1.44	1.33	1.44	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Potrero Canyon**
Subphase	**Improvements - Streets/Roads**
Quarter	**1 (3), 2 (4)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2015

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.001786	0.021227	0.007669	0.000041	0.001047	0.000880	4.209022

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.02	0.25	0.09	0.00	0.01	0.01	50.51

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2015)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.067	0.614	0.502	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.492	0.398	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.092	0.828	0.271	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.628	6.657	2.364	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.973	11.563	3.090	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.112	0.894	0.343	0.002
Graders	1.1	8	1.1	8.4	6.4	0.0	0.5	1,090.5	0.130	0.953	0.732	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.149	1.264	0.432	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.416	0.595	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.060	0.237	0.251	0.000
Pavers	0.3	8	0.3	2.3	1.5	0.0	0.2	230.5	0.140	0.960	0.621	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.096	0.052	0.000
Rollers	1.1	8	0.8	4.8	3.5	0.0	0.4	519.1	0.086	0.550	0.400	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.307	0.355	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.194	1.394	0.833	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.808	0.625	0.001
Scrapers	1	8	1.9	16.4	6.5	0.0	0.6	2,087.8	0.242	2.052	0.811	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.261	2.201	0.918	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.362	3.055	1.338	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.623	0.510	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.078	0.283	0.319	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.108	0.905	0.357	0.002
Total Pieces of Equipment	3.5	Total Emissions:	4.2	31.9	17.9	0.0	1.6	3927.91				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	4
Number of Passenger Vehicle Trips	4

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2015)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000664	0.000602	0.006141	0.000011	0.000093	0.000060	1.101928

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	101.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.07	0.06	0.62	0.00	0.01	0.01	111.96
Total Emissions	0.07	0.06	0.62	0.00	0.01	0.01	111.96

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.02	0.25	0.09	0.00	0.01	0.01	0.01	50.51
Off-Road Diesel Exhaust	4.17	31.95	17.94	0.04	1.65	1.52	1.65	3,927.91
Improvements Worker Commute Trips	0.07	0.06	0.62	0.00	0.01	0.01	--	111.96
Net Emission Totals:	4.26	32.27	18.65	0.04	1.67	1.53	1.66	4,090.37
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	4.17	31.95	17.94	0.04	1.65	1.52	1.65	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Grading - Indirect**
Quarter (Month)	**2(6), 3, 4**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	140
Months of Grading Activity:	7.0
Number of Days/Month	20
Grading Year:	2011
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	8,924.52
Amount of Off-Site Cut and Fill Per Day (cy)	8,924.52

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 5,099.88

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,529.96	30% reduction
Replace Ground Cover in Disturbed Areas	764.98	15% reduction
Water Exposed Surfaces Twice Daily	1,733.96	34% reduction
Water Exposed Surfaces Three Times Daily	3,110.93	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	3,110.93	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.151	1.362	0.518	0.001
Crawler Tractors	2	8	4.8	44.1	19.0	0.0	1.8	4,463.3	0.300	2.757	1.186	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1	8	2.3	22.0	7.0	0.0	0.8	2,833.8	0.288	2.747	0.877	0.004
Graders	1	8	1.4	13.5	4.0	0.0	0.5	1,422.8	0.170	1.689	0.494	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Water Trucks	3	8	5.7	51.0	16.9	0.1	1.9	6,536.0	0.237	2.124	0.706	0.003
Off-Highway Trucks	1	8	2.7	24.2	7.9	0.0	0.9	3,035.2	0.332	3.030	0.982	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	0.924	0.516	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.119	0.271	0.308	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers	1	8	3.1	27.0	14.4	0.0	1.1	2,341.8	0.385	3.376	1.797	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.140	1.267	0.505	0.001
Scrapers	1.5	8	5.3	48.8	21.0	0.0	1.9	4,833.7	0.438	4.069	1.754	0.004
Scraper 2A	1.5	8	5.0	46.0	19.9	0.0	1.8	4,564.3	0.413	3.834	1.657	0.004
Scraper 2B	1.5	8	3.8	35.2	14.2	0.0	1.4	3,432.6	0.317	2.935	1.181	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.371	3.431	1.491	0.003
Total Pieces of Equipment	13.5	Total Emissions:	33.9	311.9	124.2	0.3	12.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	791.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.67	0.67	6.54	0.01	0.07	0.04	872.84	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.67	0.67	6.54	0.01	0.07	0.04	872.84	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	5,099.88	1,060.78	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	33.91	311.89	124.21	0.33	12.13	11.16	12.13	33,463.41	
Grading Worker Commute Trips	0.67	0.67	6.54	0.01	0.07	0.04	--	872.84	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	3,110.93	647.07		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	34.58	312.56	130.76	0.34	2,001.16	424.91	12.13	34,336.25	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	33.91	311.89	124.21	0.33	2,001.09	424.86	12.13	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Grading - Indirect**
Quarter (Month)	**1(1)**
Length of Subphase Grading (Work Days):	10
Months of Grading Activity:	0.5
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	8,113.20
Amount of Off-Site Cut and Fill Per Day (cy)	8,113.20

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 4,647.17

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	1,394.15	30% reduction
Replace Ground Cover in Disturbed Areas	697.07	15% reduction
Water Exposed Surfaces Twice Daily	1,580.04	34% reduction
Water Exposed Surfaces Three Times Daily	2,834.77	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	2,834.77	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2012) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	2	8	4.6	41.3	17.6	0.0	1.6	4,463.3	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1	8	2.2	20.1	6.7	0.0	0.7	2,833.8	0.275	2.512	0.832	0.004
Graders	1	8	1.3	12.5	3.8	0.0	0.4	1,422.8	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	3	8	5.4	46.7	16.0	0.1	1.7	6,536.0	0.226	1.946	0.666	0.003
Off-Highway Trucks	1	8	2.5	22.2	7.4	0.0	0.8	3,035.2	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	1	8	3.0	25.6	13.4	0.0	1.1	2,341.8	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	1.5	8	5.0	45.8	19.5	0.0	1.8	4,833.7	0.418	3.819	1.626	0.004
Scraper 2A	1.5	8	4.7	43.2	18.4	0.0	1.7	4,564.3	0.395	3.597	1.536	0.004
Scraper 2B	1.5	8	3.6	33.0	13.2	0.0	1.3	3,432.6	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	13.5	Total Emissions:	32.4	290.5	116.0	0.3	11.1	33,463.4				

CARB, In-Use Construction Equipment ATCM
Altfillisch Contractors, Inc. Fleet Emissions Data
SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates — Emission Factors in lbs/mile (2012)

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length: 12.7 Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)

VMT: 791.80

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.63	0.61	6.06	0.01	0.07	0.05	872.19	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.63	0.61	6.06	0.01	0.07	0.05	872.19	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	4,647.17	966.61	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	32.39	290.49	116.02	0.33	11.14	10.25	11.14	33,463.41	
Grading Worker Commute Trips	0.63	0.61	6.06	0.01	0.07	0.05	--	872.19	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	2,834.77	589.63		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	33.02	291.10	122.08	0.34	1,823.60	387.27	11.14	34,335.60	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	32.39	290.49	116.02	0.33	1,823.53	387.22	11.14	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Grading - Indirect**
Quarter (Month)	**1(1),2, 3, 4(10)**

Length of Subphase Grading (Work Days):	190
Months of Grading Activity:	9.5
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	12,000.00
Amount of Off-Site Cut and Fill Per Day (cy)	12,000.00

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 6,816.00

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	2,044.80	30% reduction
Replace Ground Cover in Disturbed Areas	1,022.40	15% reduction
Water Exposed Surfaces Twice Daily	2,317.44	34% reduction
Water Exposed Surfaces Three Times Daily	4,157.76	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	4,157.76	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2012) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	2	8	4.6	41.3	17.6	0.0	1.6	4,463.3	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1	8	2.2	20.1	6.7	0.0	0.7	2,833.8	0.275	2.512	0.832	0.004
Graders	1	8	1.3	12.5	3.8	0.0	0.4	1,422.8	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	3	8	5.4	46.7	16.0	0.1	1.7	6,536.0	0.226	1.946	0.666	0.003
Off-Highway Trucks	1	8	2.5	22.2	7.4	0.0	0.8	3,035.2	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	1	8	3.0	25.6	13.4	0.0	1.1	2,341.8	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	1.5	8	5.0	45.8	19.5	0.0	1.8	4,833.7	0.418	3.819	1.626	0.004
Scraper 2A	1.5	8	4.7	43.2	18.4	0.0	1.7	4,564.3	0.395	3.597	1.536	0.004
Scraper 2B	1.5	8	3.6	33.0	13.2	0.0	1.3	3,432.6	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	13.5	Total Emissions:	32.4	290.5	116.0	0.3	11.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	791.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.63	0.61	6.06	0.01	0.07	0.05	872.19	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.63	0.61	6.06	0.01	0.07	0.05	872.19	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	6,816.00	1,417.73	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	32.39	290.49	116.02	0.33	11.14	10.25	11.14	33,463.41	
Grading Worker Commute Trips	0.63	0.61	6.06	0.01	0.07	0.05	--	872.19	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	4,157.76	864.81		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	33.02	291.10	122.08	0.34	2,669.45	563.20	11.14	34,335.60	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	32.39	290.49	116.02	0.33	2,669.38	563.16	11.14	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Grading - Indirect**
Quarter (Month)	**4(11)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	1
Months of Grading Activity:	0.1
Number of Days/Month	20
Grading Year:	2012
Maximum Daily Acreage Graded in Subphase (ac):	12.00
Amount of On-Site Cut and Fill Per Day (cy)	419.00
Amount of Off-Site Cut and Fill Per Day (cy)	419.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 353.80

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	106.14	30% reduction
Replace Ground Cover in Disturbed Areas	53.07	15% reduction
Water Exposed Surfaces Twice Daily	120.29	34% reduction
Water Exposed Surfaces Three Times Daily	215.82	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	215.82	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.) ROG	NOx	CO	SO_x	PM10	CO_2	Emission Factors in lbs/hr (2012) ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.142	1.275	0.495	0.001
Crawler Tractors	2	8	4.6	41.3	17.6	0.0	1.6	4,463.3	0.286	2.582	1.099	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1	8	2.2	20.1	6.7	0.0	0.7	2,833.8	0.275	2.512	0.832	0.004
Graders	1	8	1.3	12.5	3.8	0.0	0.4	1,422.8	0.161	1.563	0.472	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Water Trucks	3	8	5.4	46.7	16.0	0.1	1.7	6,536.0	0.226	1.946	0.666	0.003
Off-Highway Trucks	1	8	2.5	22.2	7.4	0.0	0.8	3,035.2	0.317	2.777	0.927	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	0.879	0.511	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.110	0.268	0.299	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers	1	8	3.0	25.6	13.4	0.0	1.1	2,341.8	0.370	3.200	1.680	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.132	1.177	0.495	0.001
Scrapers	1.5	8	5.0	45.8	19.5	0.0	1.8	4,833.7	0.418	3.819	1.626	0.004
Scraper 2A	1.5	8	4.7	43.2	18.4	0.0	1.7	4,564.3	0.395	3.597	1.536	0.004
Scraper 2B	1.5	8	3.6	33.0	13.2	0.0	1.3	3,432.6	0.303	2.753	1.101	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.355	3.219	1.383	0.003
Total Pieces of Equipment	13.5	Total Emissions:	32.4	290.5	116.0	0.3	11.1	33,463.4				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	17
Number of Construction Worker Trucks/Pick-Ups	6

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	791.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.63	0.61	6.06	0.01	0.07	0.05	872.19	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.63	0.61	6.06	0.01	0.07	0.05	872.19	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	353.80	73.59	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	32.39	290.49	116.02	0.33	11.14	10.25	11.14	33,463.41	
Grading Worker Commute Trips	0.63	0.61	6.06	0.01	0.07	0.05	--	872.19	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	215.82	44.89		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	33.02	291.10	122.08	0.34	149.19	38.99	11.14	34,335.60	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	No	No	--	--	
HRA/LST Emissions	32.39	290.49	116.02	0.33	149.12	38.95	11.14	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Improvements - Sewers**
Quarter	**4 (12)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2011

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002795	0.034558	0.011125	0.000040	0.001661	0.001445	4.220457

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.41	0.13	0.00	0.02	0.02	50.65

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2011)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.8	0.4	0.0	0.0	132.0	0.094	1.008	0.510	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.624	0.421	0.001
Cranes	0.1	8	0.1	0.9	0.3	0.0	0.0	89.7	0.117	1.152	0.328	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.759	8.172	3.122	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.299	15.210	4.418	0.013
Excavators	1.1	8	1.2	12.0	3.3	0.0	0.4	1,396.4	0.137	1.363	0.376	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.272	0.738	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.180	1.615	0.511	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.237	2.124	0.706	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.094	0.275	0.283	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	1.198	0.640	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.098	0.052	0.000
Rollers	0.5	8	0.5	2.8	1.7	0.0	0.2	236.0	0.113	0.700	0.414	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.145	0.350	0.405	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.230	1.709	0.860	0.001
Rubber Tired Loaders	0.9	8	1.0	7.8	4.5	0.0	0.5	765.5	0.139	1.082	0.630	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.295	2.737	1.024	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.317	2.935	1.181	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.438	4.069	1.754	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.188	2.332	0.576	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.323	0.371	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.134	1.409	0.388	0.002
Total Pieces of Equipment	2.7	Total Emissions:	2.8	24.3	10.2	0.0	1.2	2619.52				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2011)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000852	0.000845	0.008263	0.000011	0.000089	0.000057	1.102352

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.06	0.63	0.00	0.01	0.00	84.00
Total Emissions	0.06	0.06	0.63	0.00	0.01	0.00	84.00

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.41	0.13	0.00	0.02	0.02	0.02	50.65
Off-Road Diesel Exhaust	2.83	24.31	10.17	0.03	1.18	1.08	1.18	2,619.52
Improvements Worker Commute Trips	0.06	0.06	0.63	0.00	0.01	0.00	--	84.00
Net Emission Totals:	2.93	24.79	10.94	0.03	1.20	1.11	1.20	2,754.17
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.83	24.31	10.17	0.03	1.18	1.08	1.18	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Improvements - Sewers**
Quarter	**1, 2, 3(7)**
Length of Subphase Improvement (Work Days):	140
Months of Improvement Activity:	7.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	0.7	0.4	0.0	0.0	132.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1.1	8	1.1	10.9	3.2	0.0	0.4	1,396.4	0.130	1.244	0.363	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.5	8	0.4	2.6	1.6	0.0	0.2	236.0	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	0.9	8	0.9	7.3	4.5	0.0	0.4	765.5	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	2.7	Total Emissions:	2.7	22.5	10.0	0.0	1.1	2619.53				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.06	0.58	0.00	0.01	0.00	83.94
Total Emissions	0.06	0.06	0.58	0.00	0.01	0.00	83.94

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	2.67	22.47	10.01	0.03	1.08	0.99	1.08	2,619.53
Improvements Worker Commute Trips	0.06	0.06	0.58	0.00	0.01	0.00	--	83.94
Net Emission Totals:	2.76	22.90	10.72	0.03	1.10	1.01	1.09	2,754.05
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.67	22.47	10.01	0.03	1.08	0.99	1.08	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Improvements - Storm Drains**
Quarter	**3 (8,9), 4 (10,11)**
Length of Subphase Improvement (Work Days):	80
Months of Improvement Activity:	4.0
Number of Days/Month	20
Construction Year:	2012

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1	8	1.0	10.0	2.9	0.0	0.3	1,269.5	0.130	1.244	0.363	0.002
Graders	0.1	8	0.1	1.0	0.6	0.0	0.1	99.1	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.4	8	0.3	2.1	1.3	0.0	0.2	188.8	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	0.8	8	0.8	6.5	4.0	0.0	0.4	680.4	0.131	1.013	0.629	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	2.4	Total Emissions:	2.4	20.4	9.1	0.0	1.0	2327.51				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.06	0.58	0.00	0.01	0.00	83.94
Total Emissions	0.06	0.06	0.58	0.00	0.01	0.00	83.94

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	2.43	20.37	9.08	0.03	0.98	0.90	0.98	2,327.51
Improvements Worker Commute Trips	0.06	0.06	0.58	0.00	0.01	0.00	--	83.94
Net Emission Totals:	2.52	20.80	9.78	0.03	1.00	0.92	0.99	2,462.03
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	2.43	20.37	9.08	0.03	0.98	0.90	0.98	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Improvements - Water**
Quarter	**4(12)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2012

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002528	0.030924	0.010215	0.000040	0.001496	0.001294	4.215908

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.37	0.12	0.00	0.02	0.02	50.59

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2012)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.085	0.901	0.507	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.109	0.591	0.415	0.001
Cranes	0.1	8	0.1	0.9	0.2	0.0	0.0	89.7	0.110	1.071	0.310	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.723	7.763	2.896	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.211	14.265	4.033	0.013
Excavators	1	8	1.0	10.0	2.9	0.0	0.3	1,269.5	0.130	1.244	0.363	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.155	1.193	0.736	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.172	1.528	0.490	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.226	1.946	0.666	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.084	0.271	0.274	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.165	1.138	0.635	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.662	0.410	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	0.345	0.391	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.221	1.630	0.853	0.001
Rubber Tired Loaders	1	8	1.0	8.1	5.0	0.0	0.5	850.5	0.131	1.013	0.629	0.001
Scrapers	0.6	8	1.3	12.3	4.6	0.0	0.5	1,252.7	0.281	2.567	0.960	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.303	2.753	1.101	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.418	3.819	1.626	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.175	2.160	0.552	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	0.318	0.356	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.126	1.281	0.375	0.002
Total Pieces of Equipment	2.7	Total Emissions:	3.5	31.2	12.8	0.0	1.3	3462.37				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2012)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000796	0.000776	0.007655	0.000011	0.000090	0.000057	1.101525

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.06	0.58	0.00	0.01	0.00	83.94
Total Emissions	0.06	0.06	0.58	0.00	0.01	0.00	83.94

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.37	0.12	0.00	0.02	0.02	0.02	50.59
Off-Road Diesel Exhaust	3.53	31.24	12.79	0.04	1.32	1.21	1.32	3,462.37
Improvements Worker Commute Trips	0.06	0.06	0.58	0.00	0.01	0.00	--	83.94
Net Emission Totals:	3.62	31.67	13.50	0.04	1.34	1.23	1.33	3,596.90
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.53	31.24	12.79	0.04	1.32	1.21	1.32	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Improvements - Water**
Quarter	**1, 2(4)**
Length of Subphase Improvement (Work Days):	80
Months of Improvement Activity:	4.0
Number of Days/Month	20
Construction Year:	2013

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes	0.1	8	0.1	0.8	0.2	0.0	0.0	89.7	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators	1	8	1.0	9.1	2.8	0.0	0.3	1,269.5	0.124	1.136	0.354	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders	1	8	1.0	7.6	5.0	0.0	0.4	850.5	0.124	0.950	0.627	0.001
Scrapers	0.6	8	1.3	11.6	4.3	0.0	0.4	1,252.7	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	2.7	Total Emissions:	3.4	29.0	12.4	0.0	1.2	3462.37				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.05	0.54	0.00	0.01	0.00	83.89
Total Emissions	0.06	0.05	0.54	0.00	0.01	0.00	83.89

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	3.35	29.04	12.42	0.04	1.20	1.11	1.20	3,462.37
Improvements Worker Commute Trips	0.06	0.05	0.54	0.00	0.01	0.00	--	83.89
Net Emission Totals:	3.44	29.42	13.08	0.04	1.22	1.12	1.22	3,596.84
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.35	29.04	12.42	0.04	1.20	1.11	1.20	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Valencia Commerce Center**
Subphase	**Improvements - Streets**
Quarter	**2 (5)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2013

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.002263	0.027429	0.009318	0.000041	0.001337	0.001146	4.215186

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.03	0.33	0.11	0.00	0.02	0.01	50.58

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2013)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.079	0.812	0.504	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.100	0.557	0.409	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.104	0.995	0.295	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.690	7.373	2.695	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.127	13.322	3.675	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	1.136	0.354	0.002
Graders	0.8	8	0.9	7.2	4.7	0.0	0.4	793.1	0.147	1.119	0.735	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.164	1.445	0.469	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.217	1.787	0.636	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.075	0.259	0.265	0.000
Pavers	0.2	8	0.3	1.7	1.0	0.0	0.1	153.7	0.156	1.082	0.630	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.015	0.097	0.052	0.000
Rollers	0.8	8	0.6	4.0	2.6	0.0	0.3	377.5	0.099	0.625	0.406	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.118	0.332	0.378	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.212	1.556	0.846	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.124	0.950	0.627	0.001
Scrapers	0.8	8	1.7	15.4	5.8	0.0	0.6	1,670.2	0.268	2.407	0.903	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.289	2.582	1.031	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.400	3.583	1.516	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.163	1.996	0.535	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.105	0.306	0.342	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.120	1.166	0.367	0.002
Total Pieces of Equipment	2.6	Total Emissions:	3.5	28.3	14.1	0.0	1.5	2994.53				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	3
Number of Passenger Vehicle Trips	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2013)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000746	0.000712	0.007092	0.000011	0.000091	0.000058	1.100874

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	76.20	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.06	0.05	0.54	0.00	0.01	0.00	83.89
Total Emissions	0.06	0.05	0.54	0.00	0.01	0.00	83.89

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.03	0.33	0.11	0.00	0.02	0.01	0.02	50.58
Off-Road Diesel Exhaust	3.54	28.30	14.09	0.03	1.46	1.35	1.46	2,994.53
Improvements Worker Commute Trips	0.06	0.05	0.54	0.00	0.01	0.00	--	83.89
Net Emission Totals:	3.62	28.69	14.74	0.03	1.48	1.36	1.48	3,129.00
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	3.54	28.30	14.09	0.03	1.46	1.35	1.46	--

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Water Reclamation Plant**
Subphase	**Grading - Indirect**
Quarter (Month)	**1 (2,3)**

Input Required	
Constant Factor	
Mitigation	
Applied Emission Factor from Appropriate Year	
Intermediate Calculated Values	
Calculated/Totaled Emissions	

Length of Subphase Grading (Work Days):	40
Months of Grading Activity:	2.0
Number of Days/Month	20
Grading Year:	2009
Maximum Daily Acreage Graded in Subphase (ac):	5.00
Amount of On-Site Cut and Fill Per Day (cy)	2,400.00
Amount of Off-Site Cut and Fill Per Day (cy)	2,400.00

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 1,389.20

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	416.76	30% reduction
Replace Ground Cover in Disturbed Areas	208.38	15% reduction
Water Exposed Surfaces Twice Daily	472.33	34% reduction
Water Exposed Surfaces Three Times Daily	847.41	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	847.41	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.168	1.529	0.571	0.001
Crawler Tractors	1	8	2.6	24.8	11.1	0.0	1.0	2,231.6	0.327	3.103	1.391	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.316	3.220	0.998	0.004
Graders	1	8	1.5	15.5	4.4	0.0	0.6	1,422.8	0.190	1.937	0.548	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Water Trucks	2	8	4.2	39.7	13.0	0.0	1.5	4,357.3	0.260	2.482	0.810	0.003
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.364	3.539	1.127	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	1.016	0.529	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.279	0.326	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers	1	8	3.3	29.8	16.4	0.0	1.3	2,341.8	0.415	3.721	2.053	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.157	1.448	0.530	0.001
Scrapers	2	8	7.6	73.0	33.0	0.1	2.9	6,444.9	0.478	4.564	2.061	0.004
Scraper 2A	2	8	7.2	68.8	31.1	0.1	2.8	6,085.7	0.451	4.300	1.947	0.004
Scraper 2B	2	8	5.6	52.7	22.0	0.0	2.1	4,576.8	0.347	3.294	1.372	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.405	3.849	1.752	0.003
Total Pieces of Equipment	11	Total Emissions:	32.0	304.3	131.0	0.3	12.2	27,461.0				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	14
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	535.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.53	0.54	5.19	0.01	0.05	0.03	587.85	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.53	0.54	5.19	0.01	0.05	0.03	587.85	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	1,389.20	288.95	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	32.04	304.31	130.98	0.27	12.16	11.19	12.16	27,461.04	
Grading Worker Commute Trips	0.53	0.54	5.19	0.01	0.05	0.03	--	587.85	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	847.41	176.26		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	32.57	304.85	136.16	0.28	554.00	123.91	12.16	28,048.89	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	32.04	304.31	130.98	0.27	553.95	123.88	12.16	--	

GRADING PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Water Reclamation Plant**	
Subphase	**Grading - Indirect**	
Quarter (Month)	**2 (4)**	
Length of Subphase Grading (Work Days):	15	
Months of Grading Activity:	0.8	
Number of Days/Month	20	
Grading Year:	2009	
Maximum Daily Acreage Graded in Subphase (ac):	5.00	
Amount of On-Site Cut and Fill Per Day (cy)	3,654.00	
Amount of Off-Site Cut and Fill Per Day (cy)	3,654.00	

Input Required
Constant Factor
Mitigation
Applied Emission Factor from Appropriate Year
Intermediate Calculated Values
Calculated/Totaled Emissions

FUGITIVE DUST EMISSIONS

Fugitive Dust Emissions (lbs/day): 2,088.93

FUGITIVE DUST MITIGATION

Apply Soil Stabilizers to Inactive Areas	626.68	30% reduction
Replace Ground Cover in Disturbed Areas	313.34	15% reduction
Water Exposed Surfaces Twice Daily	710.24	34% reduction
Water Exposed Surfaces Three Times Daily	1,274.25	61% reduction (percent reduction from URBEMIS2007)
Total Dust Mitigation	1,274.25	Maximum of 61% reduction.

GRADING OFF-ROAD DIESEL EXHAUST EMISSIONS

			Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
Equipment Type	No. of Vehicles	Hours of Operation/Day	ROG	NOx	CO	SO_x	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.168	1.529	0.571	0.001
Crawler Tractors	1	8	2.6	24.8	11.1	0.0	1.0	2,231.6	0.327	3.103	1.391	0.003
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.316	3.220	0.998	0.004
Graders	1	8	1.5	15.5	4.4	0.0	0.6	1,422.8	0.190	1.937	0.548	0.002
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Water Trucks	2	8	4.2	39.7	13.0	0.0	1.5	4,357.3	0.260	2.482	0.810	0.003
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.364	3.539	1.127	0.004
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	1.016	0.529	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.135	0.279	0.326	0.000
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers	1	8	3.3	29.8	16.4	0.0	1.3	2,341.8	0.415	3.721	2.053	0.003
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.157	1.448	0.530	0.001
Scrapers	2	8	7.6	73.0	33.0	0.1	2.9	6,444.9	0.478	4.564	2.061	0.004
Scraper 2A	2	8	7.2	68.8	31.1	0.1	2.8	6,085.7	0.451	4.300	1.947	0.004
Scraper 2B	2	8	5.6	52.7	22.0	0.0	2.1	4,576.8	0.347	3.294	1.372	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Water Pull		8	0.0	0.0	0.0	0.0	0.0	0.0	0.405	3.849	1.752	0.003
Total Pieces of Equipment	11	Total Emissions:	32.0	304.3	131.0	0.3	12.2	27,461.0				

CARB, In-Use Construction Equipment ATCM

Altfillisch Contractors, Inc. Fleet Emissions Data

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

GRADING WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of grading equipment.

Number of Worker Trips:	14
Number of Construction Worker Trucks/Pick-Ups	3

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	535.60	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2	
Passenger Vehicles	0.53	0.54	5.19	0.01	0.05	0.03	587.85	**Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors fo**
Total Emissions	0.53	0.54	5.19	0.01	0.05	0.03	587.85	

TOTAL SUBPHASE GRADING EMISSIONS

Emissions Source	Emissions (Pounds per Day) ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2	
Fugitive Dust	--	--	--	--	2,088.93	434.50	--	--	
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Road Diesel Exhaust	32.04	304.31	130.98	0.27	12.16	11.19	12.16	27,461.04	
Grading Worker Commute Trips	0.53	0.54	5.19	0.01	0.05	0.03	--	587.85	
Mitigation/Reduction									**Mitigation**
Fugitive Dust	--	--	--	--	1,274.25	265.04		--	Water Exposed Surfaces Three Times Daily
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00		0.00	None
Off-Road Diesel Exhaust	0.00	0.00	0.00	n/a	0.00	0.00		0.00	None
Worker Commute Trips	0.00	0.00	0.00	0.00	0.00	0.00		0.00	No Feasible Mitigation Available
Net Emission Totals:	32.57	304.85	136.16	0.28	826.89	180.67	12.16	28,048.89	
SCAQMD Threshold:	75	100	550	150	150	55	--	--	
Exceeds Threshold?	No	Yes	No	No	Yes	Yes	--	--	
HRA/LST Emissions	32.04	304.31	130.98	0.27	826.85	180.64	12.16	--	

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Water Reclamation Plant**
Subphase	**Improvements - Sewers**
Quarter	**1 (3), 2**
Length of Subphase Improvement (Work Days):	80
Months of Improvement Activity:	4.0
Number of Days/Month	20
Construction Year:	2009

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.003293	0.041846	0.012822	0.000040	0.001996	0.001752	4.210808

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.04	0.50	0.15	0.00	0.02	0.02	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs	0.1	8	0.1	1.0	0.4	0.0	0.0	131.9	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes	0.1	8	0.1	1.0	0.3	0.0	0.0	89.7	0.131	1.310	0.366	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.838	8.913	3.650	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators	0.6	8	0.7	7.7	2.0	0.0	0.3	761.7	0.153	1.605	0.414	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.185	1.439	0.744	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.260	2.482	0.810	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.192	1.320	0.654	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers	0.3	8	0.3	1.9	1.0	0.0	0.2	141.6	0.128	0.778	0.422	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.250	1.871	0.877	0.001
Rubber Tired Loaders	0.5	8	0.6	4.9	2.5	0.0	0.3	425.3	0.156	1.225	0.635	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	3.072	1.177	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Total Pieces of Equipment	1.6	Total Emissions:	1.9	16.5	6.2	0.0	0.8	1550.15				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.05	0.49	0.00	0.00	0.00	55.76
Total Emissions	0.05	0.05	0.49	0.00	0.00	0.00	55.76

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.04	0.50	0.15	0.00	0.02	0.02	0.02	50.53
Off-Road Diesel Exhaust	1.86	16.50	6.25	0.02	0.79	0.73	0.79	1,550.15
Improvements Worker Commute Trips	0.05	0.05	0.49	0.00	0.00	0.00	--	55.76
Net Emission Totals:	1.95	17.06	6.89	0.02	0.82	0.75	0.81	1,656.43
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.86	16.50	6.25	0.02	0.79	0.73	0.79	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Water Reclamation Plant**
Subphase	**Improvements - Storm Drains**
Quarter	**3(7,8)**
Length of Subphase Improvement (Work Days):	40
Months of Improvement Activity:	2.0
Number of Days/Month	20
Construction Year:	2009

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.003293	0.041846	0.012822	0.000040	0.001996	0.001752	4.210808

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.04	0.50	0.15	0.00	0.02	0.02	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes	0.1	8	0.1	1.0	0.3	0.0	0.0	89.7	0.131	1.310	0.366	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.838	8.913	3.650	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators	0.5	8	0.6	6.4	1.7	0.0	0.2	634.7	0.153	1.605	0.414	0.002
Graders	0.1	8	0.1	1.2	0.6	0.0	0.1	99.1	0.185	1.439	0.744	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.260	2.482	0.810	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.192	1.320	0.654	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers	0.3	8	0.3	1.9	1.0	0.0	0.2	141.6	0.128	0.778	0.422	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.250	1.871	0.877	0.001
Rubber Tired Loaders	0.5	8	0.6	4.9	2.5	0.0	0.3	425.3	0.156	1.225	0.635	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	3.072	1.177	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Total Pieces of Equipment	1.5	Total Emissions:	1.8	15.4	6.1	0.0	0.8	1390.43				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.05	0.49	0.00	0.00	0.00	55.76
Total Emissions	0.05	0.05	0.49	0.00	0.00	0.00	55.76

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.04	0.50	0.15	0.00	0.02	0.02	0.02	50.53
Off-Road Diesel Exhaust	1.80	15.39	6.10	0.02	0.77	0.71	0.77	1,390.43
Improvements Worker Commute Trips	0.05	0.05	0.49	0.00	0.00	0.00	--	55.76
Net Emission Totals:	1.89	15.94	6.74	0.02	0.80	0.73	0.79	1,496.71
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.80	15.39	6.10	0.02	0.77	0.71	0.77	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Water Reclamation Plant**
Subphase	**Improvements - Water**
Quarter	**3(9), 4(10,11)**
Length of Subphase Improvement (Work Days):	60
Months of Improvement Activity:	3.0
Number of Days/Month	20
Construction Year:	2009

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60	
Round Trip Length (miles):	4	
Capacity of Haul Truck (cy)	20	
Number of Haul Truck Trips/Day:	3	**Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)**
Daily Vehicle Miles Traveled	12	Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.003293	0.041846	0.012822	0.000040	0.001996	0.001752	4.210808

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.04	0.50	0.15	0.00	0.02	0.02	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes	0.1	8	0.1	1.0	0.3	0.0	0.0	89.7	0.131	1.310	0.366	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.838	8.913	3.650	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators	0.5	8	0.6	6.4	1.7	0.0	0.2	634.7	0.153	1.605	0.414	0.002
Graders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.185	1.439	0.744	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.260	2.482	0.810	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.192	1.320	0.654	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers	0.3	8	0.3	1.9	1.0	0.0	0.2	141.6	0.128	0.778	0.422	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.250	1.871	0.877	0.001
Rubber Tired Loaders	0.5	8	0.6	4.9	2.5	0.0	0.3	425.3	0.156	1.225	0.635	0.001
Scrapers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.323	3.072	1.177	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Total Pieces of Equipment	1.4	Total Emissions:	1.6	14.2	5.5	0.0	0.7	1291.29				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	2
Number of Passenger Vehicle Trips	2

EMFAC2007 Emission Rates	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	50.80	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.05	0.05	0.49	0.00	0.00	0.00	55.76
Total Emissions	0.05	0.05	0.49	0.00	0.00	0.00	55.76

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.04	0.50	0.15	0.00	0.02	0.02	0.02	50.53
Off-Road Diesel Exhaust	1.65	14.24	5.50	0.01	0.70	0.65	0.70	1,291.29
Improvements Worker Commute Trips	0.05	0.05	0.49	0.00	0.00	0.00	--	55.76
Net Emission Totals:	1.74	14.79	6.15	0.02	0.73	0.67	0.73	1,397.58
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.65	14.24	5.50	0.01	0.70	0.65	0.70	--

IMPROVEMENTS PHASE EMISSIONS BASED ON URBEMIS2007

Project Name	**Water Reclamation Plant**
Subphase	**Improvements - Streets**
Quarter	**4(12)**
Length of Subphase Improvement (Work Days):	20
Months of Improvement Activity:	1.0
Number of Days/Month	20
Construction Year:	2009

	Input Required
	Constant Factor
	Mitigation
	Applied Emission Factor from Appropriate Year
	Intermediate Calculated Values
	Calculated/Totaled Emissions

ON-ROAD DIESEL EXHAUST EMISSIONS

Total CY Material Hauled/Day:	60
Round Trip Length (miles):	4
Capacity of Haul Truck (cy)	20
Number of Haul Truck Trips/Day:	3
Daily Vehicle Miles Traveled	12

Formula: Total CY Material Hauled/Day/Capacity of Haul Truck (cy)

Note: Added an additional 5 miles for each water truck (2)

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Haul Trucks	0.003293	0.041846	0.012822	0.000040	0.001996	0.001752	4.210808

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Formula: VMT/day * Emission Factor for Appropriate Year

On-Road Diesel Exhaust Emissions (pounds/day):						
ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
0.04	0.50	0.15	0.00	0.02	0.02	50.53

IMPROVEMENTS OFF-ROAD DIESEL EXHAUST EMISSIONS

Equipment Type	No. of Vehicles	Hours of Operation/Day	Emissions in Pounds per Day (Input emission factor for correct year.)						Emission Factors in lbs/hr (2009)			
			ROG	NOx	CO	SO_X	PM10	CO_2	ROG	NOx	CO	SOx
Bore/Drill Rigs		8	0.0	0.0	0.0	0.0	0.0	0.0	0.116	1.229	0.520	0.002
Concrete/Industrial Saws		8	0.0	0.0	0.0	0.0	0.0	0.0	0.136	0.691	0.434	0.001
Cranes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.131	1.310	0.366	0.001
Crawler Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.838	8.913	3.650	0.007
Crushing/Proc. Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	1.458	16.606	5.176	0.013
Excavators		8	0.0	0.0	0.0	0.0	0.0	0.0	0.153	1.605	0.414	0.002
Graders	0.3	8	0.4	3.5	1.8	0.0	0.2	297.4	0.185	1.439	0.744	0.001
Off-Highway Tractors		8	0.0	0.0	0.0	0.0	0.0	0.0	0.196	1.785	0.559	0.001
Off-Highway Trucks		8	0.0	0.0	0.0	0.0	0.0	0.0	0.260	2.482	0.810	0.003
Other Construction Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.114	0.283	0.303	0.000
Pavers	0.1	8	0.2	1.1	0.5	0.0	0.1	76.8	0.192	1.320	0.654	0.001
Paving Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.016	0.102	0.052	0.000
Rollers	0.3	8	0.3	1.9	1.0	0.0	0.2	141.6	0.128	0.778	0.422	0.001
Rough Terrain Forklifts		8	0.0	0.0	0.0	0.0	0.0	0.0	0.173	0.362	0.433	0.000
Rubber Tired Dozers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.250	1.871	0.877	0.001
Rubber Tired Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.156	1.225	0.635	0.001
Scrapers	0.2	8	0.5	4.9	1.9	0.0	0.2	417.6	0.323	3.072	1.177	0.003
Signal Boards		8	0.0	0.0	0.0	0.0	0.0	0.0	0.347	3.294	1.372	0.003
Skid Steer Loaders		8	0.0	0.0	0.0	0.0	0.0	0.0	0.478	4.564	2.061	0.004
Surfacing Equipment		8	0.0	0.0	0.0	0.0	0.0	0.0	0.220	2.646	0.652	0.003
Tractors/Loaders/Backhoes		8	0.0	0.0	0.0	0.0	0.0	0.0	0.167	0.337	0.408	0.000
Trenchers		8	0.0	0.0	0.0	0.0	0.0	0.0	0.150	1.666	0.423	0.002
Total Pieces of Equipment	0.9	Total Emissions:	1.4	11.3	5.2	0.0	0.6	933.38				

SCAQMD, Off-Road Mobile Source Emission Factors (Scenario Years 2007-2025) SCAB Fleet Average Emission Factors (Diesel), http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

IMPROVEMENTS WORKER COMMUTE EMISSIONS

Assumes number of workers is 125% of total pieces of improvement equipment.

Number of Worker Trips:	1
Number of Passenger Vehicle Trips	1

EMFAC2007 Emission Rates

	Emission Factors in lbs/mile (2009)						
	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.000992	0.001005	0.009686	0.000011	0.000086	0.000054	1.097554

One-Way Trip Length	12.7	Miles (URBEMIS2007 Home-Work Trip Distance in Los Angeles County)
VMT:	25.40	

SCAQMD, Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Paasenger Vehicles [for] Projects in the SCAQMD (Scenario Years 2007-2026), http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Worker Commute Emissions (pounds/day) **Apply emission factors for appropriate year.**:

	ROG	NOx	CO	SOx	PM10	PM2.5	CO_2
Passenger Vehicles	0.03	0.03	0.25	0.00	0.00	0.00	27.88
Total Emissions	0.03	0.03	0.25	0.00	0.00	0.00	27.88

Formula: (Round Trip * Number of Passenger Vehicles * Emission Factors

TOTAL SUBPHASE IMPROVEMENTS EMISSIONS

	Emissions (Pounds per Day)							
Emissions Source	ROG	NOx	CO	SOx	PM10	PM2.5	DPM	CO_2
Fugitive Dust	--	--	--	--	0.00	0.00	--	--
On-Road Diesel Exhaust	0.04	0.50	0.15	0.00	0.02	0.02	0.02	50.53
Off-Road Diesel Exhaust	1.42	11.29	5.20	0.01	0.63	0.58	0.63	933.38
Improvements Worker Commute Trips	0.03	0.03	0.25	0.00	0.00	0.00	--	27.88
Net Emission Totals:	1.49	11.82	5.60	0.01	0.66	0.60	0.66	1,011.79
SCAQMD Threshold:	75	100	550	150	150	55	--	--
Exceeds Threshold?	No	No	No	No	No	No	--	--
HRA/LST Emissions	1.42	11.29	5.20	0.01	0.63	0.58	0.63	--