

Appendix A
**Air Quality and Climate Change Technical
Appendix**

Appendix A

Air Quality and Climate Change Technical Appendix

The purpose of this technical appendix is to describe the modeling techniques used to estimate emissions associated with construction and operation of the proposed project.

Project Construction

Criteria Air Pollutants

Construction related emissions from onshore construction equipment and vehicle travel were estimated using the URBEMIS2007, Version 9.2.4 model. URBEMIS2007 analyzes the type of construction equipment used and the duration of the construction period associated with construction of each of the land uses. It was assumed that construction would involve 14 phases, beginning in October 2012 and ending in February 2014. Table A-1 outlines the construction schedule, phases, and associated tasks assumed in the emissions modeling.

Table A-1. Construction Schedule

Phase	Dates	Length (Days)	Task(s)
Phase 1	10/1/12-10/31/12	30	Dredging
Phase 2	2/14/2013-2/28/2013	14	Site Demo and Preparation
Phase 3	2/28/2013-3/30/2013	30	Ground Improvements
Phase 4	3/30/2013-4/29/2013	30	Building Foundation and Construction
Phase 5	4/29/2013-5/31/2013	32	Building Shell
			Site Utility Installation
Phase 6	5/31/2013-6/15/2013	15	Building Shell
			Site Utility Installation
			Bulkhead Removal and Installation
Phase 7	6/15/2013-6/28/2013	13	Building Shell
			Site Utility Installation
			Bulkhead Removal and Installation
			Fixed Pile Installation
Phase 8	6/28/2013-6/29/2013	1	Site Utility Installation
			Bulkhead Removal and Installation
			Fixed Pile Installation
Phase 9	6/29/2013-7/28/2013	29	Marine Pile/Float Installation
			Site Utility Installation
			Fixed Pier Construction
Phase 10	7/28/2013-8/27/2013	30	Marine Pile/Float Installation
			Site Improvements
			Fixed Pier Construction

			Marine Pile/Float Installation
			Fixed Pier Construction
Phase 11	8/27/2013-9/12/2013	16	Marine Pile/Float Installation
			Building Finish Out
			Fixed Pier Construction
Phase 12	9/12/2013-9/27/2013	15	Marine Pile/Float Installation
			Building Finish Out
			Marine Fitting Out and Utility
Phase 13	9/27/2013-1/24/2014	119	Marine Fitting Out and Utility
			Building Finish Out
Phase 14	1/24/2014-2/9/2014	16	Marine Fitting Out and Utility

The site preparation phases (Phases 2 and 3) were assumed to disturb approximately 13.1 acres, with a maximum daily disturbance of 3.3 acres.¹ A total of 7,590 cubic yards of soil were assumed to be exported during this time. URBEMIS model defaults of 20 cubic yard haul truck capacity and 20 miles per round trip was used to estimate the total number of trips required to export the material.

The project applicant provided a detailed summary of construction equipment required to complete each task. Table A-2 summarizes the on-shore equipment assumed in the emissions modeling. Equipment horsepower were based on URBEMIS default values. Please refer to Appendix B for model outputs.

Table A-2. Onshore Equipment Modeling Assumptions by Task

Task	Equipment	Number	Horsepower	Hours/day
Building Finish Out	Support vehicles	5	- ^a	- ^a
Building Foundation and Construction	Drill rig	1	291	10
	Support vehicles	4	- ^a	- ^a
	Backhoe	2	108	8
Building Shell	Backhoe	2	108	8
	Crane	1	399	8
	Support vehicles	5	- ^a	- ^a
Bulkhead Removal and Installation	Backhoe	3	108	8
	Drill rig	1	291	10
	Crane	1	399	10
	Support vehicles	4	- ^a	- ^a
Dredging	None	-	-	-
Fixed Pier Construction	Backhoe	3	108	8
	Crane ^b	1	399	10
	Support vehicles	4	- ^a	- ^a
Fixed Pile Installation	Pile Driver/Derrick	1	500	8
	Backhoe	3	108	8
Ground Improvements	Drill rig	1	291	10
	Crane	1	399	10
	Support vehicles	4	- ^a	- ^a

¹ Includes construction staging area and physical work area.

Task	Equipment	Number	Horsepower	Hours/day
Marine Fitting Out and Utility	Crane	1	399	4
	Support vehicles	4	- ^a	- ^a
Marine Pile/Float Installation	Pile Driver/Derrick	1	500	8
Site Demo and Preparation	Backhoe	3	108	8
	Excavator	1	168	8
	Support vehicles	4	- ^a	- ^a
Site Improvements	Backhoe	3	108	8
	Support vehicles	4	- ^a	- ^a
Site Utility Installation	Backhoe	3	108	8
	Support vehicles	4	- ^a	- ^a
	Crane	1	399	10

^a Assumed the support vehicles would be gasoline powered and make two five-mile round trips per day.

^b Crane will be used 25% of working days

Source: Scott pers. comm.

The Dredging, Fixed Pile Installation, Marine Pile/Float Installation, and Marine Fitting Out and Utility tasks will require the use of tugs, workboats, and/or dredgers. URBEMIS does not estimate emissions associated with these pieces of equipment. Consequently, operating assumptions provided by the project applicant (Table A-3) and emissions factors obtained from ICF's *Current Methodologies in Preparing Mobile Source Prot-Related Emissions* (2009) (Table A-4) were used to quantify emissions from the tug, workboat, and dredge. It was assumed that all engines would be diesel and EPA certified Tier II.

Table A-3. In-Water Equipment Assumptions

Phase	Equipment	Horsepower (kW) ^a	Load Factor ^b	Hours/day
Dredging	Support boat ^c	50 (37)	0.43	4
	Dredge	600 (448)	0.69	8
	Tug ^d	900 (671)	0.31	4
Fixed Pile Installation	Work/Support boat ^c	50 (37)	0.43	8
	Tug ^d	900 (671)	0.31	4
Marine Pile/Float Installation and Marine Fitting Out and Utility	Work/Support boat ^c	50 (37)	0.43	8

^a Calculated by multiplying the horsepower by 0.746

^b ICF International 2009

^c This is an outboard engine utility boat

^d The tug will be on call and used occasionally.

Source: Scott pers. comm.

Table A-4. Emission Factors for Category II Marine Diesel Engines (grams per kilowatt-hour [kWh])

Engine Power (kW)	VOC	NO_x	CO	PM	SO₂^a	CO₂^b	N₂O^b	CH₄^b
37	0.27	6.8	5	0.4	0.21	690	0.02	0.09
75	0.27	6.8	5	0.3	0.21	690	0.02	0.09
130	0.27	6.8	5	0.3	0.21	690	0.02	0.09
225	0.27	6.8	5	0.3	0.21	690	0.02	0.09
450	0.27	6.8	5	0.3	0.21	690	0.02	0.09
560	0.27	6.8	5	0.3	0.21	690	0.02	0.09
1,000	0.27	6.8	5	0.3	0.21	690	0.02	0.09

^a Based on EPA emission standard of 500 parts per million sulfur content of marine diesel fuel. Calculated using the following equation: (500 grams S/1,000,000 grams fuel) X (210 grams fuel/kW-hour) X (2 grams SO₂/grams S).

^b Discussed below in the GHG section.

Sources: ICF International 2009, Clean Air Task Force n.d.

Total emissions for each piece of equipment were calculated using the information summarized in Tables A-3 and A-4 and Equation A-1. Emissions were added to the on-shore equipment emissions calculated by URBEMIS to estimate total emissions associated with each phase.

Equation A -1
$$E = (\text{Activity} * kW) \times (EF) \times (LF) \times (\text{Hours/day}) \times 0.002204$$

Where:

E	= Emissions, pounds per day
Activity	= Daily Activity, total hours (see Table A-3)
EF	= Engine emissions factor (see Table A-4)
LF	= Engine load factor (see Table A-3)
kW	= Engine kW (see Table A-3)
Hours/day	= Equipment operating time (see Table A-3)
0.000001	= Conversation from grams to pounds

Greenhouse Gases

GHG emissions from construction activities are primarily the result of fuel use by equipment, boats, and vehicles. The primary GHG emissions generated by construction activities are carbon dioxide (CO₂), methane (CH₄), and nitrous oxides (N₂O).

CO₂ emissions from onshore construction equipment and vehicle use were estimated using URBEMIS2007 and the assumptions described above. URBEMIS does not quantify CH₄ and N₂O emissions from off-road equipment or worker commutes. Emissions of CH₄ and N₂O from diesel equipment were determined by scaling the construction CO₂ emissions predicted by URBEMIS by the ratio CH₄/CO₂ (0.000057) and N₂O/CO₂ (0.000026) emissions expected per gallon of diesel fuel according to CCAR (California Climate Action Registry 2009). GHG emissions from on road pickup trucks were determined by dividing the annual CO₂ emissions by 0.95. This statistic is based on EPA's recommendation that CH₄, N₂O, and other GHG emissions account for 5% of on road emissions (U.S. Environmental Protection Agency 2009).

Emissions of CO₂, CH₄, and N₂O from operation of boats and dredges were estimated using Equation A-1 and the emission factors and operating assumptions summarized in Tables A-3 and A-4.

In order to simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The most commonly accepted method to compare GHG emissions is the "global warming potential" (GWP) methodology defined in the Intergovernmental Panel on Climate Change (IPCC) reference documents (IPCC 1996 and 2001). The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO₂ equivalents (CO₂e), which compares the gas in question to that of the same mass of CO₂ (CO₂ has a GWP of 1 by definition).

Table A-5 lists the GWP of CO₂, CH₄, N₂O, their lifetimes, and abundances in the atmosphere in parts per trillion (ppt).

Table A-5. Lifetimes and Global Warming Potentials of CO₂, CH₄, and N₂O

GHG	Global Warming Potential (100 years)	Lifetime (years)	1998 Atmospheric Abundance (ppt) ^a
CO ₂	1	50–200	365,000,000
CH ₄	21	9–15	1,745
N ₂ O	310	120	314

Notes:

^a 1 ppt is a mixing ratio unit indicating the concentration of a pollutant in parts per trillion by volume.

Source: Intergovernmental Panel on Climate Change 1996, 2001 (pages 388-390)

Project Operations

Criteria Pollutants

The maintenance facility will employ a maximum of 58 people. Emissions associated with employee commutes were modeled using the URBEMIS 2007 model. It was assumed that each employee would make two trips to the facility per day and work an average of 250 days per year. Trips distances were based on URBEMIS model defaults.

Fuel will be delivered to the facility using heavy-duty diesel powered haul trucks. A maximum of 40,000 gallons of diesel will be delivered every 14-21 days and 7,000 gallons of lube oil and urea will be delivered monthly. It was assumed that a 9,000 gallon haul truck would be used to deliver the fuel, resulting in a total of nine round-trip delivery trips per month. Emissions associated with these vehicle trips were modeled using URBEMIS 2007. A hauling distance of 20 miles was assumed. Operation of a 25 horsepower fueling pump was also estimated using URBEMIS 2007. The pump was assumed to operate eight hours per day, five days per week.

Channel maintenance will occur once every five to ten years and require the use of one crane and tugboat. It was assumed the crane would only operate for 12 hours during the maintenance work. The tug will be required to transport excavated material to the SF-DODS and move the crane. A conservative operative assumption of 12 hours was assumed for the tug.² Emissions associated with the crane were estimated using URBEMIS and emissions associated with the tug were estimated using the Equation A-1 and the emission factors presented in Table A-4.

Routine upkeep of the Landside facility was assumed to occur on an ongoing basis. In addition, it was assumed the facility would utilize natural gas for heating. Emissions associated with the application of exterior coatings and natural gas consumption were estimated using URBEMIS 2007. The landside facility was assumed to be 21,210 square feet.

Greenhouse Gases

Emissions from employee commutes, fuel hauling, channel maintenance, facility upkeep, and natural gas use were estimated using the assumptions described above.

Operation of the project is expected to use 15,000 kWh of electricity per day, or 5.475 million kWh per year. Alameda Power, which supplies electricity to the project does not have third party verified GHG emissions factors. However, because approximately 63% of Alameda Power's energy supply mix originates from renewable sources, use of statewide GHG emission factors, which contain approximately 2% renewable energy, would overestimate emissions (Alameda Municipal Power 2010). Consequently, GHG emission factors for Alameda Power were calculated using the utilities' 2009 power supply mix³ and data obtained from the ARB (Alameda Municipal Power 2010; California Air Resources Board 2008). Table A-6 outlines the data and assumptions used to calculate the emission factors.

² It is more likely the tug will operate for half this time as its primary function will be for the movement of the dredge.

³ Energy supply consists of the following. Only those sources noted with italics emit GHG emission. *Biomass* (17%), Geothermal (38%), Small Hydroelectric (1%), Solar (<1%), Wind (7%), *Coal* (6%), Large Hydroelectric (20%), *Natural Gas* (10%), and Nuclear (10%)

Table A-6. Electricity Generation Emission Factors for Alameda Power (grams per kWh)

Power Source	Percent of Power Mix ^a	Emissions Data ^b	Conversion Factors ^c
<i>CO₂ Emission Factor</i>			
Biomass ^d , Hydroelectric, Solar, Wind, Geothermal, Nuclear	84	Zero	-
Coal	6	2.1 million grams CO ₂ = 1 ton of coal	(1) 1 ton of coal = 19 million Btu; (2) 3,412 Btu = 1 kWh
Natural Gas	10	54.1 grams of CO ₂ = 1 cubic foot of natural gas	(2); (3) 1 cubic foot = 1,027 Btu
<i>CH₄ Emission Factor</i>			
Hydroelectric, Solar, Wind, Geothermal, Nuclear	67	Zero	-
Biomass	17	424 grams of CH ₄ = 1 ton of biomass	(2); (4) 1 pound of biomass = 8,600 Btu
Coal	6	22.6 grams CH ₄ = 1 ton of coal	(1); (2)
Natural Gas	10	0.0010 grams of CH ₄ = 1 cubic foot of natural gas	(2); (3)
<i>N₂O Emission Factor</i>			
Hydroelectric, Solar, Wind, Geothermal, Nuclear	67	Zero	-
Biomass	17	56.5 grams of N ₂ O = 1 ton of biomass	(2); (4)
Coal	6	34.0 grams N ₂ O = 1 ton of coal	(1); (2)
Natural Gas	10	0.0001 grams of N ₂ O = 1 cubic foot of natural gas	(2); (3)
^a Alameda Municipal Authority 2010 ^b California Air Resources Board 2008 ^c Energy Information Administration 2002 and 2010 ^d CO ₂ emission from biomass are considered biogenic and are therefore not included in the emission factor calculations.			

GHG emissions associated with the generation of electricity were estimated by multiplying the expected annual electricity usage by the calculated emission factors presented in Table A-7.

Table A-7. Electricity Generation Emission Factors for Alameda Power (grams per kWh)^a

CO ₂	CH ₄	N ₂ O
39.667	0.015	0.002
^a See Table A-5 for emissions calculations details		

GHG emissions associated with water importation were calculated using an energy intensity factor for the amount energy required to move an acre-foot of water (Department of Water Resources 2007). The California Department of Water Resources' (DWR) *Bulletin132-06: Management of the California State Water Project* (Bulletin 132-06) lists the cumulative energy use, including losses, for the South Bay Pumping Plant as 1,165 kWh/acre-foot. This factor was multiplied by the amount of water imported to the facility, which was assumed to be 200,000 gallons per week, or 10.4 million gallons per year. The resulting energy usage was multiplied by GHG emission factors for electricity generation presented in Table A-6.

Fugitive GHG emissions associated with wastewater treatment were calculated according to the ARB's *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories*, Version 1.1 (LGOP Protocol) (2010). The following equations from the LGOP Protocol were used to CH₄ and N₂O emissions⁴. Note that because site-specific information on digester gas production and effluent nitrogen loads was unavailable, default factors were utilized

$$\text{Equation A -2} \quad E = (P * \text{Digester Gas} * FC_{CH_4} * p[CH_4] * [1-DE] * 0.0283 * 365.25 * 10^{-6}) * 21$$

Where:

E	= CH ₄ Emissions, metric tons per year
P	= Population of the maintenance facility, 58 staff members
Digester Gas	= Cubic feet of digester gas produced per person per day, LGOP default of 1
FC _H	= Fraction of CH ₄ in digester gas, 0.65
p[CH ₄]	= Density of methane, 662.00 grams per meter cubed
DE	= CH ₄ Destruction Efficiency, 0.99
0.0283	= Conversion factor from cubic feet to meters cubed
365.25	= Conversion factor from days to year
10 ⁻⁶	= Conversion factor from grams to metric tons
21	= GWP of CH ₄

$$\text{Equation A -3} \quad E = (P * F_{\text{ind-com}}) * (\text{Total N Load} - \text{N uptake} * \text{BOD load}) * \text{EF effluent} * 44/28 * (1 - F_{\text{plant nit/denit}}) * 365.25 * 10^{-3} * 310$$

Where:

E	= N ₂ O Emissions, metric tons per year
P	= Population of the maintenance facility, 58 staff members
F _{ind-com}	= Factor for industrial and commercial co-discharge waste into the sewer system, LGOP default of 1.25
Total N Load	= Total nitrogen (N) load, 0.026 kilograms per person per day
N uptake	= Nitrogen uptake for cell growth in aerobic system, 0.005 kilograms of nitrogen per kilogram of biological oxygen (BOG) demand
BOD5 load	= amount of BOD produced per person per day, 0.090

⁴ Based on guidance from the ARB (2010), CO₂ emissions were not included in the emissions analysis as they are considered biogenic.

EF effluent	= Emission factor, 0.005 kg N ₂ O -N/kg sewage-N produced
44/28	= molecular weight ratio of N ₂ O to nitrogen dioxide, 1.57
Plant nit/denit	= fraction of N removed for the centralized WWTP with nitrification/denitrification, 0.7
365.25	= Conversion factor from days to year
10 ⁻⁶	= Conversion factor from grams to metric tons
310	= GWP of N ₂ O

Berthing at the new facility is expected to slightly reduce vessel deadhead times relative to existing conditions. Table A-7 outlines the projected travel times and vessel information for the central bay fleet under existing conditions and the proposed project (Gougherty pers. comm.). GHG emissions associated with vessel movement were estimated using emission factors summarized in Table A-4. It was assumed all vessels would be powered by a Category 1 Tier 2 engines. Equation A-1 was used to calculate emissions.

Table A-7. Ferry Movement Data

Ferry Name ^a	Weekday Travel (min)	Annual Travel (min) ^b	Annual Travel (hour)
<i>Existing Conditions</i>			
Peralta	80	20,800	347
Encinal/Bay Breeze	80	20,800	347
Gemini/Pieces	60	15,600	260
Taurus	160	41,600	693
Scorpio	160	41,600	693
n/a ^c	75	19,500	325
n/a ^c	75	19,500	325
Total	690	179,400	2,990
<i>Proposed Project</i>			
Peralta	80	20,800	347
Encinal/Bay Breeze	80	20,800	347
Gemini/Pieces	76	19,760	329
Taurus	90	23,400	390
Scorpio	90	23,400	390
n/a ^c	100	26,000	433
n/a ^c	100	26,000	433
Total	616	160,160	2,669
^a All ferries assumed to have a horsepower and load factor of 2,400 and 0.42, respectively (Gougherty pers. comm.; ICF International 2009) ^b Weekday Travel * 5 days per week * 52 weeks per year ^c Future vessel; name unavailable.			

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Scott, Lamar. Principal. KPFF Consulting Engineers, Seattle, WA. January 26, 2011—Email message to Dustin Joseph, ICF International.

Unmitigated Construction URBEMIS Outputs

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 8.urb924

Project Name: WETA Phase 8

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	7.28	62.71	30.45	0.00	0.00	2.98	2.98	0.00	2.74	2.74	9,717.08

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 6/28/2013-6/28/2013 Active Days: 1	7.28	62.71	30.45	0.00	0.00	2.98	2.98	0.00	2.74	2.74	9,717.08
Building 06/28/2013-06/29/2013	7.28	62.71	30.45	0.00	0.00	2.98	2.98	0.00	2.74	2.74	9,717.08
Building Off Road Diesel	7.28	62.71	30.45	0.00	0.00	2.98	2.98	0.00	2.74	2.74	9,717.08
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 6/28/2013 - 6/29/2013 - Site Utility Installation and Bulkhead removal and install and Fixed pile install and Marine pile/float install

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 10 hours per day
- 2 Cranes (399 hp) operating at a 0.43 load factor for 10 hours per day
- 2 Other Equipment (500 hp) operating at a 0.62 load factor for 8 hours per day
- 6 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.08	0.09	0.91	0.00	0.14	0.03	81.53
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		16.00	1000 sq ft	1.00	16.00	80.00
					16.00	80.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 7.urb924

Project Name: WETA Phase 7

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	7.86	64.26	33.64	0.00	0.00	3.34	3.34	0.00	3.07	3.07	9,369.90

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 6/17/2013-6/28/2013 Active Days: 10	7.86	64.26	33.64	0.00	0.00	3.34	3.34	0.00	3.07	3.07	9,369.90
Building 06/15/2013-06/28/2013	7.86	64.26	33.64	0.00	0.00	3.34	3.34	0.00	3.07	3.07	9,369.90
Building Off Road Diesel	7.86	64.26	33.64	0.00	0.00	3.34	3.34	0.00	3.07	3.07	9,369.90
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 6/15/2013 - 6/28/2013 - Building Shell and Site Utility Installation and Bulkhead removal and install and Fixed pile install

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 10 hours per day
- 3 Cranes (399 hp) operating at a 0.43 load factor for 10 hours per day
- 1 Other Equipment (500 hp) operating at a 0.62 load factor for 8 hours per day
- 8 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.12	0.15	1.48	0.00	0.22	0.04	132.48
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		26.00	1000 sq ft	1.00	26.00	130.00
					26.00	130.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 6.urb924

Project Name: WETA Phase 6

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	6.76	52.73	29.65	0.00	0.00	2.96	2.96	0.00	2.72	2.72	7,443.47

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 5/31/2013-6/14/2013 Active Days: 11	6.76	52.73	29.65	0.00	0.00	2.96	2.96	0.00	2.72	2.72	7,443.47
Building 05/31/2013-06/15/2013	6.76	52.73	29.65	0.00	0.00	2.96	2.96	0.00	2.72	2.72	7,443.47
Building Off Road Diesel	6.76	52.73	29.65	0.00	0.00	2.96	2.96	0.00	2.72	2.72	7,443.47
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 5/31/2013 - 6/15/2013 - Building Shell and Site Utility Installation and Bulkhead removal and install

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 10 hours per day
- 3 Cranes (399 hp) operating at a 0.43 load factor for 10 hours per day
- 8 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.12	0.15	1.48	0.00	0.22	0.04	132.48
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Erfac: Version : Erfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		26.00	1000 sq ft	1.00	26.00	130.00
					26.00	130.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 5.urb924

Project Name: WETA Phase 5

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	3.47	26.11	15.50	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,116.21

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 4/29/2013-5/31/2013 Active Days: 25	3.47	26.11	15.50	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,116.21
Building 04/29/2013-05/31/2013	3.47	26.11	15.50	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,116.21
Building Off Road Diesel	3.47	26.11	15.50	0.00	0.00	1.63	1.63	0.00	1.50	1.50	3,116.21
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 4/29/2013 - 5/31/2013 - Building Shell and Site Utility Installation

Off-Road Equipment:

2 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

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

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.09	0.10	1.03	0.00	0.16	0.03	91.72
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		18.00	1000 sq ft	1.00	18.00	90.00
					18.00	90.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 4.urb924

Project Name: WETA Phase 4

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	1.74	13.52	8.11	0.00	0.00	0.72	0.72	0.00	0.66	0.66	2,705.75

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 4/1/2013-4/29/2013 Active Days: 21	1.74	13.52	8.11	0.00	0.00	0.72	0.72	0.00	0.66	0.66	2,705.75
Building 03/30/2013-04/29/2013	1.74	13.52	8.11	0.00	0.00	0.72	0.72	0.00	0.66	0.66	2,705.75
Building Off Road Diesel	1.74	13.52	8.11	0.00	0.00	0.72	0.72	0.00	0.66	0.66	2,705.75
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 3/30/2013 - 4/29/2013 - Building Foundation and Const

Off-Road Equipment:

- 1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 10 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.04	0.05	0.46	0.00	0.07	0.01	40.76
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		8.00	1000 sq ft	1.00	8.00	40.00
					8.00	40.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\Sacramento\LGT-Air&Noise\Air\WETA Central Bay Maintenance and Operations Facility\NEW Construction Analysis\URBEMIS\Phase 3.urb924

Project Name: WETA Phase 3

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	3.47	30.87	15.47	0.01	66.05	1.49	67.53	13.80	1.37	15.17	5,346.50

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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1/27/2011 9:50:13 AM

Time Slice 2/28/2013-3/29/2013 Active Days: 22	<u>3.47</u>	<u>30.87</u>	<u>15.47</u>	<u>0.01</u>	<u>66.05</u>	<u>1.49</u>	<u>67.53</u>	<u>13.80</u>	<u>1.37</u>	<u>15.17</u>	<u>5,346.50</u>
Building 02/28/2013-03/30/2013	2.98	23.70	13.06	0.00	0.00	1.23	1.23	0.00	1.13	1.13	3,957.53
Building Off Road Diesel	2.98	23.70	13.06	0.00	0.00	1.23	1.23	0.00	1.13	1.13	3,957.53
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 02/28/2013-03/30/2013	0.49	7.17	2.40	0.01	66.05	0.26	66.31	13.80	0.24	14.04	1,388.97
Mass Grading Dust	0.00	0.00	0.00	0.00	66.00	0.00	66.00	13.78	0.00	13.78	0.00
Mass Grading Off Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.49	7.17	2.40	0.01	0.05	0.26	0.31	0.02	0.24	0.25	1,388.97
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 2/28/2013 - 3/30/2013 - Hauling Emissions

Total Acres Disturbed: 13.1

Maximum Daily Acreage Disturbed: 3.3

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 345

Off-Road Equipment:

Phase: Building Construction 2/28/2013 - 3/30/2013 - Ground Improvements

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 10 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 10 hours per day

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

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Warehouse	0.04	0.05	0.46	0.00	0.07	0.01	40.76
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		8.00	1000 sq ft	1.00	8.00	40.00
					8.00	40.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\Sacramento\LGT-Air&Noise\Air\WETA Central Bay Maintenance and Operations Facility\NEW Construction Analysis\URBEMIS\Phase 2.urb924

Project Name: WETA Phase 2

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	2.89	27.37	14.75	0.03	66.10	1.49	67.59	13.82	1.37	15.19	4,307.41

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice 2/14/2013-2/28/2013	<u>2.89</u>	<u>27.37</u>	<u>14.75</u>	<u>0.03</u>	<u>66.10</u>	<u>1.49</u>	<u>67.59</u>	<u>13.82</u>	<u>1.37</u>	<u>15.19</u>	<u>4,307.41</u>
Active Days: 11											
Building 02/14/2013-02/28/2013	1.91	13.02	9.95	0.00	0.00	0.98	0.98	0.00	0.90	0.90	1,529.47
Building Off Road Diesel	1.91	13.02	9.95	0.00	0.00	0.98	0.98	0.00	0.90	0.90	1,529.47
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 02/14/2013-02/28/2013	0.98	14.35	4.81	0.03	66.10	0.52	66.61	13.82	0.48	14.29	2,777.95
Mass Grading Dust	0.00	0.00	0.00	0.00	66.00	0.00	66.00	13.78	0.00	13.78	0.00
Mass Grading Off Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading On Road Diesel	0.98	14.35	4.81	0.03	0.10	0.52	0.61	0.03	0.48	0.51	2,777.95
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 2/14/2013 - 2/28/2013 - Hauling Emissions

Total Acres Disturbed: 13.1

Maximum Daily Acreage Disturbed: 3.3

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 690

Off-Road Equipment:

Phase: Building Construction 2/14/2013 - 2/28/2013 - Site Demo and Prep

Off-Road Equipment:

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

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

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Warehouse	0.04	0.05	0.46	0.00	0.07	0.01	40.76
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		8.00	1000 sq ft	1.00	8.00	40.00
					8.00	40.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Phase 14.urb924

Project Name: WETA Phase 14

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2014 TOTALS (lbs/day unmitigated)	0.30	2.66	1.01	0.00	0.00	0.09	0.09	0.00	0.08	0.08	369.73

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/24/2014-2/7/2014 Active Days: 11	0.30	2.66	1.01	0.00	0.00	0.09	0.09	0.00	0.08	0.08	369.73
Building 01/24/2014-02/09/2014	0.30	2.66	1.01	0.00	0.00	0.09	0.09	0.00	0.08	0.08	369.73
Building Off Road Diesel	0.30	2.66	1.01	0.00	0.00	0.09	0.09	0.00	0.08	0.08	369.73
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 1/24/2014 - 2/9/2014 - Marine Fitting Out

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.04	0.05	0.46	0.00	0.07	0.01	40.76
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		8.00	1000 sq ft	1.00	8.00	40.00
					8.00	40.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 13.urb924

Project Name: WETA Phase 13

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	0.32	2.92	1.09	0.00	0.00	0.11	0.11	0.00	0.10	0.10	369.73
2014 TOTALS (lbs/day unmitigated)	0.30	2.66	1.01	0.00	0.00	0.09	0.09	0.00	0.08	0.08	369.73

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 9/27/2013-12/31/2013 Active Days: 68	<u>0.32</u>	<u>2.92</u>	<u>1.09</u>	<u>0.00</u>	<u>0.00</u>	<u>0.11</u>	<u>0.11</u>	<u>0.00</u>	<u>0.10</u>	<u>0.10</u>	<u>369.73</u>
Building 09/27/2013-01/01/2014	0.32	2.92	1.09	0.00	0.00	0.11	0.11	0.00	0.10	0.10	369.73
Building Off Road Diesel	0.32	2.92	1.09	0.00	0.00	0.11	0.11	0.00	0.10	0.10	369.73
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 1/1/2014-1/1/2014 Active Days: 1	<u>0.30</u>	<u>2.66</u>	<u>1.01</u>	<u>0.00</u>	<u>0.00</u>	<u>0.09</u>	<u>0.09</u>	<u>0.00</u>	<u>0.08</u>	<u>0.08</u>	<u>369.73</u>
Building 09/27/2013-01/01/2014	0.30	2.66	1.01	0.00	0.00	0.09	0.09	0.00	0.08	0.08	369.73
Building Off Road Diesel	0.30	2.66	1.01	0.00	0.00	0.09	0.09	0.00	0.08	0.08	369.73
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 9/27/2013 - 1/1/2014 - Marine Fitting Out and Utility and Building Finish Out

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Warehouse	0.09	0.10	1.03	0.00	0.16	0.03	91.72
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		18.00	1000 sq ft	1.00	18.00	90.00
					18.00	90.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 12.urb924

Project Name: WETA Phase 12

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	4.00	34.78	16.12	0.00	0.00	1.63	1.63	0.00	1.50	1.50	4,757.45

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 9/12/2013-9/27/2013 Active Days: 12	4.00	34.78	16.12	0.00	0.00	1.63	1.63	0.00	1.50	1.50	4,757.45
Building 09/12/2013-09/27/2013	4.00	34.78	16.12	0.00	0.00	1.63	1.63	0.00	1.50	1.50	4,757.45
Building Off Road Diesel	4.00	34.78	16.12	0.00	0.00	1.63	1.63	0.00	1.50	1.50	4,757.45
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 9/12/2013 - 9/27/2013 - Fixed pile Const and Marine pile/float install and Building Finish Out and Marine Fitting and Utility

Off-Road Equipment:

- 2 Cranes (399 hp) operating at a 0.43 load factor for 10 hours per day
- 1 Other Equipment (500 hp) operating at a 0.62 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.12	0.15	1.48	0.00	0.22	0.04	132.48
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Erfac: Version : Erfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		26.00	1000 sq ft	1.00	26.00	130.00
					26.00	130.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 11.urb924

Project Name: WETA Phase 11

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	3.20	27.49	13.40	0.00	0.00	1.37	1.37	0.00	1.26	1.26	3,833.13

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 8/27/2013-9/12/2013 Active Days: 13	3.20	27.49	13.40	0.00	0.00	1.37	1.37	0.00	1.26	1.26	3,833.13
Building 08/27/2013-09/12/2013	3.20	27.49	13.40	0.00	0.00	1.37	1.37	0.00	1.26	1.26	3,833.13
Building Off Road Diesel	3.20	27.49	13.40	0.00	0.00	1.37	1.37	0.00	1.26	1.26	3,833.13
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 8/27/2013 - 9/12/2013 - Fixed pile Const and Marine pile/float install and Building Finish Out

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 10 hours per day
- 1 Other Equipment (500 hp) operating at a 0.62 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.09	0.10	1.03	0.00	0.16	0.03	91.72
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Erfac: Version : Erfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		18.00	1000 sq ft	1.00	18.00	90.00
					18.00	90.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 10.urb924

Project Name: WETA Phase 10

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	4.52	36.15	20.09	0.00	0.00	2.09	2.09	0.00	1.92	1.92	4,815.50

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 7/29/2013-8/27/2013 Active Days: 22	4.52	36.15	20.09	0.00	0.00	2.09	2.09	0.00	1.92	1.92	4,815.50
Building 07/28/2013-08/27/2013	4.52	36.15	20.09	0.00	0.00	2.09	2.09	0.00	1.92	1.92	4,815.50
Building Off Road Diesel	4.52	36.15	20.09	0.00	0.00	2.09	2.09	0.00	1.92	1.92	4,815.50
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 7/28/2013 - 8/27/2013 - Site Improvements and Fixed pile Const and Marine pile/float install

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 10 hours per day
- 1 Other Equipment (500 hp) operating at a 0.62 load factor for 8 hours per day
- 6 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.08	0.09	0.91	0.00	0.14	0.03	81.53
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Erfac: Version : Erfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		16.00	1000 sq ft	1.00	16.00	80.00
					16.00	80.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\URBEMIS\Phase 9.urb924

Project Name: WETA Phase 9

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	5.32	43.45	22.81	0.00	0.00	2.36	2.36	0.00	2.17	2.17	5,739.83

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 7/1/2013-7/26/2013 Active Days: 20	5.32	43.45	22.81	0.00	0.00	2.36	2.36	0.00	2.17	2.17	5,739.83
Building 06/30/2013-07/28/2013	5.32	43.45	22.81	0.00	0.00	2.36	2.36	0.00	2.17	2.17	5,739.83
Building Off Road Diesel	5.32	43.45	22.81	0.00	0.00	2.36	2.36	0.00	2.17	2.17	5,739.83
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Building Construction 6/30/2013 - 7/28/2013 - Site Utility Installation and Fixed pile Const and Marine pile/float install

Off-Road Equipment:

- 2 Cranes (399 hp) operating at a 0.43 load factor for 10 hours per day
- 1 Other Equipment (500 hp) operating at a 0.62 load factor for 8 hours per day
- 6 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Warehouse	0.08	0.09	0.91	0.00	0.14	0.03	81.53
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 85 Season: Summer

Erfac: Version : Erfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Warehouse		16.00	1000 sq ft	1.00	16.00	80.00
					16.00	80.00

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	0.7	99.1	0.2
Light Truck < 3750 lbs	12.3	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	58.6	41.4	0.0
School Bus	0.0	0.0	0.0	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Rural Trip Length (miles)	5.0	5.0	5.0	5.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Warehouse				100.0	0.0	0.0

Mitigation AQ-3 Construction Schedule and Mitigated URBEMIS Outputs

Phase	Date	Task	Days
Phase 1	10/1/12-10/31/12	Dredging	30
Phase 2	1/14/2013-1/28/2013	Site Demo and Prep	14
Phase 3	1/28/2013-2/27/2013	Ground Improvements	30
Phase 4	2/27/2013-3/29/2013	Building Foundation and Const	30
Phase 5	3/29/2013-5/28/2013	Building Shell	60
		Site Utility Installation	60
Phase 6	5/29/2013-5/30/2013	Site Utility Installation	1
Phase 7	5/30/2013-6/14/2013	Site Utility Installation	15
		Bulkhead removal and install	15
Phase 8	6/14/2013-6/27/2013	Site Utility Installation	13
Phase 9	6/27/2013-7/11/2013	Bulkhead removal and install	14
		Fixed pile install	14
Phase 10	7/11/2013-7/12/2013	Marine pile/float install	1
		Site Utility Installation	1
		Site Improvements	1
Phase 11	7/12/2013-8/10/2013	Site Improvements	29
		FIXED PIER CONST	29
		Marine pile/float install	29
Phase 12	8/10/2013-9/25/2013	Building Finish Out	46
		FIXED PIER CONST	46
		Marine pile/float install	46
Phase 13	9/25/2013-10/10/2013	Building Finish Out	15
		FIXED PIER CONST	15
		Marine pile/float install	15
		Marine Fitting Out and Utility	15
Phase 14	10/10/2013-1/7/2014	Marine Fitting Out and Utility	89
		Building Finish Out	89
Phase 15	1/7/2014-2/22/2014	Marine Fitting Out and Utility	46

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 13 Mitigated.urb924

Project Name: WETA Phase 13 Mitiagted

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	4.00	34.78	16.12	0.00	0.00	1.63	1.63	0.00	1.50	1.50	4,757.45

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	0.15	1.48	0.00	0.22	0.04	132.48

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 12 Mitigated.urb924

Project Name: WETA Phase 12 Mitiagted

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	3.20	27.49	13.40	0.00	0.00	1.37	1.37	0.00	1.26	1.26	3,833.13

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 11 Mitigated.urb924

Project Name: WETA Phase 11 Mitiagted

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	4.52	36.15	20.09	0.00	0.00	2.09	2.09	0.00	1.92	1.92	4,815.50

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 10 Mitigated.urb924

Project Name: WETA Phase 10 Mitiagted

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	4.52	36.15	20.09	0.00	0.00	2.09	2.09	0.00	1.92	1.92	4,815.50

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 9 Mitigated.urb924

Project Name: WETA Phase 9 Mitiagted

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	4.07	35.23	17.05	0.00	0.00	1.61	1.61	0.00	1.48	1.48	5,883.95

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 8 Mitigated.urb924

Project Name: WETA Phase 8 Mitiagted

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	2.11	15.96	9.41	0.00	0.00	0.99	0.99	0.00	0.91	0.91	1,906.70

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 7 Mitigated.urb924

Project Name: WETA Phase 7 Mitiagted

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	5.09	39.66	22.47	0.00	0.00	2.21	2.21	0.00	2.04	2.04	5,864.23

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.08	0.09	0.91	0.00	0.14	0.03	81.53

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 6 Mitigated.urb924

Project Name: WETA Phase 6 Mitigated

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	2.11	15.96	9.41	0.00	0.00	0.99	0.99	0.00	0.91	0.91	1,906.70

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 14 Mitigated.urb924

Project Name: WETA Phase 14 Mitiagted

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2013 TOTALS (lbs/day unmitigated)	0.32	2.92	1.09	0.00	0.00	0.11	0.11	0.00	0.10	0.10	369.73

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.09	0.10	1.03	0.00	0.16	0.03	91.72

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\20197\Desktop\Mitigated\Phase 15 Mitigated.urb924

Project Name: WETA Phase 15 Mitiagted

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2014 TOTALS (lbs/day unmitigated)	0.30	2.66	1.01	0.00	0.00	0.09	0.09	0.00	0.08	0.08	369.73

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.04	0.05	0.46	0.00	0.07	0.01	40.76