

Draft Environmental Impact Report (Draft EIR)

[State Clearinghouse No. 2012091037]

for

**Los Angeles International Airport (LAX)
West Aircraft Maintenance Area Project**

Volume 3

Appendix B (continued)

City of Los Angeles
Los Angeles World Airports

October 2013

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[State Clearinghouse No. 2012091037]

for

**Los Angeles International Airport (LAX)
West Aircraft Maintenance Area Project**

Volume 3

Appendix B (continued)

City of Los Angeles
Los Angeles World Airports

October 2013

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Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- Criteria Pollutants – CalEEMod Off-Road/On-Site, Worker Commute, Vendor Truck Delivery Emissions (Pounds per Day)
 - Years 3-5 (2016-2018)

LAX West Aircraft Maintenance Area Project - ACP Paving Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Architectural Coating -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller; Tractor/Loader/Backhoe.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Paver" = Flat Bed Truck; "Paving Equipment" = Dump

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	18.00	44.00
tblConstructionPhase	NumDays	18.00	44.00

tbConstructionPhase	PhaseEndDate	4/3/2018	1/31/2018
tbConstructionPhase	PhaseStartDate	2/1/2018	12/1/2017
tbOffRoadEquipment	HorsePower	125.00	174.00
tbOffRoadEquipment	HorsePower	125.00	200.00
tbOffRoadEquipment	HorsePower	130.00	99.00
tbOffRoadEquipment	HorsePower	130.00	350.00
tbOffRoadEquipment	HorsePower	80.00	145.00
tbOffRoadEquipment	HorsePower	97.00	90.00
tbOffRoadEquipment	LoadFactor	0.42	0.31
tbOffRoadEquipment	LoadFactor	0.36	0.31
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	13.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbOffRoadEquipment	UsageHours	8.00	2.00
tbOffRoadEquipment	UsageHours	6.00	8.00
tbOffRoadEquipment	UsageHours	6.00	8.00
tbOffRoadEquipment	UsageHours	6.00	8.00
tbOffRoadEquipment	UsageHours	6.00	8.00
tbProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tbProjectCharacteristics	OperationalYear	2014	2018
tbTripsAndVMT	WorkerTripNumber	13.00	44.00
tbTripsAndVMT	WorkerTripNumber	35.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
2017	2.6393	20.4861	17.1843	0.0293	0.4918	1.1158	1.6076	0.1304	1.0265	1.1570	0.0000	2.860.446 ⁷	2.860.446 ⁷	0.7470	0.0000	2.876.133 ⁵
2018	2.3029	17.2751	16.7172	0.0293	0.4918	0.9140	1.4058	0.1304	0.8409	0.9713	0.0000	2.804.501 ¹	2.804.501 ¹	0.7452	0.0000	2.820.150 ⁶
Total	4.9422	37.7612	33.9014	0.0586	0.9836	2.0298	3.0134	0.2609	1.8674	2.1283	0.0000	5,664.947⁸	5,664.947⁸	1.4922	0.0000	5,696.284¹

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	1.3341	10.4188	19.7411	0.0293	0.4918	0.1000	0.5918	0.1304	0.0997	0.2301	0.0000	2,858.284	2,858.284	0.7463	0.0000	2,873.957
2018	1.2780	10.3995	19.5041	0.0293	0.4918	0.0999	0.5917	0.1304	0.0996	0.2300	0.0000	2,802.372	2,802.372	0.7446	0.0000	2,818.008
Total	2.6121	20.8183	39.2452	0.0585	0.9836	0.1999	1.1835	0.2609	0.1993	0.4602	0.0000	5,660.656	5,660.656	1.4909	0.0000	5,691.965

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	47.1476	44.8686	-15.7627	0.0683	0.0000	60.7242	0.0000	89.3269	78.3782	0.0000	0.0757	0.0757	0.0885	0.0000	0.0758

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Paving	12/11/2017	1/31/2018	5	44	
2	ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Paving	12/11/2017	1/31/2018	5	44	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Pavers	1	8.00	174	0.42
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Paving Equipment	1	8.00	99	0.36
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Rollers	2	8.00	145	0.38
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Pavers	1	2.00	200	0.31
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Paving Equipment	13	8.00	350	0.31
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Rollers	0	6.00	80	0.38
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Cement and Mortar Mixers	0	8.00	9	0.56
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Cement and Mortar Mixers	0	6.00	9	0.56

ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Tractors/Loaders/Backhoes	1	8.00	90	0.37
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	5	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	14	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 ACP Paving Crew pt.1 - Dec 2017-Jan 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Off-Road Paving	1.7590	19.2375	14.3139	0.0217	1.0845	0.0000	1.0845	0.9978	0.0000	0.9978	2,220.549	1	2,220.549	0.6804	1	2,234.837
Total	1.7590	19.2375	14.3139	0.0217	1.0845	0.0000	1.0845	0.9978	0.0000	0.9978	2,220.549	1	2,220.549	0.6804	1	2,234.837

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.8233	0.2075	2.5870	6.2300e-003	0.4918	3.9500e-003	0.4958	0.1304	3.6500e-003	0.1341	503.3307	503.3307	0.0248	0.0248	1	503.8511
Total	0.8233	0.2075	2.5870	6.2300e-003	0.4918	3.9500e-003	0.4958	0.1304	3.6500e-003	0.1341	503.3307	503.3307	0.0248	0.0248	1	503.8511

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.4889	9.8590	16.4440	0.0217		0.0939	0.0939	0.0939	0.0939	0.0939	0.0000	2,218.5119	2,218.5119	0.6798		2,232.7866
Paving	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000			0.0000
Total	0.4889	9.8590	16.4440	0.0217		0.0939	0.0939		0.0939	0.0939	0.0000	2,218.5119	2,218.5119	0.6798		2,232.7866

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8233	0.2075	2.5870	6.2300e-003	0.4918	3.9500e-003	0.4958	0.1304	3.6500e-003	0.1341		503.3307	503.3307	0.0248		503.8511
Total	0.8233	0.2075	2.5870	6.2300e-003	0.4918	3.9500e-003	0.4958	0.1304	3.6500e-003	0.1341		503.3307	503.3307	0.0248		503.8511

3.2 ACP Paving Crew pt.1 - Dec 2017-Jan 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.4815	16.1371	14.0844	0.0217		0.8849	0.8849	0.8141	0.8141	0.8141		2,185.5240	2,185.5240	0.6804		2,199.8121
Paving	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000			0.0000
Total	1.4815	16.1371	14.0844	0.0217		0.8849	0.8849		0.8141	0.8141		2,185.5240	2,185.5240	0.6804		2,199.8121

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7673	0.1882	2.3500	6.2300e-003	0.4918	3.8500e-003	0.4957	0.1304	3.5600e-003	0.1340		484.6024	484.6024	0.0230		485.0853
Total	0.7673	0.1882	2.3500	6.2300e-003	0.4918	3.8500e-003	0.4957	0.1304	3.5600e-003	0.1340		484.6024	484.6024	0.0230		485.0853

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Off-Road Paving	0.4889	9.8590	16.4440	0.0217	0.0939	0.0000	0.0939	0.0939	0.0000	0.0939	0.0000	2,183.518	2,183.518	0.6798		2,197.793
					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000			0.0000
Total	0.4889	9.8590	16.4440	0.0217	0.0939	0.0000	0.0939	0.0939	0.0000	0.0939	0.0000	2,183.518	2,183.518	0.6798	9	2,197.793

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7673	0.1882	2.3500	6.2300e-003	0.4918	3.8500e-003	0.4957	0.1304	3.5600e-003	0.1340		484.6024	484.6024	0.0230		485.0853
Total	0.7673	0.1882	2.3500	6.2300e-003	0.4918	3.8500e-003	0.4957	0.1304	3.5600e-003	0.1340		484.6024	484.6024	0.0230		485.0853

3.3 ACP Paving Crew pt.2 - Dec 2017-Jan 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Off-Road Paving	0.0570	1.0412	0.2834	1.3400e-003	0.0273	0.0000	0.0273	0.0251	0.0000	0.0251		136.5668	136.5668	0.0418		137.4455
					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000			0.0000
Total	0.0570	1.0412	0.2834	1.3400e-003	0.0273	0.0000	0.0273	0.0251	0.0000	0.0251		136.5668	136.5668	0.0418		137.4455

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	0.0219	0.3523	0.7101	1.3400e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	0.0000	134.2514	134.2514	0.0418		135.1291
Paving	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total	0.0219	0.3523	0.7101	1.3400e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	0.0000	134.2514	134.2514	0.0418		135.1291

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

LAX West Aircraft Maintenance Area Project - ACP Paving Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller. Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Architectural Coating -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller; Tractor/Loader/Backhoe.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Paver" = Flat Bed Truck; "Paving Equipment" = Dump

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	18.00	44.00
tblConstructionPhase	NumDays	18.00	44.00

tbConstructionPhase	PhaseEndDate	4/3/2018	1/31/2018
tbConstructionPhase	PhaseStartDate	2/1/2018	12/1/2017
tbOffRoadEquipment	HorsePower	125.00	174.00
tbOffRoadEquipment	HorsePower	125.00	200.00
tbOffRoadEquipment	HorsePower	130.00	99.00
tbOffRoadEquipment	HorsePower	130.00	350.00
tbOffRoadEquipment	HorsePower	80.00	145.00
tbOffRoadEquipment	HorsePower	97.00	90.00
tbOffRoadEquipment	LoadFactor	0.42	0.31
tbOffRoadEquipment	LoadFactor	0.36	0.31
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	13.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbOffRoadEquipment	UsageHours	8.00	2.00
tbOffRoadEquipment	UsageHours	6.00	8.00
tbOffRoadEquipment	UsageHours	6.00	8.00
tbOffRoadEquipment	UsageHours	6.00	8.00
tbOffRoadEquipment	UsageHours	6.00	8.00
tbProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tbProjectCharacteristics	OperationalYear	2014	2018
tbTripsAndVMT	WorkerTripNumber	13.00	44.00
tbTripsAndVMT	WorkerTripNumber	35.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	2.7975	20.5063	16.9724	0.0289	0.4918	1.1158	1.6076	0.1304	1.0265	1.1570	0.0000	2.829.174 ⁷	2.829.174 ⁷	0.7470	0.0000	2.844.861 ⁶
2018	2.4519	17.2934	16.5163	0.0289	0.4918	0.9140	1.4058	0.1304	0.8409	0.9713	0.0000	2.774.330 ⁹	2.774.330 ⁹	0.7452	0.0000	2.789.980 ⁴
Total	5.2493	37.7997	33.4886	0.0578	0.9836	2.0298	3.0134	0.2609	1.8674	2.1283	0.0000	5,603.505⁶	5,603.505⁶	1.4922	0.0000	5,634.841⁹

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	1.4922	10.4390	19.5292	0.0289	0.4918	0.1000	0.5918	0.1304	0.0997	0.2301	0.0000	2.827.012	2.827.012	0.7463	0.0000	2,842.685
2018	1.4270	10.4178	19.3032	0.0289	0.4918	0.0999	0.5917	0.1304	0.0996	0.2300	0.0000	2.772.202	2.772.202	0.7446	0.0000	2,787.838
Total	2.9192	20.8568	38.8324	0.0577	0.9836	0.1999	1.1835	0.2609	0.1993	0.4602	0.0000	5,599.214	5,599.214	1.4909	0.0000	5,630.523

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	44.3896	44.8230	-15.9570	0.0865	90.1515	60.7242	0.0000	89.3269	78.3782	0.0000	0.0766	0.0766	0.0885	0.0000	0.0766

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Paving	12/1/2017	1/31/2018	5	44	
2	ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Paving	12/1/2017	1/31/2018	5	44	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Pavers	1	8.00	174	0.42
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Paving Equipment	1	8.00	99	0.36
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Rollers	2	8.00	145	0.38
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Pavers	1	2.00	200	0.31
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Paving Equipment	13	8.00	350	0.31
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Rollers	0	6.00	80	0.38
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Cement and Mortar Mixers	0	8.00	9	0.56

ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Cement and Mortar Mixers	0	6.00	9	0.56
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Tractors/Loaders/Backhoes	1	8.00	90	0.37
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	5	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	14	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 ACP Paving Crew pt.1 - Dec 2017-Jan 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road Paving	1.7590	19.2375	14.3139	0.0217	1.0845	0.0000	1.0845	0.9978	0.0000	0.9978	2,220.549	2,220.549	2,220.549	0.6804		2,234.837
Total	1.7590	19.2375	14.3139	0.0217	1.0845	0.0000	1.0845	0.9978	0.0000	0.9978	2,220.549	2,220.549	2,220.549	0.6804	1	2,234.837

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.9815	0.2277	2.3751	5.8400e-003	0.4918	3.9500e-003	0.4958	0.1304	3.6500e-003	0.1341	472.0588	472.0588	472.0588	0.0248		472.5791
Total	0.9815	0.2277	2.3751	5.8400e-003	0.4918	3.9500e-003	0.4958	0.1304	3.6500e-003	0.1341	472.0588	472.0588	472.0588	0.0248	1	472.5791

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road Paving	0.4889	9.8590	16.4440	0.0217	0.0939	0.0000	0.0939	0.0939	0.0000	0.0939	0.0000	2,218.511	2,218.511	0.6798		2,232.786
Total	0.4889	9.8590	16.4440	0.0217	0.0939	0.0000	0.0939	0.0939	0.0000	0.0939	0.0000	2,218.511	2,218.511	0.6798		2,232.786

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.9815	0.2277	2.3751	5.8400e-003	0.4918	3.9500e-003	0.4958	0.1304	3.6500e-003	0.1341	0.0000	472.0588	472.0588	0.0248		472.5791
Total	0.9815	0.2277	2.3751	5.8400e-003	0.4918	3.9500e-003	0.4958	0.1304	3.6500e-003	0.1341	0.0000	472.0588	472.0588	0.0248		472.5791

3.2 ACP Paving Crew pt.1 - Dec 2017-Jan 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road Paving	1.4815	16.1371	14.0844	0.0217	0.8849	0.0000	0.8849	0.8141	0.0000	0.8141	0.0000	2,185.524	2,185.524	0.6804		2,199.812
Total	1.4815	16.1371	14.0844	0.0217	0.8849	0.0000	0.8849	0.8141	0.0000	0.8141	0.0000	2,185.524	2,185.524	0.6804		2,199.812

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.9162	0.2065	2.1491	5.8300e-003	0.4918	3.8500e-003	0.4957	0.1304	3.5600e-003	0.1340	0.0000	454.4322	454.4322	0.0230		454.9151
Total	0.9162	0.2065	2.1491	5.8300e-003	0.4918	3.8500e-003	0.4957	0.1304	3.5600e-003	0.1340	0.0000	454.4322	454.4322	0.0230		454.9151

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Off-Road Paving	0.4889	9.8590	16.4440	0.0217	0.0939	0.0939	0.0939	0.0939	0.0939	0.0939	0.0000	2,183.5189	2,183.5189	0.6798		2,197.7939
Total	0.4889	9.8590	16.4440	0.0217	0.0939	0.0939	0.0939	0.0939	0.0939	0.0939	0.0000	2,183.5189	2,183.5189	0.6798		2,197.7939

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.9162	0.2065	2.1491	5.8300e-003	0.4918	3.8500e-003	0.4957	0.1304	3.5600e-003	0.1340		454.4322	454.4322	0.0230		454.9151
Total	0.9162	0.2065	2.1491	5.8300e-003	0.4918	3.8500e-003	0.4957	0.1304	3.5600e-003	0.1340		454.4322	454.4322	0.0230		454.9151

3.3 ACP Paving Crew pt.2 - Dec 2017-Jan 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Off-Road Paving	0.0570	1.0412	0.2834	1.3400e-003	0.0273	0.0273	0.0273	0.0251	0.0251	0.0251		136.5668	136.5668	0.0418		137.4455
Total	0.0570	1.0412	0.2834	1.3400e-003	0.0273	0.0273	0.0273	0.0251	0.0251	0.0251		136.5668	136.5668	0.0418		137.4455

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Off-Road	0.0219	0.3523	0.7101	1.3400e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	0.0000	134.2514	134.2514	0.0418		135.1291
Paving	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total	0.0219	0.3523	0.7101	1.3400e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	2.1800e-003	0.0000	134.2514	134.2514	0.0418		135.1291

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

LAX West Aircraft Maintenance Area Project - Admin Support Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Off-Highway Truck"; "Tractors/Loaders/Backhoes" = "Vacuum Sweeper"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	390.00
tblConstructionPhase	PhaseEndDate	3/30/2018	3/31/2018
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	97.00	170.00
tblOffRoadEquipment	LoadFactor	0.40	0.38

tblOffRoadEquipment	LoadFactor	0.37	0.46
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	24.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission) Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
2016	2.0358	17.0508	9.8515	0.0170	6.3029	0.8408	7.1436	3.3849	0.7735	4.1585	0.0000	1,701.979	1,701.979	0.4291	0.0000	1,710.989
2017	1.9108	15.9022	9.5459	0.0170	6.3029	0.7800	7.0829	3.3849	0.7176	4.1025	0.0000	1,667.777	1,667.777	0.4276	0.0000	1,676.756
2018	1.7504	14.2844	9.1292	0.0170	6.3029	0.6944	6.9973	3.3849	0.6389	4.0238	0.0000	1,635.067	1,635.067	0.4264	0.0000	1,644.022
Total	5.6970	47.2374	28.5265	0.0511	18.9086	2.3152	21.2237	10.1548	2.1300	12.2848	0.0000	5,004.824	5,004.824	1.2831	0.0000	5,031.768

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
2016	0.7709	4.9685	10.3081	0.0170	2.6294	0.0268	2.6562	1.3657	0.0264	1.3921	0.0000	1,700.719	1,700.719	0.4287	0.0000	1,709.722
2017	0.7337	4.9408	10.1473	0.0170	2.6294	0.0264	2.6558	1.3657	0.0260	1.3917	0.0000	1,666.539	1,666.539	0.4272	0.0000	1,675.509
2018	0.7009	4.9173	10.0092	0.0170	2.6294	0.0262	2.6556	1.3657	0.0258	1.3915	0.0000	1,633.848	1,633.848	0.4261	0.0000	1,642.795
Total	2.2055	14.8266	30.4646	0.0511	7.8881	0.0793	7.9675	4.0971	0.0782	4.1753	0.0000	5,001.106	5,001.106	1.2819	0.0000	5,028.027

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	61.2859	68.6125	-6.7940	0.0783	58.2827	96.5735	62.4596	59.6538	96.3286	66.0127	0.0000	0.0743	0.0743	0.0888	0.0000	0.0744

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Administrative Support Crew	Site Preparation	10/1/2016	3/31/2018	5	390	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Administrative Support Crew	Rubber Tired Dozers	1	8.00	200	0.38
Administrative Support Crew	Tractors/Loaders/Backhoes	1	8.00	170	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Administrative Support Crew	2	24.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Administrative Support Crew - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.5227	16.7527	8.0922	0.0132	0.8357	0.8357	0.8357	0.7688	0.7688	0.7688		1,372.903	1,372.903	0.4141		1,381.599
Total	1.5227	16.7527	8.0922	0.0132	6.0221	0.8357	6.8578	3.3102	0.7688	4.0791		1,372.903	1,372.903	0.4141		1,381.599

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0299	0.1727	0.1992	4.3000e-004	0.0125	2.8400e-003	0.0153	3.5600e-003	2.6200e-003	6.1800e-003	43.6058	43.6058	43.6058	3.1000e-004		43.6123
Worker	0.4832	0.1254	1.5601	3.4000e-003	0.2683	2.2400e-003	0.2705	0.0711	2.0600e-003	0.0732	285.4700	285.4700	285.4700	0.0147		285.7776
Total	0.5131	0.2981	1.7592	3.8300e-003	0.2808	5.0800e-003	0.2859	0.0747	4.6800e-003	0.0794	329.0758	329.0758	329.0758	0.0150		329.3899

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	0.2578	4.6704	8.5489	0.0132	0.0217	0.0217	0.0217	0.0217	0.0217	0.0217	0.0000	1.371.643	1.371.643	0.4137		1.380.332
Total	0.2578	4.6704	8.5489	0.0132	2.3486	0.0217	2.3703	1.2910	0.0217	1.3127	0.0000	1,371.643	1,371.643	0.4137		1,380.332

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0299	0.1727	0.1992	4.3000e-004	0.0125	2.8400e-003	0.0153	3.5600e-003	2.6200e-003	6.1800e-003	43.6058	43.6058	43.6058	3.1000e-004		43.6123
Worker	0.4832	0.1254	1.5601	3.4000e-003	0.2683	2.2400e-003	0.2705	0.0711	2.0600e-003	0.0732	285.4700	285.4700	285.4700	0.0147		285.7776
Total	0.5131	0.2981	1.7592	3.8300e-003	0.2808	5.0800e-003	0.2859	0.0747	4.6800e-003	0.0794	329.0758	329.0758	329.0758	0.0150		329.3899

3.2 Administrative Support Crew - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.4349	15.6319	7.9475	0.0132		0.7753	0.7753		0.7133	0.7133		1,350.334	1,350.334	0.4137		1,359.022
Total	1.4349	15.6319	7.9475	0.0132	6.0221	0.7753	6.7974	3.3102	0.7133	4.0235		1,350.334	1,350.334	0.4137		1,359.022

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0268	0.1572	0.1873	4.3000e-004	0.0125	2.5400e-003	0.0150	3.5600e-003	2.3300e-003	5.8900e-003		42.8995	42.8995	3.0000e-004		42.9058
Worker	0.4491	0.1132	1.4111	3.4000e-003	0.2683	2.1600e-003	0.2704	0.0711	1.9900e-003	0.0731		274.5440	274.5440	0.0135		274.8279
Total	0.4759	0.2703	1.5984	3.8300e-003	0.2808	4.7000e-003	0.2855	0.0747	4.3200e-003	0.0790		317.4435	317.4435	0.0138		317.7337

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	0.2578	4.6704	8.5489	0.0132		0.0217	0.0217		0.0217	0.0217		1,349.095	1,349.095	0.4134		1,357.776
Total	0.2578	4.6704	8.5489	0.0132	2.3486	0.0217	2.3703	1.2910	0.0217	1.3127		1,349.095	1,349.095	0.4134		1,357.776

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

Vendor	0.0268	0.1572	0.1873	4.3000e-004	0.0125	2.5400e-003	0.0150	3.5600e-003	2.3300e-003	5.8900e-003	42.8995	42.8995	3.0000e-004	42.9058
Worker	0.4491	0.1132	1.4111	3.4000e-003	0.2683	2.1600e-003	0.2704	0.0711	1.9900e-003	0.0731	274.5440	274.5440	0.0135	274.8279
Total	0.4759	0.2703	1.5984	3.8300e-003	0.2808	4.7000e-003	0.2855	0.0747	4.3200e-003	0.0790	317.4435	317.4435	0.0138	317.7337

3.2 Administrative Support Crew - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.3072	14.0375	7.6689	0.0132	0.6899	0.6899	0.6899	0.6347	0.6347	0.6347		1,328.5588	1,328.5588	0.4136		1,337.2443
Total	1.3072	14.0375	7.6689	0.0132	6.0221	0.6899	6.7120	3.3102	0.6347	3.9449		1,328.5588	1,328.5588	0.4136		1,337.2443

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0246	0.1443	0.1785	4.3000e-004	0.0125	2.3900e-003	0.0149	3.5600e-003	2.2000e-003	5.7600e-003		42.1796	42.1796	3.0000e-004		42.1859
Worker	0.4185	0.1027	1.2818	3.4000e-003	0.2683	2.1000e-003	0.2704	0.0711	1.9400e-003	0.0731		264.3286	264.3286	0.0125		264.5920
Total	0.4431	0.2469	1.4603	3.8300e-003	0.2808	4.4900e-003	0.2853	0.0747	4.1400e-003	0.0789		306.5082	306.5082	0.0128		306.7779

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	0.2578	4.6704	8.5489	0.0132	0.0217	0.0217	0.0217	0.0217	0.0217	0.0217		1,327.3399	1,327.3399	0.4132		1,336.0175
Total	0.2578	4.6704	8.5489	0.0132	2.3486	0.0217	2.3703	1.2910	0.0217	1.3127	0.0000	1,327.3399	1,327.3399	0.4132		1,336.0175

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0246	0.1443	0.1785	4.3000e-004	0.0125	2.3900e-003	0.0149	3.5600e-003	2.2000e-003	5.7600e-003		42.1796	42.1796	3.0000e-004		42.1859
Worker	0.4185	0.1027	1.2818	3.4000e-003	0.2683	2.1000e-003	0.2704	0.0711	1.9400e-003	0.0731		264.3286	264.3286	0.0125		264.5920
Total	0.4431	0.2469	1.4603	3.8300e-003	0.2808	4.4900e-003	0.2853	0.0747	4.1400e-003	0.0789		306.5082	306.5082	0.0128		306.7779

LAX West Aircraft Maintenance Area Project - Admin Support Crew 2016-2018 South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Off-Highway Truck"; "Tractors/Loaders/Backhoes" = "Vacuum Sweeper"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	390.00
tblConstructionPhase	PhaseEndDate	3/30/2018	3/31/2018
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	97.00	170.00
tblOffRoadEquipment	LoadFactor	0.40	0.38

tblOffRoadEquipment	LoadFactor	0.37	0.46
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	24.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission) Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
2016	2.1307	17.0674	9.7687	0.0168	6.3029	0.8408	7.1437	3.3849	0.7735	4.1585	0.0000	1,683.915	1,683.915	0.4291	0.0000	1,692.926
2017	1.9996	15.9171	9.4700	0.0168	6.3029	0.7800	7.0829	3.3849	0.7176	4.1026	0.0000	1,650.359	1,650.359	0.4276	0.0000	1,659.338
2018	1.8339	14.2978	9.0590	0.0168	6.3029	0.6944	6.9973	3.3849	0.6389	4.0238	0.0000	1,618.255	1,618.255	0.4265	0.0000	1,627.210
Total	5.9641	47.2823	28.2977	0.0504	18.9086	2.3153	21.2238	10.1548	2.1300	12.2849	0.0000	4,952.530	4,952.530	1.2831	0.0000	4,979.475

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
2016	0.8657	4.9851	10.2254	0.0168	2.6294	0.0268	2.6562	1.3657	0.0264	1.3921	0.0000	1,682.655	1,682.655	0.4287	0.0000	1,691.658
2017	0.8225	4.9557	10.0714	0.0168	2.6294	0.0264	2.6558	1.3657	0.0260	1.3917	0.0000	1,649.120	1,649.120	0.4272	0.0000	1,658.091
2018	0.7845	4.9308	9.9390	0.0168	2.6294	0.0262	2.6556	1.3657	0.0259	1.3915	0.0000	1,617.036	1,617.036	0.4261	0.0000	1,625.983
Total	2.4727	14.8716	30.2358	0.0504	7.8881	0.0794	7.9675	4.0971	0.0783	4.1754	0.0000	4,948.812	4,948.812	1.2820	0.0000	4,975.733

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	58.5409	68.5473	-6.8490	0.0793	58.2827	96.5706	62.4594	59.6538	96.3254	66.0122	0.0000	0.0751	0.0751	0.0888	0.0000	0.0751

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Administrative Support Crew	Site Preparation	10/1/2016	3/31/2018	5	390	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Administrative Support Crew	Rubber Tired Dozers	1	8.00	200	0.38
Administrative Support Crew	Tractors/Loaders/Backhoes	1	8.00	170	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Administrative Support Crew	2	24.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Administrative Support Crew - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.5227	16.7527	8.0922	0.0132	0.8357	0.8357	0.8357	0.7688	0.7688	0.7688	1,372.9035	1,372.9035	0.4141	0.4141		1,381.5999
Total	1.5227	16.7527	8.0922	0.0132	6.0221	0.8357	6.8578	3.3102	0.7688	4.0791	1,372.9035	1,372.9035	0.4141	0.4141	5	1,381.5999

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0328	0.1771	0.2391	4.3000e-004	0.0125	2.8700e-003	0.0154	3.5600e-003	2.6400e-003	6.2000e-003	43.2401	43.2401	43.2401	3.2000e-004		43.2468
Worker	0.5752	0.1376	1.4374	3.1900e-003	0.2683	2.2400e-003	0.2705	0.0711	2.0600e-003	0.0732	267.7717	267.7717	267.7717	0.0147		268.0792
Total	0.6079	0.3147	1.6765	3.6200e-003	0.2808	5.1100e-003	0.2859	0.0747	4.7000e-003	0.0794	311.0117	311.0117	311.0117	0.0150		311.3261

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	0.2578	4.6704	8.5489	0.0132	0.0217	0.0217	0.0217	0.0217	0.0217	0.0217	0.0000	1.371.643	1.371.643	0.4137		1.380.332
Total	0.2578	4.6704	8.5489	0.0132	2.3486	0.0217	2.3703	1.2910	0.0217	1.3127	0.0000	1,371.643	1,371.643	0.4137		1,380.332

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0328	0.1771	0.2391	4.3000e-004	0.0125	2.8700e-003	0.0154	3.5600e-003	2.6400e-003	6.2000e-003	43.2401	43.2401	43.2401	3.2000e-004		43.2468
Worker	0.5752	0.1376	1.4374	3.1900e-003	0.2683	2.2400e-003	0.2705	0.0711	2.0600e-003	0.0732	267.7717	267.7717	267.7717	0.0147		268.0792
Total	0.6079	0.3147	1.6765	3.6200e-003	0.2808	5.1100e-003	0.2859	0.0747	4.7000e-003	0.0794	311.0117	311.0117	311.0117	0.0150		311.3261

3.2 Administrative Support Crew - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.4349	15.6319	7.9475	0.0132		0.7753	0.7753		0.7133	0.7133		1,350.334	1,350.334	0.4137		1,359.022
Total	1.4349	15.6319	7.9475	0.0132	6.0221	0.7753	6.7974	3.3102	0.7133	4.0235		1,350.334	1,350.334	0.4137		1,359.022

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0293	0.1610	0.2270	4.3000e-004	0.0125	2.5600e-003	0.0151	3.5600e-003	2.3600e-003	5.9200e-003		42.5388	42.5388	3.1000e-004		42.5454
Worker	0.5354	0.1242	1.2955	3.1600e-003	0.2683	2.1600e-003	0.2704	0.0711	1.9900e-003	0.0731		257.4866	257.4866	0.0135		257.7704
Total	0.5647	0.2852	1.5225	3.6100e-003	0.2808	4.7200e-003	0.2855	0.0747	4.3500e-003	0.0791		300.0254	300.0254	0.0138		300.3156

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	0.2578	4.6704	8.5489	0.0132		0.0217	0.0217		0.0217	0.0217		1,349.095	1,349.095	0.4134		1,357.776
Total	0.2578	4.6704	8.5489	0.0132	2.3486	0.0217	2.3703	1.2910	0.0217	1.3127		1,349.095	1,349.095	0.4134		1,357.776

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

Vendor	0.0293	0.1610	0.2270	4.3000e-004	0.0125	2.5600e-003	0.0151	3.5600e-003	5.9200e-003	42.5388	42.5388	3.1000e-004	42.5454
Worker	0.5354	0.1242	1.2955	3.1800e-003	0.2683	2.1600e-003	0.2704	0.0711	1.9900e-003	257.4866	257.4866	0.0135	257.7704
Total	0.5647	0.2852	1.5225	3.6100e-003	0.2808	4.7200e-003	0.2855	0.0747	4.3500e-003	300.0254	300.0254	0.0138	300.3158

3.2 Administrative Support Crew - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.3072	14.0375	7.6689	0.0132		0.6899	0.6899		0.6347	0.6347			1,328.5588	0.4136		1,337.2443
Total	1.3072	14.0375	7.6689	0.0132	6.0221	0.6899	6.7120	3.3102	0.6347	3.9449			1,328.5588	0.4136		1,337.2443

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0269	0.1477	0.2178	4.3000e-004	0.0125	2.4100e-003	0.0149	3.5600e-003	2.2200e-003	5.7800e-003			41.8243	3.1000e-004		41.8507
Worker	0.4998	0.1126	1.1722	3.1800e-003	0.2683	2.1000e-003	0.2704	0.0711	1.9400e-003	0.0731			247.8721	0.0125		248.1355
Total	0.5267	0.2604	1.3901	3.6100e-003	0.2808	4.5100e-003	0.2853	0.0747	4.1600e-003	0.0789			289.6964	0.0129		289.9662

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	0.2578	4.6704	8.5489	0.0132		0.0217	0.0217		0.0217	0.0217			1,327.3399	0.4132		1,336.0175

Total	0.2578	4.6704	8.5489	0.0132	2.3486	0.0217	2.3703	1.2910	0.0217	1.3127	0.0000	1,327.339 9	1,327.339 9	0.4132	1,336.017 5
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Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0269	0.1477	0.2178	4.3000e-004	0.0125	2.4100e-003	0.0149	3.5600e-003	2.2200e-003	5.7800e-003		41.8243	41.8243	3.1000e-004		41.8307
Worker	0.4998	0.1126	1.1722	3.1800e-003	0.2683	2.1000e-003	0.2704	0.0711	1.9400e-003	0.0731		247.8721	247.8721	0.0125		248.1355
Total	0.5267	0.2604	1.3901	3.6100e-003	0.2808	4.5100e-003	0.2853	0.0747	4.1600e-003	0.0789		289.6964	289.6964	0.0129		289.9662

LAX West Aircraft Maintenance Area Project - Batch Plant Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozer" = CAT 988 Loader
 Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix
 Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.
 Off-road Equipment - See Construction Assumptions
 Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.
 Grading - Refer to Construction Model Inputs worksheet provided in this appendix
 Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	65.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	255.00	475.00
tblOffRoadEquipment	LoadFactor	0.40	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	5.00	12.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	4.3934	46.5703	35.9354	0.0315	12.1783	2.1651	14.3434	6.6560	1.9919	8.6479	0.0000	3,238.948	3,238.948	0.9413	0.0000	3,258.714
Total	4.3934	46.5703	35.9354	0.0315	12.1783	2.1651	14.3434	6.6560	1.9919	8.6479	0.0000	3,238.948	3,238.948	0.9413	0.0000	3,258.714

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.7237	7.8366	16.4484	0.0314	4.8314	0.0493	4.8807	2.6176	0.0492	2.6668	0.0000	3,236.107	3,236.107	0.9404	0.0000	3,255.856
Total	0.7237	7.8366	16.4484	0.0314	4.8314	0.0493	4.8807	2.6176	0.0492	2.6668	0.0000	3,236.107	3,236.107	0.9404	0.0000	3,255.856

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	83.5273	83.1725	54.2277	0.0954	60.3281	97.7216	65.9726	60.6740	97.5280	69.1627	0.0000	0.0877	0.0877	0.0914	0.0000	0.0877

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Batch Plant Crew - Oct-Dec 2016	Site Preparation	10/1/2016	12/31/2016	5	65	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Batch Plant Crew - Oct-Dec 2016	Rubber Tired Dozers	2	8.00	475	0.36
Batch Plant Crew - Oct-Dec 2016	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Batch Plant Crew - Oct-Dec 2016	2	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Batch Plant Crew - Oct-Dec 2016 - 2016
Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					12.0442	0.0000	12.0442	6.6205	0.0000	6.6205			0.0000			0.0000
Off-Road	4.1518	46.5076	35.1553	0.0298	2.1640	2.1640	2.1640	1.9909	1.9909	1.9909		3.096.213	3.096.213	0.9339		3,115.8258
Total	4.1518	46.5076	35.1553	0.0298	12.0442	2.1640	14.2082	6.6205	1.9909	8.6113		3.096.213	3.096.213	0.9339		3,115.8258

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

Worker	0.2416	0.0627	0.7800	1.7000e-003	0.1341	1.1200e-003	0.1353	0.0356	1.0300e-003	0.0366	142.7350	142.7350	7.3200e-003	142.8888
Total	0.2416	0.0627	0.7800	1.7000e-003	0.1341	1.1200e-003	0.1353	0.0356	1.0300e-003	0.0366	142.7350	142.7350	7.3200e-003	142.8888

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					4.6972	0.0000	4.6972	2.5820	0.0000	2.5820			0.0000			0.0000
Off-Road	0.4821	7.7739	15.6684	0.0297	0.0482	0.0482	0.0482	0.0482	0.0482	0.0482	0.0000	3.093.372	3.093.372	0.9331		3,112.967
Total	0.4821	7.7739	15.6684	0.0297	4.6972	0.0482	4.7454	2.5820	0.0482	2.6302	0.0000	3,093.372	3,093.372	0.9331	7	3,112.967

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2416	0.0627	0.7800	1.7000e-003	0.1341	1.1200e-003	0.1353	0.0356	1.0300e-003	0.0366			142.7350	142.7350	7.3200e-003	142.8888
Total	0.2416	0.0627	0.7800	1.7000e-003	0.1341	1.1200e-003	0.1353	0.0356	1.0300e-003	0.0366	142.7350	142.7350	142.7350	7.3200e-003	7.3200e-003	142.8888

LAX West Aircraft Maintenance Area Project - Batch Plant Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozer" = CAT 988 Loader
 Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	65.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	255.00	475.00
tblOffRoadEquipment	LoadFactor	0.40	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104

tb ProjectCharacteristics	OperationalYear	2014	2018
tb TripsAndVMT	WorkerTripNumber	5.00	12.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2016	4.4394	46.5764	35.8740	0.0314	12.1783	2.1651	14.3434	6.6560	1.9919	8.6479	0.0000	3,230.099	3,230.099	0.9413	0.0000	3,249.865
Total	4.4394	46.5764	35.8740	0.0314	12.1783	2.1651	14.3434	6.6560	1.9919	8.6479	0.0000	3,230.099	3,230.099	0.9413	0.0000	3,249.865

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2016	0.7697	7.8427	16.3871	0.0313	4.8314	0.0493	4.8807	2.6176	0.0492	2.6668	0.0000	3,227.258	3,227.258	0.9404	0.0000	3,247.006
Total	0.7697	7.8427	16.3871	0.0313	4.8314	0.0493	4.8807	2.6176	0.0492	2.6668	0.0000	3,227.258	3,227.258	0.9404	0.0000	3,247.006

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Batch Plant Crew - Oct-Dec 2016	Site Preparation	10/1/2016	12/31/2016	5	65	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Batch Plant Crew - Oct-Dec 2016	Rubber Tired Dozers	2	8.00	475	0.36
Batch Plant Crew - Oct-Dec 2016	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Batch Plant Crew - Oct-Dec 2016	2	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Batch Plant Crew - Oct-Dec 2016 - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					12.0442	0.0000	12.0442	6.6205	0.0000	6.6205			0.0000			0.0000
Off-Road	4.1518	46.5076	35.1553	0.0298		2.1640	2.1640	1.9909	1.9909	1.9909	3.096.213	3	3.096.213	0.9339		3,115.825
Total	4.1518	46.5076	35.1553	0.0298	12.0442	2.1640	14.2082	6.6205	1.9909	8.6113		3	3,096.213	0.9339		3,115.825

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000

Worker	0.2876	0.0688	0.7187	1.5900e-003	0.1341	1.1200e-003	0.1353	0.0356	1.0300e-003	0.0366	133.8858	133.8858	7.3200e-003	134.0396
Total	0.2876	0.0688	0.7187	1.5900e-003	0.1341	1.1200e-003	0.1353	0.0356	1.0300e-003	0.0366	133.8858	133.8858	7.3200e-003	134.0396

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					4.6972	0.0000	4.6972	2.5820	0.0000	2.5820			0.0000			0.0000
Off-Road	0.4821	7.7739	15.6684	0.0297		0.0482	0.0482		0.0482	0.0482	0.0000	3.093.372	3.093.372	0.9331		3,112.967
Total	0.4821	7.7739	15.6684	0.0297	4.6972	0.0482	4.7454	2.5820	0.0482	2.6302	0.0000	3,093.372	3,093.372	0.9331	7	3,112.967

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2876	0.0688	0.7187	1.5900e-003	0.1341	1.1200e-003	0.1353	0.0356	1.0300e-003	0.0366	133.8858	133.8858	7.3200e-003	134.0396		134.0396
Total	0.2876	0.0688	0.7187	1.5900e-003	0.1341	1.1200e-003	0.1353	0.0356	1.0300e-003	0.0366	133.8858	133.8858	7.3200e-003	134.0396		134.0396

LAX West Aircraft Maintenance Area Project - Building Systems Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	129.00
tblOffRoadEquipment	HorsePower	226.00	125.00
tblOffRoadEquipment	HorsePower	89.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104

tbProjectCharacteristics	OperationalYear	2014	2018
tbTripsAndVMT	VendorTripNumber	27.00	0.00
tbTripsAndVMT	WorkerTripNumber	69.00	28.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	2.3965	9.6321	9.7070	0.0117	0.3130	0.7133	1.0263	0.0830	0.6563	0.7393	0.0000	1,117.666	1,117.666	0.2601	0.0000	1,123.127
2018	2.0556	8.7443	9.0057	0.0117	0.3130	0.6087	0.9217	0.0830	0.5600	0.6430	0.0000	1,093.065	1,093.065	0.2589	0.0000	1,098.502
Total	4.4521	18.3764	18.7127	0.0235	0.6259	1.3220	1.9480	0.1660	1.2163	1.3823	0.0000	2,210.731	2,210.731	0.5190	0.0000	2,221.630

Mitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	1.9945	6.0659	9.6399	0.0117	0.3130	0.4468	0.7598	0.0830	0.4115	0.4945	0.0000	1,116.934	1,116.934	0.2599	0.0000	1,122.391
2018	1.7051	5.7271	9.0222	0.0117	0.3130	0.3739	0.6869	0.0830	0.3444	0.4274	0.0000	1,092.345	1,092.345	0.2587	0.0000	1,097.778
Total	3.6996	11.7930	18.6621	0.0235	0.6259	0.8207	1.4466	0.1660	0.7559	0.9219	0.0000	2,209.280	2,209.280	0.5185	0.0000	2,220.169

Percent Reduction	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	16.9009	35.8253	0.2702	0.0426	0.0000	37.9247	25.7379	0.0000	37.8520	33.3063	0.0000	0.0657	0.0657	0.0886	0.0000	0.0658

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Systems Crew - Sep 2017 - Feb 2018	Building Construction	9/1/2017	2/28/2018	5	129	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Systems Crew - Sep 2017-Feb 2018	Cranes	1	8.00	125	0.31
Building Systems Crew - Sep 2017-Feb 2018	Forklifts	3	8.00	50	0.31
Building Systems Crew - Sep 2017-Feb 2018	Generator Sets	0	8.00	84	0.74
Building Systems Crew - Sep 2017-Feb 2018	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Systems Crew - Sep 2017-Feb 2018	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Systems Crew - Sep 2017-Feb 2018	4	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Building Systems Crew - Sep 2017-Feb 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	CH4	N2O	CO2e
Off-Road	1.8725	9.5001	8.0607	7.7700e-003	0.7108	0.7108	0.7108	0.6539	0.6539	0.6539	797.3649	0.2443	0.2443	802.4954
Total	1.8725	9.5001	8.0607	7.7700e-003	0.7108	0.7108	0.7108	0.6539	0.6539	0.6539	797.3649	0.2443	0.2443	802.4954

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.5239	0.1320	1.6463	3.9600e-003	0.3130	2.5200e-003	0.3155	0.0830	2.3200e-003	0.0853	320.3014	320.3014	320.3014	0.0158		320.6325
Total	0.5239	0.1320	1.6463	3.9600e-003	0.3130	2.5200e-003	0.3155	0.0830	2.3200e-003	0.0853	320.3014	320.3014	320.3014	0.0158		320.6325

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.4706	5.9339	7.9936	7.7600e-003		0.4443	0.4443		0.4092	0.4092	0.0000	796.6333	796.6333	0.2441		801.7592
Total	1.4706	5.9339	7.9936	7.7600e-003		0.4443	0.4443		0.4092	0.4092	0.0000	796.6333	796.6333	0.2441		801.7592

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.5239	0.1320	1.6463	3.9600e-003	0.3130	2.5200e-003	0.3155	0.0830	2.3200e-003	0.0853	320.3014	320.3014	320.3014	0.0158		320.6325
Total	0.5239	0.1320	1.6463	3.9600e-003	0.3130	2.5200e-003	0.3155	0.0830	2.3200e-003	0.0853	320.3014	320.3014	320.3014	0.0158		320.6325

3.2 Building Systems Crew - Sep 2017-Feb 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.5673	8.6245	7.5103	7.7700e-003	0.6063	0.6063	0.6063	0.5578	0.5578	0.5578	784.6820	784.6820	784.6820	0.2443		789.8119
Total	1.5673	8.6245	7.5103	7.7700e-003	0.6063	0.6063	0.6063	0.5578	0.5578	0.5578	784.6820	784.6820	784.6820	0.2443		789.8119

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.4883	0.1198	1.4954	3.9600e-003	0.3130	2.4500e-003	0.3154	0.0830	2.2700e-003	0.0853	308.3834	308.3834	308.3834	0.0146		308.6907
Total	0.4883	0.1198	1.4954	3.9600e-003	0.3130	2.4500e-003	0.3154	0.0830	2.2700e-003	0.0853	308.3834	308.3834	308.3834	0.0146		308.6907

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.2168	5.6073	7.5268	7.7700e-003	0.3714	0.3714	0.3714	0.3422	0.3422	0.3422	0.0000	783.9621	783.9621	0.2441		789.0873
Total	1.2168	5.6073	7.5268	7.7700e-003	0.3714	0.3714	0.3714	0.3422	0.3422	0.3422	0.0000	783.9621	783.9621	0.2441		789.0873

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.4883	0.1198	1.4954	3.9600e-003	0.3130	2.4500e-003	0.3154	0.0830	2.2700e-003	0.0853	308.3834	308.3834	308.3834	0.0146		308.6907
Total	0.4883	0.1198	1.4954	3.9600e-003	0.3130	2.4500e-003	0.3154	0.0830	2.2700e-003	0.0853	308.3834	308.3834	308.3834	0.0146		308.6907

LAX West Aircraft Maintenance Area Project - Building Systems Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018	N2O Intensity (lb/MW/hr)	0.006
Utility Company	Los Angeles Department of Water & Power	CH4 Intensity (lb/MW/hr)	0.029		
CO2 Intensity (lb/MW/hr)	1104				

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	129.00
tblOffRoadEquipment	HorsePower	226.00	125.00
tblOffRoadEquipment	HorsePower	89.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104

tbProjectCharacteristics	Operational Year	2014	2018
tbTripsAndVMT	Vendor Trip Number	27.00	0.00
tbTripsAndVMT	Worker Trip Number	69.00	28.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	2.4971	9.6450	9.5722	0.0115	0.3130	0.7133	1.0263	0.0830	0.6563	0.7393	0.0000	1,097.765	1,097.765	0.2601	0.0000	1,103.227
2018	2.1504	8.7559	8.8779	0.0115	0.3130	0.6087	0.9217	0.0830	0.5600	0.6430	0.0000	1,073.866	1,073.866	0.2589	0.0000	1,079.303
Total	4.6475	18.4008	18.4500	0.0230	0.6259	1.3220	1.9480	0.1660	1.2163	1.3823	0.0000	2,171.632	2,171.632	0.5190	0.0000	2,182.530

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	2.0952	6.0788	9.5051	0.0115	0.3130	0.4468	0.7598	0.0830	0.4115	0.4945	0.0000	1,097.034	1,097.034	0.2599	0.0000	1,102.491
2018	1.7999	5.7387	8.8944	0.0115	0.3130	0.3739	0.6869	0.0830	0.3444	0.4274	0.0000	1,073.146	1,073.146	0.2587	0.0000	1,078.578
Total	3.8951	11.8175	18.3995	0.0230	0.6259	0.8207	1.4466	0.1660	0.7559	0.9219	0.0000	2,170.180	2,170.180	0.5185	0.0000	2,181.070

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	16.1901	35.7775	0.2741	0.0436	0.0000	37.9247	25.7379	0.0000	37.8520	33.3063	0.0000	0.0668	0.0668	0.0886	0.0000	0.0669

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Systems Crew - Sep 2017-Feb 2018	Building Construction	9/1/2017	2/28/2018	5	129	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Systems Crew - Sep 2017-Feb 2018	Cranes	1	8.00	125	0.31
Building Systems Crew - Sep 2017-Feb 2018	Forklifts	3	8.00	50	0.31
Building Systems Crew - Sep 2017-Feb 2018	Generator Sets	0	8.00	84	0.74
Building Systems Crew - Sep 2017-Feb 2018	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Systems Crew - Sep 2017-Feb 2018	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Systems Crew - Sep 2017-Feb 2018	4	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Building Systems Crew - Sep 2017-Feb 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.8725	9.5001	8.0607	7.7700e-003	0.7108	0.7108	0.7108	0.6539	0.6539	0.6539	797.3649	797.3649	797.3649	0.2443	0.2443	802.4954
Total	1.8725	9.5001	8.0607	7.7700e-003	0.7108	0.7108	0.7108	0.6539	0.6539	0.6539	797.3649	797.3649	797.3649	0.2443	0.2443	802.4954

Unmitigated Construction Off-Site

Category	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.6246	1.5114	3.7100e-003	0.3130	2.5200e-003	0.3155	0.0830	2.3200e-003	0.0853	300.4010	300.4010	300.4010	0.0158		300.7322
Total	0.6246	1.5114	3.7100e-003	0.3130	2.5200e-003	0.3155	0.0830	2.3200e-003	0.0853	300.4010	300.4010	300.4010	0.0158		300.7322

Mitigated Construction On-Site

Category	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day															
Off-Road	1.4706	7.9936	7.7600e-003		0.4443	0.4443		0.4092	0.4092	0.0000	796.6333	796.6333	0.2441		801.7592
Total	1.4706	7.9936	7.7600e-003		0.4443	0.4443		0.4092	0.4092	0.0000	796.6333	796.6333	0.2441		801.7592

Mitigated Construction Off-Site

Category	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.6246	1.5114	3.7100e-003	0.3130	2.5200e-003	0.3155	0.0830	2.3200e-003	0.0853	300.4010	300.4010	300.4010	0.0158		300.7322
Total	0.6246	1.5114	3.7100e-003	0.3130	2.5200e-003	0.3155	0.0830	2.3200e-003	0.0853	300.4010	300.4010	300.4010	0.0158		300.7322

3.2 Building Systems Crew - Sep 2017-Feb 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.5673	8.6245	7.5103	7.7700e-003	0.6063	0.6063	0.6063	0.5578	0.5578	0.5578	784.6820	784.6820	784.6820	0.2443		789.8119
Total	1.5673	8.6245	7.5103	7.7700e-003	0.6063	0.6063	0.6063	0.5578	0.5578	0.5578	784.6820	784.6820	784.6820	0.2443		789.8119

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5831	0.1314	1.3676	3.7100e-003	0.3130	2.4500e-003	0.3154	0.0830	2.2700e-003	0.0853		289.1841	289.1841	0.0146		289.4914
Total	0.5831	0.1314	1.3676	3.7100e-003	0.3130	2.4500e-003	0.3154	0.0830	2.2700e-003	0.0853		289.1841	289.1841	0.0146		289.4914

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.2168	5.6073	7.5268	7.7700e-003	0.3714	0.3714	0.3714	0.3422	0.3422	0.3422	0.0000	783.9621	783.9621	0.2441		789.0873
Total	1.2168	5.6073	7.5268	7.7700e-003	0.3714	0.3714	0.3714	0.3422	0.3422	0.3422	0.0000	783.9621	783.9621	0.2441		789.0873

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5831	0.1314	1.3676	3.7100e-003	0.3130	2.4500e-003	0.3154	0.0830	2.2700e-003	0.0853		289.1841	289.1841	0.0146		289.4914
Total	0.5831	0.1314	1.3676	3.7100e-003	0.3130	2.4500e-003	0.3154	0.0830	2.2700e-003	0.0853		289.1841	289.1841	0.0146		289.4914

LAX West Aircraft Maintenance Area Project – Electrical Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	44.00
tblOffRoadEquipment	HorsePower	89.00	60.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	LoadFactor	0.20	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Electrical Crew – Dec 2017-Jan 2018	Building Construction	12/1/2017	1/31/2018	5	44	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Electrical Crew – Dec 2017-Jan 2018	Cranes	0	7.00	226	0.29
Electrical Crew – Dec 2017-Jan 2018	Forklifts	1	8.00	60	0.50
Electrical Crew – Dec 2017-Jan 2018	Generator Sets	0	8.00	84	0.74
Electrical Crew – Dec 2017-Jan 2018	Welders	0	8.00	46	0.45
Electrical Crew – Dec 2017-Jan 2018	Tractors/Loaders/Backhoes	1	8.00	83	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Electrical Crew – Dec 2017-Jan 2018	2	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Electrical Crew – Dec 2017-Jan 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.6266	5.6828	4.1536	5.2300e-003	0.4498	0.4498	0.4498	0.4139	0.4139	0.4139	535.6805	535.6805	535.6805	0.1641		539.1273
Total	0.6266	5.6828	4.1536	5.2300e-003	0.4498	0.4498	0.4498	0.4139	0.4139	0.4139	535.6805	535.6805	535.6805	0.1641		539.1273

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1497	0.0377	0.4704	1.1300e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244	91.5147	91.5147	4.5000e-003	91.6093		91.6093
Total	0.1497	0.0377	0.4704	1.1300e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244	91.5147	91.5147	4.5000e-003	91.6093		91.6093

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.1230	2.7472	3.9581	5.2300e-003	0.0895	0.0895	0.0895	0.0599	0.0599	0.0599	0.0000	535.1891	535.1891	0.1640		538.6327
Total	0.1230	2.7472	3.9581	5.2300e-003	0.0895	0.0895	0.0895	0.0599	0.0599	0.0599	0.0000	535.1891	535.1891	0.1640		538.6327

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1497	0.0377	0.4704	1.1300e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244	91.5147	91.5147	4.5000e-003	91.6093		91.6093
Total	0.1497	0.0377	0.4704	1.1300e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244	91.5147	91.5147	4.5000e-003	91.6093		91.6093

3.2 Electrical Crew – Dec 2017-Jan 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.5279	4.9038	4.0409	5.2300e-003	0.3712	0.3712	0.3712	0.3415	0.3415	0.3415	526.8256	526.8256	526.8256	0.1640		530.2698
Total	0.5279	4.9038	4.0409	5.2300e-003	0.3712	0.3712	0.3712	0.3415	0.3415	0.3415	526.8256	526.8256	526.8256	0.1640		530.2698

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.1395	0.0342	0.4273	1.1300e-003	0.0894	7.0000e-004	0.0901	0.0237	6.5000e-004	0.0244	88.1095	88.1095	88.1095	4.1800e-003		88.1973
Total	0.1395	0.0342	0.4273	1.1300e-003	0.0894	7.0000e-004	0.0901	0.0237	6.5000e-004	0.0244	88.1095	88.1095	88.1095	4.1800e-003		88.1973

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.1230	2.7472	3.9581	5.2300e-003	0.0895	0.0895	0.0895	0.0599	0.0599	0.0599	0.0000	526.3423	526.3423	0.1639		529.7833
Total	0.1230	2.7472	3.9581	5.2300e-003	0.0895	0.0895	0.0895	0.0599	0.0599	0.0599	0.0000	526.3423	526.3423	0.1639		529.7833

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.1395	0.0342	0.4273	1.1300e-003	0.0894	7.0000e-004	0.0901	0.0237	6.5000e-004	0.0244	88.1095	88.1095	88.1095	4.1800e-003		88.1973
Total	0.1395	0.0342	0.4273	1.1300e-003	0.0894	7.0000e-004	0.0901	0.0237	6.5000e-004	0.0244	88.1095	88.1095	88.1095	4.1800e-003		88.1973

LAX West Aircraft Maintenance Area Project – Electrical Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	44.00
tblOffRoadEquipment	HorsePower	89.00	60.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	LoadFactor	0.20	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Electrical Crew – Dec 2017-Jan 2018	Building Construction	12/1/2017	1/31/2018	5	44	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Electrical Crew – Dec 2017-Jan 2018	Cranes	0	7.00	226	0.29
Electrical Crew – Dec 2017-Jan 2018	Forklifts	1	8.00	60	0.50
Electrical Crew – Dec 2017-Jan 2018	Generator Sets	0	8.00	84	0.74
Electrical Crew – Dec 2017-Jan 2018	Welders	0	8.00	46	0.45
Electrical Crew – Dec 2017-Jan 2018	Tractors/Loaders/Backhoes	1	8.00	83	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Electrical Crew – Dec 2017-Jan 2018	2	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Electrical Crew – Dec 2017-Jan 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.6266	5.6828	4.1536	5.2300e-003	5.2300e-003	0.4498	0.4498	0.4139	0.4139	0.4139	535.6805	535.6805	535.6805	0.1641		539.1273
Total	0.6266	5.6828	4.1536	5.2300e-003	5.2300e-003	0.4498	0.4498	0.4139	0.4139	0.4139	535.6805	535.6805	535.6805	0.1641		539.1273

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.1785	0.0414	0.4318	1.0600e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244	85.8289	85.8289	4.5000e-003			85.9235
Total	0.1785	0.0414	0.4318	1.0600e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244	85.8289	85.8289	4.5000e-003			85.9235

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.1230	2.7472	3.9581	5.2300e-003		0.0895	0.0895		0.0599	0.0599	0.0000	535.1891	535.1891	0.1640		538.6327
Total	0.1230	2.7472	3.9581	5.2300e-003		0.0895	0.0895		0.0599	0.0599	0.0000	535.1891	535.1891	0.1640		538.6327

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.1785	0.0414	0.4318	1.0600e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244	85.8289	85.8289	4.5000e-003			85.9235
Total	0.1785	0.0414	0.4318	1.0600e-003	0.0894	7.2000e-004	0.0901	0.0237	6.6000e-004	0.0244	85.8289	85.8289	4.5000e-003			85.9235

3.2 Electrical Crew – Dec 2017-Jan 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.5279	4.9038	4.0409	5.2300e-003	0.3712	0.3712	0.3712	0.3415	0.3415	0.3415	526.8256	526.8256	526.8256	0.1640		530.2698
Total	0.5279	4.9038	4.0409	5.2300e-003	0.3712	0.3712	0.3712	0.3415	0.3415	0.3415	526.8256	526.8256	526.8256	0.1640		530.2698

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.1666	0.0375	0.3908	1.0600e-003	0.0894	7.0000e-004	0.0901	0.0237	6.5000e-004	0.0244	82.6240	82.6240	82.6240	4.1800e-003		82.7118
Total	0.1666	0.0375	0.3908	1.0600e-003	0.0894	7.0000e-004	0.0901	0.0237	6.5000e-004	0.0244	82.6240	82.6240	82.6240	4.1800e-003		82.7118

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.1230	2.7472	3.9581	5.2300e-003	0.0895	0.0895	0.0895	0.0599	0.0599	0.0599	0.0000	526.3423	526.3423	0.1639		529.7833
Total	0.1230	2.7472	3.9581	5.2300e-003	0.0895	0.0895	0.0895	0.0599	0.0599	0.0599	0.0000	526.3423	526.3423	0.1639		529.7833

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.1666	0.0375	0.3908	1.0600e-003	0.0894	7.0000e-004	0.0901	0.0237	6.5000e-004	0.0244	82.6240	82.6240	82.6240	4.1800e-003		82.7118
Total	0.1666	0.0375	0.3908	1.0600e-003	0.0894	7.0000e-004	0.0901	0.0237	6.5000e-004	0.0244	82.6240	82.6240	82.6240	4.1800e-003		82.7118

LAX West Aircraft Maintenance Area Project - Fence Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	21.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	PhaseEndDate	11/30/2016	3/30/2018
tblConstructionPhase	PhaseStartDate	11/1/2016	3/1/2018
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	255.00	200.00

tb\OffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tb\OffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tb\OffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tb\OffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tb\OffRoadEquipment	UsageHours	8.00	4.00
tb\ProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tb\ProjectCharacteristics	OperationalYear	2014	2018
tb\TripsAndVMT	WorkerTripNumber	3.00	4.00
tb\TripsAndVMT	WorkerTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
2016	1.1186	11.3016	4.1111	7.4700e-003	6.0668	0.5581	6.6249	3.3221	0.5135	3.8355	0.0000	766.4073	766.4073	0.2193	0.0000	771.0119
2018	0.5419	5.1021	1.9855	4.0200e-003	3.0558	0.2475	3.3033	1.6670	0.2277	1.8947	0.0000	392.3031	392.3031	0.1105	0.0000	394.6237
Total	1.6604	16.4037	6.0966	0.0115	9.1226	0.8056	9.9282	4.9891	0.7412	5.7302	0.0000	1,158.710	1,158.710	0.3298	0.0000	1,165.635
	lb/day															

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
2016	0.1933	1.8394	3.9251	7.4700e-003	2.3933	0.0117	2.4050	1.3029	0.0116	1.3145	0.0000	765.7478	765.7478	0.2191	0.0000	770.3482
2018	0.1261	0.9263	2.0462	4.0200e-003	1.2190	5.9900e-003	1.2250	0.6574	5.9600e-003	0.6633	0.0000	391.9836	391.9836	0.1104	0.0000	394.3021
Total	0.3195	2.7657	5.9713	0.0115	3.6123	0.0176	3.6300	1.9602	0.0176	1.9778	0.0000	1,157.731	1,157.731	0.3295	0.0000	1,164.650
	lb/day															

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	80.7609	83.1398	2.0549	0.0000	60.4021	97.8104	63.4375	60.7100	97.6281	65.4852	0.0000	0.0845	0.0845	0.0879	0.0000	0.0845

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fence Crew - 10/2016	Site Preparation	10/1/2016	10/31/2016	5	21	
2	Fence Crew - 03/2018	Site Preparation	3/1/2018	3/30/2018	5	22	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fence Crew - 10/2016	Rubber Tired Dozers	1	8.00	200	0.40
Fence Crew - 10/2016	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Fence Crew - 03/2018	Rubber Tired Dozers	1	4.00	200	0.40
Fence Crew - 03/2018	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fence Crew - 10/2016	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fence Crew - 03/2018	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Fence Crew - 10/2016 - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.0380	11.2807	3.8511	6.9100e-003	0.5577	0.5577	0.5577	0.5131	0.5131	0.5131	718.8290	718.8290	718.8290	0.2168		723.3823
Total	1.0380	11.2807	3.8511	6.9100e-003	6.0221	0.5577	6.5798	3.3102	0.5131	3.8233		718.8290	718.8290	0.2168		723.3823

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0805	0.0209	0.2600	5.7000e-004	0.0447	3.7000e-004	0.0451	0.0119	3.4000e-004	0.0122	47.5783	47.5783	2.4400e-003	0.0000	0.0000	47.6296
Total	0.0805	0.0209	0.2600	5.7000e-004	0.0447	3.7000e-004	0.0451	0.0119	3.4000e-004	0.0122	47.5783	47.5783	2.4400e-003	0.0000	0.0000	47.6296

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	0.1128	1.8185	3.6651	6.9000e-003	0.0113	0.0113	0.0113	0.0113	0.0113	0.0113	0.0000	718.1695	718.1695	0.2166		722.7186
Total	0.1128	1.8185	3.6651	6.9000e-003	2.3486	0.0113	2.3599	1.2910	0.0113	1.3023	0.0000	718.1695	718.1695	0.2166	0.0000	722.7186

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0805	0.0209	0.2600	5.7000e-004	0.0447	3.7000e-004	0.0451	0.0119	3.4000e-004	0.0122	47.5783	47.5783	2.4400e-003	0.0000	0.0000	47.6296
Total	0.0805	0.0209	0.2600	5.7000e-004	0.0447	3.7000e-004	0.0451	0.0119	3.4000e-004	0.0122	47.5783	47.5783	2.4400e-003	0.0000	0.0000	47.6296

3.3 Fence Crew - 03/2018 - 2018

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust	0.4721	5.0850	1.7719	3.4500e-003	3.0110	0.0000	3.0110	1.6551	0.0000	1.6551			0.0000			0.0000
Off-Road						0.2472	0.2472	0.2274	0.2274	0.2274			348.2483	0.1084		350.5250
Total	0.4721	5.0850	1.7719	3.4500e-003	3.0110	0.2472	3.2582	1.6551	0.2274	1.8825			348.2483	0.1084		350.5250

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0698	0.0171	0.2136	5.7000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122			44.0548	2.0900e-003		44.0987
Total	0.0698	0.0171	0.2136	5.7000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122			44.0548	2.0900e-003		44.0987

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust	0.0564	0.9092	1.8326	3.4500e-003	1.1743	0.0000	1.1743	0.6455	0.0000	0.6455			0.0000			0.0000
Off-Road						5.6400e-003	5.6400e-003	5.6400e-003	5.6400e-003	5.6400e-003			347.9288	0.1083		350.2034
Total	0.0564	0.9092	1.8326	3.4500e-003	1.1743	5.6400e-003	1.1800	0.6455	5.6400e-003	0.6511			347.9288	0.1083		350.2034

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0698	0.0171	0.2136	5.7000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122			44.0548	2.0900e-003		44.0987
Total	0.0698	0.0171	0.2136	5.7000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122			44.0548	2.0900e-003		44.0987

LAX West Aircraft Maintenance Area Project - Fence Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	21.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	PhaseEndDate	11/30/2016	3/30/2018
tblConstructionPhase	PhaseStartDate	11/1/2016	3/1/2018
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	255.00	200.00

Category	OffRoadEquipmentUnitAmount	OffRoadEquipmentUnitAmount	OffRoadEquipmentUnitAmount	OffRoadEquipmentUnitAmount	OffRoadEquipmentUnitAmount	UsageHours	CO2IntensityFactor	OperationalYear	WorkerTripNumber	WorkerTripNumber
tbOffRoadEquipment	3.00	3.00	4.00	4.00	8.00	1227.89	2014	3.00	3.00	4.00
tbOffRoadEquipment	3.00	3.00	4.00	4.00	8.00	1227.89	2014	3.00	3.00	4.00
tbOffRoadEquipment	4.00	4.00	4.00	4.00	8.00	1227.89	2014	3.00	3.00	4.00
tbOffRoadEquipment	4.00	4.00	4.00	4.00	8.00	1227.89	2014	3.00	3.00	4.00
tbOffRoadEquipment	3.00	3.00	4.00	4.00	8.00	1227.89	2014	3.00	3.00	4.00
tbOffRoadEquipment	3.00	3.00	4.00	4.00	8.00	1227.89	2014	3.00	3.00	4.00
tbTripsAndVMT	3.00	3.00	4.00	4.00	8.00	1227.89	2014	3.00	3.00	4.00
tbTripsAndVMT	3.00	3.00	4.00	4.00	8.00	1227.89	2014	3.00	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission) Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	1.1339	11.3037	4.0907	7.4400e-003	6.0668	0.5581	6.6249	3.3221	0.5135	3.8355	0.0000	763.4576	763.4576	0.2193	0.0000	768.0621
2018	0.5554	5.1038	1.9672	3.9900e-003	3.0558	0.2475	3.3033	1.6670	0.2277	1.8947	0.0000	389.5603	389.5603	0.1105	0.0000	391.8809
Total	1.6893	16.4074	6.0579	0.0114	9.1226	0.8056	9.9282	4.9891	0.7412	5.7302	0.0000	1,153.0179	1,153.0179	0.3298	0.0000	1,158.9431

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.2086	1.8414	3.9047	7.4300e-003	2.3933	0.0117	2.4050	1.3029	0.0116	1.3145	0.0000	762.7981	762.7981	0.2191	0.0000	767.3985
2018	0.1397	0.9280	2.0279	3.9800e-003	1.2190	5.9900e-003	1.2250	0.6574	5.9600e-003	0.6633	0.0000	389.2408	389.2408	0.1104	0.0000	391.5594
Total	0.3483	2.7694	5.9326	0.0114	3.6123	0.0176	3.6300	1.9602	0.0176	1.9778	0.0000	1,152.0389	1,152.0389	0.3295	0.0000	1,158.9578

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	79.3813	83.1211	2.0680	0.1750	60.4021	97.8104	63.4375	60.7100	97.6281	65.4852	0.0000	0.0849	0.0849	0.0879	0.0000	0.0849

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fence Crew - 10/2016	Site Preparation	10/1/2016	10/31/2016	5	21	
2	Fence Crew - 03/2018	Site Preparation	3/1/2018	3/30/2018	5	21	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fence Crew - 10/2016	Rubber Tired Dozers	1	8.00	200	0.40
Fence Crew - 10/2016	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Fence Crew - 03/2018	Rubber Tired Dozers	1	4.00	200	0.40
Fence Crew - 03/2018	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fence Crew - 10/2016	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fence Crew - 03/2018	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Fence Crew - 10/2016 - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	CH4	N2O	CO2e
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102				0.0000
Off-Road	1.0380	11.2807	3.8511	6.9100e-003	0.5577	0.5577	0.5577	0.5131	0.5131	0.5131	718.8290	0.2168		723.3823
Total	1.0380	11.2807	3.8511	6.9100e-003	6.0221	0.5577	6.5798	3.3102	0.5131	3.8233	718.8290	0.2168		723.3823

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0959	0.0229	0.2396	5.3000e-004	0.0447	3.7000e-004	0.0451	0.0119	3.4000e-004	0.0122	44.6286	44.6286	2.4400e-003	44.6799		44.6799
Total	0.0959	0.0229	0.2396	5.3000e-004	0.0447	3.7000e-004	0.0451	0.0119	3.4000e-004	0.0122	44.6286	44.6286	2.4400e-003	44.6799		44.6799

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					2.3486	0.0000	2.3486	1.2910	0.0000	1.2910			0.0000			0.0000
Off-Road	0.1128	1.8185	3.6651	6.9000e-003	0.0113	0.0113	0.0113	0.0113	0.0113	0.0113	0.0000	718.1695	718.1695	0.2166		722.7186
Total	0.1128	1.8185	3.6651	6.9000e-003	2.3486	0.0113	2.3599	1.2910	0.0113	1.3023	0.0000	718.1695	718.1695	0.2166		722.7186

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0959	0.0229	0.2396	5.3000e-004	0.0447	3.7000e-004	0.0451	0.0119	3.4000e-004	0.0122	44.6286	44.6286	2.4400e-003	44.6799		44.6799
Total	0.0959	0.0229	0.2396	5.3000e-004	0.0447	3.7000e-004	0.0451	0.0119	3.4000e-004	0.0122	44.6286	44.6286	2.4400e-003	44.6799		44.6799

3.3 Fence Crew - 03/2018 - 2018

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					3.0110	0.0000	3.0110	1.6551	0.0000	1.6551			0.0000			0.0000
Off-Road	0.4721	5.0850	1.7719	3.4500e-003		0.2472	0.2472		0.2274	0.2274		348.2483	348.2483	0.1084		350.5250
Total	0.4721	5.0850	1.7719	3.4500e-003	3.0110	0.2472	3.2582	1.6551	0.2274	1.8825		348.2483	348.2483	0.1084		350.5250

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0833	0.0188	0.1954	5.3000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122		41.3120	41.3120	2.0900e-003		41.3559
Total	0.0833	0.0188	0.1954	5.3000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122		41.3120	41.3120	2.0900e-003		41.3559

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					1.1743	0.0000	1.1743	0.6455	0.0000	0.6455			0.0000			0.0000
Off-Road	0.0564	0.9092	1.8326	3.4500e-003		5.6400e-003	5.6400e-003		5.6400e-003	5.6400e-003		347.9288	347.9288	0.1083		350.2034
Total	0.0564	0.9092	1.8326	3.4500e-003	1.1743	5.6400e-003	1.1800	0.6455	5.6400e-003	0.6511	0.0000	347.9288	347.9288	0.1083		350.2034

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.0833	0.0188	0.1954	5.3000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122		41.3120	41.3120	2.0900e-003		41.3559
Total	0.0833	0.0188	0.1954	5.3000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122		41.3120	41.3120	2.0900e-003		41.3559

LAX West Aircraft Maintenance Area Project - Foundation Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Grading -

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

	Tier	No Change	Tier 4 Interim
tblConsEquipMitigation			
tblConstructionPhase	NumDays	230.00	65.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblOffRoadEquipment	HorsePower	226.00	170.00
tblOffRoadEquipment	HorsePower	89.00	84.00
tblOffRoadEquipment	HorsePower	84.00	350.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	HorsePower	46.00	125.00
tblOffRoadEquipment	LoadFactor	0.29	0.48
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.74	0.38
tblOffRoadEquipment	LoadFactor	0.45	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	69.00	28.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	4.8962	47.4499	23.8904	0.0674	0.3130	2.0461	2.3591	0.0830	1.9568	2.0398	0.0000	7,340.292	7,340.292	0.6316	0.0000	7,353.555
Total	4.8962	47.4499	23.8904	0.0674	0.3130	2.0461	2.3591	0.0830	1.9568	2.0398	0.0000	7,340.292	7,340.292	0.6316	0.0000	7,353.555

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	1.6667	19.4116	38.0681	0.0673	0.3130	0.1556	0.4685	0.0830	0.1553	0.2383	0.0000	7,333.863	7,333.863	0.6310	0.0000	7,347.115
Total	1.6667	19.4116	38.0681	0.0673	0.3130	0.1556	0.4685	0.0830	0.1553	0.2383	0.0000	7,333.863	7,333.863	0.6310	0.0000	7,347.115

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
65.9589	59.0904	-59.3452	0.0891	0.0000	92.3978	80.1399	0.0000	92.0613	88.3152	0.0000	0.0876	0.0876	0.0887	0.0000	0.0876
Percent Reduction															

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Foundation Crew - Oct-Dec 2016	Building Construction	10/1/2016	12/31/2016	5	65	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Foundation Crew - Oct-Dec 2016	Cranes	1	8.00	170	0.48
Foundation Crew - Oct-Dec 2016	Forklifts	1	8.00	84	0.37
Foundation Crew - Oct-Dec 2016	Generator Sets	4	8.00	350	0.38
Foundation Crew - Oct-Dec 2016	Tractors/Loaders/Backhoes	1	8.00	83	0.37
Foundation Crew - Oct-Dec 2016	Welders	1	8.00	125	0.31

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Foundation Crew - Oct-Dec 2016	8	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Foundation Crew - Oct-Dec 2016 - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	4.3325	47.3036	22.0703	0.0634	2.0435	2.0435	2.0435	1.9543	1.9543	1.9543	7,007.244	0	7,007.244	0.6145	0	7,020.148
Total	4.3325	47.3036	22.0703	0.0634	2.0435	2.0435	2.0435	1.9543	1.9543	1.9543	7,007.244	0	7,007.244	0.6145	0	7,020.148

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5637	0.1462	1.8201	3.9700e-003	0.3130	2.6200e-003	0.3156	0.0830	2.4000e-003	0.0854	333.0483	333.0483	333.0483	0.0171	0	333.4072
Total	0.5637	0.1462	1.8201	3.9700e-003	0.3130	2.6200e-003	0.3156	0.0830	2.4000e-003	0.0854	333.0483	333.0483	333.0483	0.0171	0	333.4072

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.1030	19.2663	36.2481	0.0633	0.1529	0.1529	0.1529	0.1529	0.1529	0.1529	0.0000	7,000.815	7,000.815	0.6139	0	7,013.708
Total	1.1030	19.2663	36.2481	0.0633	0.1529	0.1529	0.1529	0.1529	0.1529	0.1529	0.0000	7,000.815	7,000.815	0.6139	0	7,013.708

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.5637	0.1462	1.8201	3.9700e-003	0.3130	2.6200e-003	0.3156	0.0830	2.4000e-003	0.0854	333.0483	333.0483	333.0483	0.0171	0	333.4072
Total	0.5637	0.1462	1.8201	3.9700e-003	0.3130	2.6200e-003	0.3156	0.0830	2.4000e-003	0.0854	333.0483	333.0483	333.0483	0.0171	0	333.4072

LAX West Aircraft Maintenance Area Project - Foundation Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Grading -

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Table Name	Column Name	Default Value	New Value
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tbiConstEquipMitigation	Tier	No Change	Tier 4 Interim
tbiConstEquipMitigation	Tier	No Change	Tier 4 Interim
tbiConstEquipMitigation	Tier	No Change	Tier 4 Interim
tbiConstEquipMitigation	Tier	No Change	Tier 4 Interim

		Tier	No Change	Tier 4 Interim
tblConsEquipMitigation				
tblConstructionPhase	NumDays		230.00	65.00
tblConstructionPhase	PhaseEndDate		12/30/2016	12/31/2016
tblOffRoadEquipment	HorsePower		226.00	170.00
tblOffRoadEquipment	HorsePower		89.00	84.00
tblOffRoadEquipment	HorsePower		84.00	350.00
tblOffRoadEquipment	HorsePower		97.00	83.00
tblOffRoadEquipment	HorsePower		46.00	125.00
tblOffRoadEquipment	LoadFactor		0.29	0.48
tblOffRoadEquipment	LoadFactor		0.20	0.37
tblOffRoadEquipment	LoadFactor		0.74	0.38
tblOffRoadEquipment	LoadFactor		0.45	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	1.00
tblOffRoadEquipment	UsageHours		7.00	8.00
tblOffRoadEquipment	UsageHours		7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor		1227.89	1104
tblProjectCharacteristics	OperationalYear		2014	2018
tblTripsAndVMT	VendorTripNumber		27.00	0.00
tblTripsAndVMT	WorkerTripNumber		69.00	28.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	5.0035	47.4642	23.7473	0.0671	0.3130	2.0461	2.3591	0.0830	1.9568	2.0398	0.0000	7,319.644	7,319.644	0.6316	0.0000	7,332.907
Total	5.0035	47.4642	23.7473	0.0671	0.3130	2.0461	2.3591	0.0830	1.9568	2.0398	0.0000	7,319.644	7,319.644	0.6316	0.0000	7,332.907

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	1.7740	19.4259	37.9250	0.0670	0.3130	0.1556	0.4685	0.0830	0.1553	0.2383	0.0000	7,313.215	7,313.215	0.6310	0.0000	7,326.467
Total	1.7740	19.4259	37.9250	0.0670	0.3130	0.1556	0.4685	0.0830	0.1553	0.2383	0.0000	7,313.215	7,313.215	0.6310	0.0000	7,326.467

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
64.5445	59.0726	-59.7027	0.0894	0.0000	92.3978	80.1399	0.0000	92.0613	88.3152	0.0000	0.0878	0.0878	0.0887	0.0000	0.0878
Percent Reduction															

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Foundation Crew - Oct-Dec 2016	Building Construction	10/1/2016	12/31/2016	5	65	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Foundation Crew - Oct-Dec 2016	Cranes	1	8.00	170	0.48
Foundation Crew - Oct-Dec 2016	Forklifts	1	8.00	84	0.37
Foundation Crew - Oct-Dec 2016	Generator Sets	4	8.00	350	0.38
Foundation Crew - Oct-Dec 2016	Tractors/Loaders/Backhoes	1	8.00	83	0.37
Foundation Crew - Oct-Dec 2016	Welders	1	8.00	129	0.31

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Foundation Crew - Oct-Dec 2016	8	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Foundation Crew - Oct-Dec 2016 - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	4.3325	47.3036	22.0703	0.0634	2.0435	2.0435	2.0435	1.9543	1.9543	1.9543	7,007.244	0	7,007.244	0.6145	0	7,020.148
Total	4.3325	47.3036	22.0703	0.0634	2.0435	2.0435	2.0435	1.9543	1.9543	1.9543	7,007.244	0	7,007.244	0.6145	0	7,020.148

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6710	0.1605	1.6770	3.7200e-003	0.3130	2.6200e-003	0.3156	0.0830	2.4000e-003	0.0854	312.4003	312.4003	312.4003	0.0171	0	312.7591
Total	0.6710	0.1605	1.6770	3.7200e-003	0.3130	2.6200e-003	0.3156	0.0830	2.4000e-003	0.0854	312.4003	312.4003	312.4003	0.0171	0	312.7591

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.1030	19.2663	36.2481	0.0633	0.1529	0.1529	0.1529	0.1529	0.1529	0.1529	0.0000	7,000.815	7,000.815	0.6139	0	7,013.708
Total	1.1030	19.2663	36.2481	0.0633	0.1529	0.1529	0.1529	0.1529	0.1529	0.1529	0.0000	7,000.815	7,000.815	0.6139	0	7,013.708

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6710	0.1605	1.6770	3.7200e-003	0.3130	2.6200e-003	0.3156	0.0830	2.4000e-003	0.0854	312.4003	312.4003	312.4003	0.0171	0	312.7591
Total	0.6710	0.1605	1.6770	3.7200e-003	0.3130	2.6200e-003	0.3156	0.0830	2.4000e-003	0.0854	312.4003	312.4003	312.4003	0.0171	0	312.7591

LAX West Aircraft Maintenance Area Project - Installation Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year		Operational Year	2018
Utility Company	Los Angeles Department of Water & Power	CH4 Intensity (lb/MMWhr)	0.029	N2O Intensity (lb/MMWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	129.00
tblOffRoadEquipment	HorsePower	226.00	125.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018

tbITripsAndVMT	Vendor Trip Number	27.00	0.00
tbITripsAndVMT	Worker Trip Number	69.00	16.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	1.7268	15.1668	8.7061	0.0123	0.1788	0.8162	0.9951	0.0474	0.7509	0.7984	0.0000	1,210.419	1,210.419	0.3238	0.0000	1,217.219
2018	1.5526	13.5127	8.3703	0.0123	0.1788	0.7213	0.9001	0.0474	0.6636	0.7110	0.0000	1,187.108	1,187.108	0.3231	0.0000	1,193.893
Total	3.2794	28.6785	17.0764	0.0246	0.3577	1.5375	1.8952	0.0949	1.4145	1.5094	0.0000	2,397.528	2,397.528	0.6469	0.0000	2,411.113

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	0.5247	4.4795	8.5199	0.0123	0.1788	0.0178	0.1967	0.0474	0.0177	0.0651	0.0000	1,209.477	1,209.477	0.3235	0.0000	1,216.271
2018	0.5044	4.4725	8.4337	0.0123	0.1788	0.0178	0.1966	0.0474	0.0177	0.0651	0.0000	1,186.181	1,186.181	0.3228	0.0000	1,192.959
Total	1.0291	8.9521	16.9536	0.0246	0.3577	0.0356	0.3933	0.0949	0.0354	0.1303	0.0000	2,395.658	2,395.658	0.6463	0.0000	2,409.230

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	68.6199	68.7847	0.7196	0.0813	0.0000	97.6833	79.2476	0.0000	97.4981	91.3707	0.0000	0.0780	0.0780	0.0897	0.0000	0.0781

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Installation Crew - Sep 2017 - Feb 2018	Building Construction	9/1/2017	2/28/2018	5	129	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Installation Crew - Sep 2017 - Feb 2018	Cranes	3	8.00	125	0.31
Installation Crew - Sep 2017 - Feb 2018	Forklifts	0	8.00	89	0.20
Installation Crew - Sep 2017 - Feb 2018	Generator Sets	0	8.00	84	0.74
Installation Crew - Sep 2017 - Feb 2018	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Installation Crew - Sep 2017 - Feb 2018	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Installation Crew - Sep 2017 - Feb 2018	3	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Installation Crew - Sep 2017 - Feb 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.4274	15.0904	7.7654	0.0100	0.8148	0.8148	0.8148	0.7496	0.7496	0.7496	1,027.390	5	1,027.390	0.3148	5	1,034.001
Total	1.4274	15.0904	7.7654	0.0100	0.8148	0.8148	0.8148	0.7496	0.7496	0.7496	1,027.390	5	1,027.390	0.3148	5	1,034.001

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.2994	0.0754	0.9407	2.2700e-003	0.1788	1.4400e-003	0.1803	0.0474	1.3300e-003	0.0488	183.0294	183.0294	9.0100e-003	0.0000		183.2186
Total	0.2994	0.0754	0.9407	2.2700e-003	0.1788	1.4400e-003	0.1803	0.0474	1.3300e-003	0.0488	183.0294	183.0294	9.0100e-003	0.0000		183.2186

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.2253	4.4041	7.5792	0.0100		0.0164	0.0164		0.0164	0.0164	0.0000	1,026.4479	1,026.4479	0.3145		1,033.0525
Total	0.2253	4.4041	7.5792	0.0100		0.0164	0.0164		0.0164	0.0164	0.0000	1,026.4479	1,026.4479	0.3145		1,033.0525

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.2994	0.0754	0.9407	2.2700e-003	0.1788	1.4400e-003	0.1803	0.0474	1.3300e-003	0.0488	183.0294	183.0294	9.0100e-003	0.0000		183.2186
Total	0.2994	0.0754	0.9407	2.2700e-003	0.1788	1.4400e-003	0.1803	0.0474	1.3300e-003	0.0488	183.0294	183.0294	9.0100e-003	0.0000		183.2186

3.2 Installation Crew - Sep 2017 - Feb 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.2736	13.4442	7.5158	0.0100		0.7199	0.7199		0.6623	0.6623		1,010.889	1,010.889	0.3147		1,017.498
Total	1.2736	13.4442	7.5158	0.0100		0.7199	0.7199		0.6623	0.6623		1,010.889	1,010.889	0.3147		1,017.498

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2790	0.0684	0.8545	2.2600e-003	0.1788	1.4000e-003	0.1802	0.0474	1.3000e-003	0.0487		176.2191	176.2191	8.3600e-003		176.3947
Total	0.2790	0.0684	0.8545	2.2600e-003	0.1788	1.4000e-003	0.1802	0.0474	1.3000e-003	0.0487		176.2191	176.2191	8.3600e-003		176.3947

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.2253	4.4041	7.5792	0.0100		0.0164	0.0164		0.0164	0.0164		1,009.962	1,009.962	0.3144		1,016.565
Total	0.2253	4.4041	7.5792	0.0100		0.0164	0.0164		0.0164	0.0164		1,009.962	1,009.962	0.3144		1,016.565

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2790	0.0684	0.8545	2.2600e-003	0.1788	1.4000e-003	0.1802	0.0474	1.3000e-003	0.0487		176.2191	176.2191	8.3600e-003		176.3947
Total	0.2790	0.0684	0.8545	2.2600e-003	0.1788	1.4000e-003	0.1802	0.0474	1.3000e-003	0.0487		176.2191	176.2191	8.3600e-003		176.3947

LAX West Aircraft Maintenance Area Project - Installation Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	129.00
tblOffRoadEquipment	HorsePower	226.00	125.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018

tbTripsAndVMT	Vendor Trip Number	27.00	0.00
tbTripsAndVMT	Worker Trip Number	69.00	16.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	1.7843	15.1732	8.6291	0.0122	0.1788	0.8162	0.9951	0.0474	0.7509	0.7984	0.0000	1,199.048	1,199.048	0.3238	0.0000	1,205.848
2018	1.6067	13.5193	8.2973	0.0122	0.1788	0.7213	0.9001	0.0474	0.6636	0.7110	0.0000	1,176.138	1,176.138	0.3231	0.0000	1,182.922
Total	3.3910	28.6925	16.9264	0.0243	0.3577	1.5375	1.8952	0.0949	1.4145	1.5094	0.0000	2,375.186	2,375.186	0.6469	0.0000	2,388.770

Mitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.5822	4.4869	8.4428	0.0121	0.1788	0.0178	0.1967	0.0474	0.0177	0.0651	0.0000	1,198.105	1,198.105	0.3235	0.0000	1,204.899
2018	0.5585	4.4792	8.3606	0.0121	0.1788	0.0178	0.1966	0.0474	0.0177	0.0651	0.0000	1,175.210	1,175.210	0.3228	0.0000	1,181.988
Total	1.1407	8.9661	16.8035	0.0243	0.3577	0.0356	0.3933	0.0949	0.0354	0.1303	0.0000	2,373.316	2,373.316	0.6463	0.0000	2,386.888

Percent Reduction	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	66.3604	68.7512	0.7260	0.0823	0.0000	97.6833	79.2476	0.0000	97.4981	91.3707	0.0000	0.0787	0.0787	0.0897	0.0000	0.0788

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Installation Crew - Sep 2017 - Feb 2018	Building Construction	9/1/2017	2/28/2018	5	120	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Installation Crew - Sep 2017 - Feb 2018	Cranes	3	8.00	125	0.31
Installation Crew - Sep 2017 - Feb 2018	Forklifts	0	8.00	89	0.20
Installation Crew - Sep 2017 - Feb 2018	Generator Sets	0	8.00	84	0.74
Installation Crew - Sep 2017 - Feb 2018	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Installation Crew - Sep 2017 - Feb 2018	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Installation Crew - Sep 2017 - Feb 2018	3	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Installation Crew - Sep 2017 - Feb 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Off-Road	1.4274	15.0904	7.7654	0.0100	0.8148	0.8148	0.8148	0.7496	0.7496	0.7496	1,027.390	5	1,027.390	0.3148	5	1,034.001
Total	1.4274	15.0904	7.7654	0.0100	0.8148	0.8148	0.8148	0.7496	0.7496	0.7496	1,027.390	5	1,027.390	0.3148	5	1,034.001

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3569	0.0828	0.8637	2.1200e-003	0.1788	1.4400e-003	0.1803	0.0474	1.3300e-003	0.0488	171.6577	171.6577	9.0100e-003	171.8469		
Total	0.3569	0.0828	0.8637	2.1200e-003	0.1788	1.4400e-003	0.1803	0.0474	1.3300e-003	0.0488	171.6577	171.6577	9.0100e-003	171.8469		

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.2253	4.4041	7.5792	0.0100	0.0164	0.0164	0.0164	0.0164	0.0164	0.0164	0.0000	1,026.4479	1,026.4479	0.3145		1,033.0525
Total	0.2253	4.4041	7.5792	0.0100	0.0164	0.0164	0.0164	0.0164	0.0164	0.0164	0.0000	1,026.4479	1,026.4479	0.3145		1,033.0525

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3569	0.0828	0.8637	2.1200e-003	0.1788	1.4400e-003	0.1803	0.0474	1.3300e-003	0.0488	171.6577	171.6577	9.0100e-003	171.8469		
Total	0.3569	0.0828	0.8637	2.1200e-003	0.1788	1.4400e-003	0.1803	0.0474	1.3300e-003	0.0488	171.6577	171.6577	9.0100e-003	171.8469		

3.2 Installation Crew - Sep 2017 - Feb 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.2736	13.4442	7.5158	0.0100	0.7199	0.7199	0.7199	0.6623	0.6623	0.6623		1,010.8899	1,010.8899	0.3147		1,017.4987
Total	1.2736	13.4442	7.5158	0.0100	0.7199	0.7199	0.7199	0.6623	0.6623	0.6623		1,010.8899	1,010.8899	0.3147		1,017.4987

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3332	0.0751	0.7815	2.1200e-003	0.1788	1.4000e-003	0.1802	0.0474	1.3000e-003	0.0487		165.2481	165.2481	8.3600e-003		165.4237
Total	0.3332	0.0751	0.7815	2.1200e-003	0.1788	1.4000e-003	0.1802	0.0474	1.3000e-003	0.0487		165.2481	165.2481	8.3600e-003		165.4237

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.2253	4.4041	7.5792	0.0100	0.0164	0.0164	0.0164	0.0164	0.0164	0.0164	0.0000	1,009.9624	1,009.9624	0.3144		1,016.5652
Total	0.2253	4.4041	7.5792	0.0100	0.0164	0.0164	0.0164	0.0164	0.0164	0.0164	0.0000	1,009.9624	1,009.9624	0.3144		1,016.5652

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3332	0.0751	0.7815	2.1200e-003	0.1788	1.4000e-003	0.1802	0.0474	1.3000e-003	0.0487		165.2481	165.2481	8.3600e-003		165.4237
Total	0.3332	0.0751	0.7815	2.1200e-003	0.1788	1.4000e-003	0.1802	0.0474	1.3000e-003	0.0487		165.2481	165.2481	8.3600e-003		165.4237

LAX West Aircraft Maintenance Area Project - Interior Finishes Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Utility Company	Los Angeles Department of Water & Power	Operational Year	2018
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	64.00
tblOffRoadEquipment	HorsePower	226.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	69.00	30.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission) Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	2.3431	5.1809	7.8394	8.6000e-003	0.3353	0.5111	0.8464	0.0889	0.4702	0.5591	0.0000	791.6063	791.6063	0.1543	0.0000	794.8464
2018	2.2226	5.0522	7.5460	8.6000e-003	0.3353	0.5144	0.8497	0.0889	0.4732	0.5622	0.0000	771.7351	771.7351	0.1531	0.0000	774.9495
Total	4.5658	10.2331	15.3854	0.0172	0.6707	1.0254	1.6961	0.1779	0.9434	1.1213	0.0000	1,563.341	1,563.341	0.3074	0.0000	1,569.795
												3	3			9

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	2.3415	5.1763	7.8338	8.5900e-003	0.3353	0.5106	0.8459	0.0889	0.4698	0.5587	0.0000	791.1949	791.1949	0.1542	0.0000	794.4323
2018	2.2211	5.0477	7.5406	8.5900e-003	0.3353	0.5139	0.8492	0.0889	0.4728	0.5617	0.0000	771.3302	771.3302	0.1529	0.0000	774.5420
Total	4.5626	10.2240	15.3744	0.0172	0.6707	1.0245	1.6951	0.1779	0.9425	1.1204	0.0000	1,562.525	1,562.525	0.3071	0.0000	1,568.974
												0	0			3

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	0.0699	0.0893	0.0716	0.1163	0.0000	0.0917	0.0554	0.0000	0.0922	0.0776	0.0000	0.0522	0.0522	0.0846	0.0000	0.0523

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Interior Finishes Crew - Dec 2017-Feb 2018	Building Construction	12/1/2017	2/28/2018	5	64	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Interior Finishes Crew - Dec 2017-Feb 2018	Cranes	3	8.00	50	0.31
Interior Finishes Crew - Dec 2017-Feb 2018	Forklifts	0	8.00	89	0.20
Interior Finishes Crew - Dec 2017-Feb 2018	Generator Sets	0	8.00	84	0.74
Interior Finishes Crew - Dec 2017-Feb 2018	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Interior Finishes Crew - Dec 2017-Feb 2018	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Interior Finishes Crew - Dec 2017-Feb 2018	3	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Interior Finishes Crew - Dec 2017-Feb 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.7818	5.0395	6.0755	4.3500e-003	0.5084	0.5084	0.5084	0.4677	0.4677	0.4677	448.4262	448.4262	448.4262	0.1374	0.1374	451.3116
Total	1.7818	5.0395	6.0755	4.3500e-003	0.5084	0.5084	0.5084	0.4677	0.4677	0.4677	448.4262	448.4262	448.4262	0.1374	0.1374	451.3116

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.5614	0.1415	1.7639	4.2500e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	343.1801	343.1801	343.1801	0.0169		343.5348
Total	0.5614	0.1415	1.7639	4.2500e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	343.1801	343.1801	343.1801	0.0169		343.5348

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.7802	5.0348	6.0699	4.3500e-003		0.5079	0.5079		0.4673	0.4673	0.0000	448.0148	448.0148	0.1373		450.8975
Total	1.7802	5.0348	6.0699	4.3500e-003		0.5079	0.5079		0.4673	0.4673	0.0000	448.0148	448.0148	0.1373		450.8975

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.5614	0.1415	1.7639	4.2500e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	343.1801	343.1801	343.1801	0.0169		343.5348
Total	0.5614	0.1415	1.7639	4.2500e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	343.1801	343.1801	343.1801	0.0169		343.5348

3.2 Interior Finishes Crew - Dec 2017-Feb 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.6995	4.9239	5.9438	4.3500e-003	0.5117	0.5117	0.5117	0.4708	0.4708	0.4708		441.3243	441.3243	0.1374		444.2095
Total	1.6995	4.9239	5.9438	4.3500e-003	0.5117	0.5117	0.5117	0.4708	0.4708	0.4708		441.3243	441.3243	0.1374		444.2095

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5232	0.1283	1.6023	4.2500e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4300e-003	0.0914		330.4108	330.4108	0.0157		330.7400
Total	0.5232	0.1283	1.6023	4.2500e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4300e-003	0.0914		330.4108	330.4108	0.0157		330.7400

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.6979	4.9194	5.9383	4.3500e-003	0.5113	0.5113	0.5113	0.4704	0.4704	0.4704	0.0000	440.9194	440.9194	0.1373		443.8020
Total	1.6979	4.9194	5.9383	4.3500e-003	0.5113	0.5113	0.5113	0.4704	0.4704	0.4704	0.0000	440.9194	440.9194	0.1373		443.8020

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5232	0.1283	1.6023	4.2500e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4300e-003	0.0914		330.4108	330.4108	0.0157		330.7400
Total	0.5232	0.1283	1.6023	4.2500e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4300e-003	0.0914		330.4108	330.4108	0.0157		330.7400

LAX West Aircraft Maintenance Area Project - Interior Finishes Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	64.00
tblOffRoadEquipment	HorsePower	226.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	2.4510	5.1947	7.6949	8.3300e-003	0.3353	0.5111	0.8464	0.0889	0.4702	0.5591	0.0000	770.2845	770.2845	0.1643	0.0000	773.5246
2018	2.3242	5.0647	7.4091	8.3300e-003	0.3353	0.5144	0.8497	0.0889	0.4732	0.5622	0.0000	751.1644	751.1644	0.1531	0.0000	754.3789
Total	4.7752	10.2594	15.1040	0.0167	0.6707	1.0254	1.6961	0.1779	0.9434	1.1213	0.0000	1,521.4489	1,521.4489	0.3074	0.0000	1,527.9035

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2017	2.4494	5.1901	7.6893	8.3200e-003	0.3353	0.5106	0.8459	0.0889	0.4698	0.5587	0.0000	769.8731	769.8731	0.1542	0.0000	773.1105
2018	2.3226	5.0601	7.4036	8.3200e-003	0.3353	0.5139	0.8492	0.0889	0.4728	0.5617	0.0000	750.7596	750.7596	0.1529	0.0000	753.9714
Total	4.7720	10.2502	15.0929	0.0166	0.6707	1.0245	1.6951	0.1779	0.9425	1.1204	0.0000	1,520.6326	1,520.6326	0.3071	0.0000	1,527.0819

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	0.0668	0.0891	0.0730	0.1200	0.0000	0.0917	0.0554	0.0000	0.0922	0.0776	0.0000	0.0537	0.0537	0.0846	0.0000	0.0538

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Interior Finishes Crew - Dec 2017-Feb 2018	Building Construction	12/1/2017	2/28/2018	5	64	

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.6692	0.1552	1.6194	3.9800e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	321.8583	0.0169	321.8583	0.0169	321.8583	0.0169	321.8583	0.0169	321.8583	0.0169	321.8583	0.0169
Total	0.6692	0.1552	1.6194	3.9800e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	321.8583	0.0169	321.8583	0.0169	321.8583	0.0169	321.8583	0.0169	321.8583	0.0169	321.8583	0.0169

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.7802	5.0348	6.0699	4.3500e-003	0.5079	0.5079	0.5079	0.4673	0.4673	0.4673	0.0000	448.0148	448.0148	0.1373		450.8975
Total	1.7802	5.0348	6.0699	4.3500e-003	0.5079	0.5079	0.5079	0.4673	0.4673	0.4673	0.0000	448.0148	448.0148	0.1373		450.8975

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.6692	0.1552	1.6194	3.9800e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	321.8583	0.0169	321.8583	0.0169		322.2130
Total	0.6692	0.1552	1.6194	3.9800e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	321.8583	0.0169	321.8583	0.0169		322.2130

3.2 Interior Finishes Crew - Dec 2017-Feb 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.6995	4.9239	5.9438	4.3500e-003	0.5117	0.5117	0.5117	0.4708	0.4708	0.4708			441.3243	0.1374		444.2095
Total	1.6995	4.9239	5.9438	4.3500e-003	0.5117	0.5117	0.5117	0.4708	0.4708	0.4708			441.3243	0.1374		444.2095

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6247	0.1408	1.4653	3.9800e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4300e-003	0.0914	309.8401	309.8401	309.8401	0.0157		310.1694
Total	0.6247	0.1408	1.4653	3.9800e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4300e-003	0.0914	309.8401	309.8401	309.8401	0.0157		310.1694

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.6979	4.9194	5.9383	4.3500e-003	0.5113	0.5113	0.5113	0.4704	0.4704	0.4704	0.0000	440.9194	440.9194	0.1373		443.8020
Total	1.6979	4.9194	5.9383	4.3500e-003	0.5113	0.5113	0.5113	0.4704	0.4704	0.4704	0.0000	440.9194	440.9194	0.1373		443.8020

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6247	0.1408	1.4653	3.9800e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4300e-003	0.0914	309.8401	309.8401	309.8401	0.0157		310.1694
Total	0.6247	0.1408	1.4653	3.9800e-003	0.3353	2.6200e-003	0.3380	0.0889	2.4300e-003	0.0914	309.8401	309.8401	309.8401	0.0157		310.1694

LAX West Aircraft Maintenance Area Project - Interior Rough Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Utility Company	Los Angeles Department of Water & Power	Operational Year	2018
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	65.00
tblOffRoadEquipment	HorsePower	226.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	69.00	30.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	2.9371	6.8608	9.8645	0.0101	0.3353	0.6805	1.0158	0.0889	0.6261	0.7150	0.0000	941.0817	941.0817	0.2001	0.0000	945.2836
Total	2.9371	6.8608	9.8645	0.0101	0.3353	0.6805	1.0158	0.0889	0.6261	0.7150	0.0000	941.0817	941.0817	0.2001	0.0000	945.2836

Mitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	2.9349	6.8546	9.8571	0.0100	0.3353	0.6799	1.0152	0.0889	0.6255	0.7144	0.0000	940.5331	940.5331	0.1999	0.0000	944.7315
Total	2.9349	6.8546	9.8571	0.0100	0.3353	0.6799	1.0152	0.0889	0.6255	0.7144	0.0000	940.5331	940.5331	0.1999	0.0000	944.7315

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		0.0742	0.0899	0.0753	0.0995	0.0000	0.0911	0.0610	0.0000	0.0926	0.0797	0.0000	0.0583	0.0583	0.0850	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Interior Rough Crew - Sep-Nov 2017	Building Construction	9/1/2017	11/30/2017	5	65	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Interior Rough Crew - Sep-Nov 2017	Cranes	4	8.00	50	0.31
Interior Rough Crew - Sep-Nov 2017	Forklifts	0	8.00	89	0.20

Interior Rough Crew - Sep-Nov 2017	Generator Sets	0	8.00	84	0.74
Interior Rough Crew - Sep-Nov 2017	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Interior Rough Crew - Sep-Nov 2017	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Interior Rough Crew - Sep-Nov 2017	4	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer
Water Exposed Area
Clean Paved Roads

3.2 Interior Rough Crew - Sep-Nov 2017 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	2.3757	6.7193	8.1006	5.8000e-003	0.6778	0.6778	0.6778	0.6236	0.6236	0.6236	597.9016	597.9016	597.9016	0.1832		601.7487
Total	2.3757	6.7193	8.1006	5.8000e-003	0.6778	0.6778	0.6778	0.6236	0.6236	0.6236	597.9016	597.9016	597.9016	0.1832		601.7487

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.5614	0.1415	1.7639	4.2500e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	343.1801	343.1801	343.1801	0.0169		343.5348
Total	0.5614	0.1415	1.7639	4.2500e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914	343.1801	343.1801	343.1801	0.0169		343.5348

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Off-Road	2.3735	6.7131	8.0932	5.7900e-003	0.6772	0.6772	0.6772	0.6230	0.6230	0.6230	0.0000	597.3531	597.3531	0.1830		601.1967
Total	2.3735	6.7131	8.0932	5.7900e-003	0.6772	0.6772	0.6772	0.6230	0.6230	0.6230	0.0000	597.3531	597.3531	0.1830		601.1967

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.5614	0.1415	1.7639	4.2500e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914		343.1801	343.1801	0.0169		343.5348
Total	0.5614	0.1415	1.7639	4.2500e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914		343.1801	343.1801	0.0169		343.5348

LAX West Aircraft Maintenance Area Project - Interior Rough Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	65.00
tblOffRoadEquipment	HorsePower	226.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	69.00	30.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	3.0449	6.8745	9.7200	9.7800e-003	0.3353	0.6805	1.0158	0.0889	0.6261	0.7150	0.0000	919.7599	919.7599	0.2001	0.0000	923.9618
Total	3.0449	6.8745	9.7200	9.7800e-003	0.3353	0.6805	1.0158	0.0889	0.6261	0.7150	0.0000	919.7599	919.7599	0.2001	0.0000	923.9618

Mitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	3.0427	6.8684	9.7126	9.7700e-003	0.3353	0.6799	1.0152	0.0889	0.6255	0.7144	0.0000	919.2113	919.2113	0.1999	0.0000	923.4097
Total	3.0427	6.8684	9.7126	9.7700e-003	0.3353	0.6799	1.0152	0.0889	0.6255	0.7144	0.0000	919.2113	919.2113	0.1999	0.0000	923.4097

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		0.0716	0.0896	0.0764	0.1022	0.0000	0.0911	0.0610	0.0000	0.0926	0.0797	0.0000	0.0596	0.0596	0.0850	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Interior Rough Crew - Sep-Nov 2017	Building Construction	9/1/2017	11/30/2017	5	65	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Interior Rough Crew - Sep-Nov 2017	Cranes	4	8.00	50	0.31
Interior Rough Crew - Sep-Nov 2017	Forklifts	0	8.00	89	0.20

Interior Rough Crew - Sep-Nov 2017	Generator Sets	0	8.00	84	0.74
Interior Rough Crew - Sep-Nov 2017	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Interior Rough Crew - Sep-Nov 2017	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Interior Rough Crew - Sep-Nov 2017	4	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer
Water Exposed Area
Clean Paved Roads

3.2 Interior Rough Crew - Sep-Nov 2017 - 2017

Unmitigated Construction On-Site Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	2.3757	6.7193	8.1006	5.8000e-003	0.6778	0.6778	0.6778	0.6236	0.6236	0.6236	597.9016	597.9016	597.9016	0.1832		601.7487
Total	2.3757	6.7193	8.1006	5.8000e-003	0.6778	0.6778	0.6778	0.6236	0.6236	0.6236		597.9016	597.9016	0.1832		601.7487

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6692	0.1552	1.6194	3.9800e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914		321.8583	321.8583	0.0169		322.2130
Total	0.6692	0.1552	1.6194	3.9800e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914		321.8583	321.8583	0.0169		322.2130

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Off-Road	2.3735	6.7131	8.0932	5.7900e-003	0.6772	0.6772	0.6772	0.6230	0.6230	0.6230	0.0000	597.3531	597.3531	0.1830		601.1967
Total	2.3735	6.7131	8.0932	5.7900e-003	0.6772	0.6772	0.6772	0.6230	0.6230	0.6230	0.0000	597.3531	597.3531	0.1830		601.1967

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.6692	0.1552	1.6194	3.9800e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914		321.8583	321.8583	0.0169		322.2130
Total	0.6692	0.1552	1.6194	3.9800e-003	0.3353	2.7000e-003	0.3380	0.0889	2.4900e-003	0.0914		321.8583	321.8583	0.0169		322.2130

LAX West Aircraft Maintenance Area Project - Misc Labor Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Tractor/Loader/Backhoe" = CAT 428 Backhoe

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	390.00
tblConstructionPhase	PhaseEndDate	3/30/2018	3/31/2018
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	3.00	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission) Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2016	0.4928	2.8375	2.7144	4.0800e-003	0.1118	0.2154	0.3272	0.0296	0.1982	0.2278	0.0000	395.9068	395.9068	0.0896	0.0000	397.7893
2017	0.4582	2.6517	2.6363	4.0800e-003	0.1118	0.1968	0.3086	0.0296	0.1810	0.2107	0.0000	386.7232	386.7232	0.0891	0.0000	388.5937
2018	0.4021	2.2930	2.5335	4.0700e-003	0.1118	0.1603	0.2721	0.0296	0.1475	0.1771	0.0000	377.7700	377.7700	0.0885	0.0000	379.6294
Total	1.3530	7.7821	7.8843	0.0122	0.3353	0.5725	0.9078	0.0889	0.5267	0.6156	0.0000	1,160.399	1,160.399	0.2673	0.0000	1,166.012

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
2016	0.2609	1.3510	2.6522	4.0800e-003	0.1118	0.0312	0.1430	0.0296	0.0312	0.0608	0.0000	395.6527	395.6527	0.0896	0.0000	397.5336
2017	0.2467	1.3459	2.5902	4.0700e-003	0.1118	0.0312	0.1430	0.0296	0.0311	0.0608	0.0000	386.4733	386.4733	0.0890	0.0000	388.3422
2018	0.2339	1.3415	2.5363	4.0700e-003	0.1118	0.0312	0.1430	0.0296	0.0311	0.0608	0.0000	377.5244	377.5244	0.0885	0.0000	379.3822
Total	0.7414	4.0383	7.7787	0.0122	0.3353	0.0936	0.4289	0.0889	0.0934	0.1824	0.0000	1,159.650	1,159.650	0.2670	0.0000	1,165.258

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	45.2030	48.1077	1.3395	0.0818	0.0000	83.6457	52.7479	0.0000	82.2656	70.3775	0.0000	0.0646	0.0646	0.0786	0.0000	0.0647

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Misc Labor Crew	Site Preparation	10/1/2016	3/31/2018	5	390	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Misc Labor Crew	Rubber Tired Dozers	0	8.00	255	0.40
Misc Labor Crew	Tractors/Loaders/Backhoes	1	8.00	83	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Misc Labor Crew	1	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Misc Labor Crew - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2914	2.7853	2.0644	2.6600e-003	0.2145	0.2145	0.2145	0.1973	0.1973	0.1973	276.9610	276.9610	276.9610	0.0835		278.7153
Total	0.2914	2.7853	2.0644	2.6600e-003	0.0000	0.2145	0.2145	0.0000	0.1973	0.1973		276.9610	276.9610	0.0835		278.7153

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2013	0.0522	0.6500	1.4200e-003	0.1118	9.3000e-004	0.1127	0.0296	8.6000e-004	0.0305	118.9458	118.9458	118.9458	6.1000e-003		119.0740
Total	0.2013	0.0522	0.6500	1.4200e-003	0.1118	9.3000e-004	0.1127	0.0296	8.6000e-004	0.0305		118.9458	118.9458	6.1000e-003		119.0740

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0595	1.2987	2.0022	2.6600e-003		0.0303	0.0303		0.0303	0.0303	0.0000	276.7069	276.7069	0.0835		278.4596
Total	0.0595	1.2987	2.0022	2.6600e-003	0.0000	0.0303	0.0303	0.0000	0.0303	0.0303	0.0000	276.7069	276.7069	0.0835		278.4596

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2013	0.0522	0.6500	1.4200e-003	0.1118	9.3000e-004	0.1127	0.0296	8.6000e-004	0.0305		118.9458	118.9458	6.1000e-003		119.0740
Total	0.2013	0.0522	0.6500	1.4200e-003	0.1118	9.3000e-004	0.1127	0.0296	8.6000e-004	0.0305		118.9458	118.9458	6.1000e-003		119.0740

3.2 Misc Labor Crew - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2711	2.6046	2.0483	2.6600e-003		0.1959	0.1959		0.1802	0.1802		272.3298	272.3298	0.0834		274.0821
Total	0.2711	2.6046	2.0483	2.6600e-003	0.0000	0.1959	0.1959	0.0000	0.1802	0.1802		272.3298	272.3298	0.0834		274.0821

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1871	0.0472	0.5880	1.4200e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305	114.3934	114.3934	5.6300e-003	0.0000	0.0000	114.5116
Total	0.1871	0.0472	0.5880	1.4200e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305	114.3934	114.3934	5.6300e-003	0.0000	0.0000	114.5116

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0595	1.2987	2.0022	2.6600e-003	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303	0.0000	272.0800	272.0800	0.0834	0.0000	273.8306
Total	0.0595	1.2987	2.0022	2.6600e-003	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303	0.0000	272.0800	272.0800	0.0834	0.0000	273.8306

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1871	0.0472	0.5880	1.4200e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305	114.3934	114.3934	5.6300e-003	0.0000	0.0000	114.5116
Total	0.1871	0.0472	0.5880	1.4200e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305	114.3934	114.3934	5.6300e-003	0.0000	0.0000	114.5116

3.2 Misc Labor Crew - 2018
Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust	0.2277	2.2502	1.9995	2.6600e-003	0.0000	0.1594	0.1594	0.0000	0.1467	0.1467	0.0000	267.6330	267.6330	0.0833		0.0000
Off-Road																269.3827
Total	0.2277	2.2502	1.9995	2.6600e-003	0.0000	0.1594	0.1594	0.0000	0.1467	0.1467	0.0000	267.6330	267.6330	0.0833		269.3827

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.1744	0.0428	0.5341	1.4200e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305	110.1369	110.1369	110.1369	5.2300e-003		110.2467
Total	0.1744	0.0428	0.5341	1.4200e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305	110.1369	110.1369	110.1369	5.2300e-003		110.2467

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust	0.0595	1.2987	2.0022	2.6600e-003	0.0000	0.0303	0.0303	0.0000	0.0303	0.0303	0.0000	267.3875	267.3875	0.0832		0.0000
Off-Road																269.1356
Total	0.0595	1.2987	2.0022	2.6600e-003	0.0000	0.0303	0.0303	0.0000	0.0303	0.0303	0.0000	267.3875	267.3875	0.0832		269.1356

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.1744	0.0428	0.5341	1.4200e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305	110.1369	110.1369	110.1369	5.2300e-003		110.2467
Total	0.1744	0.0428	0.5341	1.4200e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305	110.1369	110.1369	110.1369	5.2300e-003		110.2467

LAX West Aircraft Maintenance Area Project - Misc Labor Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Tractor/Loader/Backhoe" = CAT 428 Backhoe

Table Name	Column Name	Default Value	New Value
tblConsEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConsEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	390.00
tblConstructionPhase	PhaseEndDate	3/30/2018	3/31/2018
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	3.00	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.5311	2.8426	2.6633	3.9900e-003	0.1118	0.2154	0.3272	0.0296	0.1982	0.2278	0.0000	388.5325	388.5325	0.0896	0.0000	390.4150
2017	0.4941	2.6563	2.5881	3.9900e-003	0.1118	0.1968	0.3086	0.0296	0.1810	0.2107	0.0000	379.6159	379.6159	0.0891	0.0000	381.4864
2018	0.4359	2.2971	2.4879	3.9800e-003	0.1118	0.1603	0.2721	0.0296	0.1475	0.1771	0.0000	370.9131	370.9131	0.0885	0.0000	372.7725
Total	1.4612	7.7960	7.7394	0.0120	0.3353	0.5725	0.9078	0.0889	0.5267	0.6156	0.0000	1,139.0615	1,139.0615	0.2673	0.0000	1,144.6739

Mitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.2992	1.3561	2.6011	3.9900e-003	0.1118	0.0312	0.1430	0.0296	0.0312	0.0608	0.0000	388.2784	388.2784	0.0896	0.0000	390.1593
2017	0.2826	1.3505	2.5420	3.9900e-003	0.1118	0.0312	0.1430	0.0296	0.0311	0.0608	0.0000	379.3660	379.3660	0.0890	0.0000	381.2350
2018	0.2678	1.3457	2.4906	3.9800e-003	0.1118	0.0312	0.1430	0.0296	0.0311	0.0608	0.0000	370.6675	370.6675	0.0885	0.0000	372.5264
Total	0.8495	4.0522	7.6337	0.0120	0.3353	0.0936	0.4289	0.0889	0.0934	0.1824	0.0000	1,138.3120	1,138.3120	0.2670	0.0000	1,143.9196

Percent Reduction	lb/day														
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O
41.8588	48.0223	1.3646	0.0000	0.0000	83.6457	52.7479	0.0000	82.2656	70.3775	0.0000	0.0658	0.0658	0.0786	0.0000	0.0659

3.0 Construction Detail

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Misc Labor Crew	Site Preparation	10/1/2016	3/31/2018	5	390	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Misc Labor Crew	Rubber Tired Dozers	0	8.00	255	0.40
Misc Labor Crew	Tractors/Loaders/Backhoes	1	8.00	83	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Misc Labor Crew	1	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Misc Labor Crew - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2914	2.7853	2.0644	2.6600e-003	0.2145	0.2145	0.2145	0.1973	0.1973	0.1973	276.9610	276.9610	276.9610	0.0835		278.7153
Total	0.2914	2.7853	2.0644	2.6600e-003	0.0000	0.2145	0.2145	0.0000	0.1973	0.1973		276.9610	276.9610	0.0835		278.7153

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2397	0.0573	0.5989	1.3300e-003	0.1118	9.3000e-004	0.1127	0.0296	8.6000e-004	0.0305	111.5715	111.5715	111.5715	6.1000e-003		111.6997
Total	0.2397	0.0573	0.5989	1.3300e-003	0.1118	9.3000e-004	0.1127	0.0296	8.6000e-004	0.0305		111.5715	111.5715	6.1000e-003		111.6997

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0595	1.2987	2.0022	2.6600e-003		0.0303	0.0303		0.0303	0.0303	0.0000	276.7069	276.7069	0.0835		278.4596
Total	0.0595	1.2987	2.0022	2.6600e-003	0.0000	0.0303	0.0303	0.0000	0.0303	0.0303	0.0000	276.7069	276.7069	0.0835		278.4596

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2397	0.0573	0.5989	1.3300e-003	0.1118	9.3000e-004	0.1127	0.0296	8.6000e-004	0.0305			111.5715	6.1000e-003		111.6997
Total	0.2397	0.0573	0.5989	1.3300e-003	0.1118	9.3000e-004	0.1127	0.0296	8.6000e-004	0.0305	111.5715	111.5715	111.5715	6.1000e-003		111.6997

3.2 Misc Labor Crew - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2711	2.6046	2.0483	2.6600e-003		0.1959	0.1959		0.1802	0.1802			272.3298	0.0834		274.0821
Total	0.2711	2.6046	2.0483	2.6600e-003	0.0000	0.1959	0.1959	0.0000	0.1802	0.1802	272.3298	272.3298	272.3298	0.0834		274.0821

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2231	0.0518	0.5398	1.3300e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305	107.2861	107.2861	107.2861	5.6300e-003		107.4043
Total	0.2231	0.0518	0.5398	1.3300e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305	107.2861	107.2861	107.2861	5.6300e-003		107.4043

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0595	1.2987	2.0022	2.6600e-003	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303	0.0000	272.0800	272.0800	0.0834		273.8306
Total	0.0595	1.2987	2.0022	2.6600e-003	0.0000	0.0303	0.0303	0.0000	0.0303	0.0303	0.0000	272.0800	272.0800	0.0834		273.8306

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2231	0.0518	0.5398	1.3300e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305	107.2861	107.2861	107.2861	5.6300e-003		107.4043
Total	0.2231	0.0518	0.5398	1.3300e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305	107.2861	107.2861	107.2861	5.6300e-003		107.4043

3.2 Misc Labor Crew - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2277	2.2502	1.9995	2.6600e-003	0.1594	0.1594	0.1594	0.1467	0.1467	0.1467		267.6330	267.6330	0.0833		269.3827
Total	0.2277	2.2502	1.9995	2.6600e-003	0.0000	0.1594	0.1594	0.0000	0.1467	0.1467		267.6330	267.6330	0.0833		269.3827

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.2082	0.0469	0.4884	1.3300e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305		103.2801	103.2801	5.2300e-003		103.3898
Total	0.2082	0.0469	0.4884	1.3300e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305		103.2801	103.2801	5.2300e-003		103.3898

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0595	1.2987	2.0022	2.6600e-003	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303		267.3875	267.3875	0.0832		269.1356
Total	0.0595	1.2987	2.0022	2.6600e-003	0.0000	0.0303	0.0303	0.0000	0.0303	0.0303		267.3875	267.3875	0.0832		269.1356

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2082	0.0469	0.4884	1.3300e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305	103.2801	103.2801	103.2801	5.2300e-003		103.3898
Total	0.2082	0.0469	0.4884	1.3300e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305	103.2801	103.2801	103.2801	5.2300e-003		103.3898

LAX West Aircraft Maintenance Area Project - Structural Steel Crew 2016-2018

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	174.00
tblOffRoadEquipment	HorsePower	226.00	332.00
tblOffRoadEquipment	HorsePower	89.00	125.00
tblOffRoadEquipment	HorsePower	84.00	50.00
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	LoadFactor	0.74	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	Vendor TripNumber	27.00	0.00
tblTripsAndVMT	Worker TripNumber	69.00	22.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	2.0113	15.1249	12.0232	0.0185	0.2459	0.7192	0.9651	0.0652	0.6742	0.7394	0.0000	1,749.352	1,749.352	0.4258	0.0000	1,758.295
Total	2.0113	15.1249	12.0232	0.0185	0.2459	0.7192	0.9651	0.0652	0.6742	0.7394	0.0000	1,749.352	1,749.352	0.4258	0.0000	1,758.295

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	1.1780	6.2304	10.5754	0.0185	0.2459	0.1767	0.4226	0.0652	0.1765	0.2418	0.0000	1,747.978	1,747.978	0.4255	0.0000	1,756.913
Total	1.1780	6.2304	10.5754	0.0185	0.2459	0.1767	0.4226	0.0652	0.1765	0.2418	0.0000	1,747.978	1,747.978	0.4255	0.0000	1,756.913

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	41.4306	58.8070	12.0419	0.0539	0.0000	75.4331	56.2132	0.0000	73.8129	67.3032	0.0000	0.0785	0.0785	0.0892	0.0000	0.0786

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Structural Steel Crew - Jan-Aug 2017	Building Construction	1/1/2017	8/31/2017	5	174	

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.4117	0.1037	1.2935	1.2935	3.1100e-003	0.2459	1.9800e-003	0.2479	0.0652	1.8200e-003	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670
Total	0.4117	0.1037	1.2935	1.2935	3.1100e-003	0.2459	1.9800e-003	0.2479	0.0652	1.8200e-003	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670	0.0670

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.7664	6.1267	9.2818	0.0154	0.1747	0.1747	0.1747	0.1747	0.1747	0.1747	0.0000	1,496.3132	1,496.3132	0.4131	0.4131	1,504.9874
Total	0.7664	6.1267	9.2818	0.0154	0.1747	0.1747	0.1747	0.1747	0.1747	0.1747	0.0000	1,496.3132	1,496.3132	0.4131	0.4131	1,504.9874

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4117	0.1037	1.2935	3.1100e-003	0.2459	1.9800e-003	0.2479	0.0652	1.8200e-003	0.0670	0.0000	251.6654	251.6654	0.0124	0.0124	251.9255
Total	0.4117	0.1037	1.2935	3.1100e-003	0.2459	1.9800e-003	0.2479	0.0652	1.8200e-003	0.0670	0.0000	251.6654	251.6654	0.0124	0.0124	251.9255

LAX West Aircraft Maintenance Area Project - Structural Steel Crew 2016-2018

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	174.00
tblOffRoadEquipment	HorsePower	226.00	332.00
tblOffRoadEquipment	HorsePower	89.00	125.00
tblOffRoadEquipment	HorsePower	84.00	50.00
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	LoadFactor	0.74	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	69.00	22.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	2.0904	15.1350	11.9172	0.0184	0.2459	0.7192	0.9651	0.0652	0.6742	0.7394	0.0000	1,733.716	1,733.716	0.4258	0.0000	1,742.6590
Total	2.0904	15.1350	11.9172	0.0184	0.2459	0.7192	0.9651	0.0652	0.6742	0.7394	0.0000	1,733.716	1,733.716	0.4258	0.0000	1,742.6590

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	1.2571	6.2405	10.4694	0.0183	0.2459	0.1767	0.4226	0.0652	0.1765	0.2418	0.0000	1,732.342	1,732.342	0.4255	0.0000	1,741.2770
Total	1.2571	6.2405	10.4694	0.0183	0.2459	0.1767	0.4226	0.0652	0.1765	0.2418	0.0000	1,732.342	1,732.342	0.4255	0.0000	1,741.2770

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	39.8633	58.7677	12.1490	0.1090	0.0000	75.4331	56.2132	0.0000	73.8129	67.3032	0.0000	0.0793	0.0793	0.0892	0.0000	0.0793

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Structural Steel Crew - Jan-Aug	Building Construction	1/1/2017	8/31/2017	5	174	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Structural Steel Crew - Jan-Aug 2017	Cranes	1	8.00	332	0.29
Structural Steel Crew - Jan-Aug 2017	Forklifts	1	8.00	125	0.31
Structural Steel Crew - Jan-Aug 2017	Generator Sets	2	8.00	50	0.31
Structural Steel Crew - Jan-Aug 2017	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Structural Steel Crew - Jan-Aug 2017	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Structural Steel Crew - Jan-Aug 2017	4	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Structural Steel Crew - Jan-Aug 2017 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NI Bio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.5997	15.0212	10.7297	0.0154	0.7172	0.7172	0.7172	0.6723	0.6723	0.6723	1,497.687	2	1,497.687	0.4134	2	1,506.3694
Total	1.5997	15.0212	10.7297	0.0154	0.7172	0.7172	0.7172	0.6723	0.6723	0.6723	1,497.687	2	1,497.687	0.4134	2	1,506.3694

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.4908	0.1138	1.1876	2.9200e-003	0.2459	1.9800e-003	0.2479	0.0652	1.8200e-003	0.0670		236.0294	236.0294	0.0124		236.2896
Total	0.4908	0.1138	1.1876	2.9200e-003	0.2459	1.9800e-003	0.2479	0.0652	1.8200e-003	0.0670		236.0294	236.0294	0.0124		236.2896

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.7664	6.1267	9.2818	0.0154		0.1747	0.1747	0.1747	0.1747	0.1747	0.0000	1,496.3132	1,496.3132	0.4131		1,504.9874
Total	0.7664	6.1267	9.2818	0.0154		0.1747	0.1747	0.1747	0.1747	0.1747	0.0000	1,496.3132	1,496.3132	0.4131		1,504.9874

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.4908	0.1138	1.1876	2.9200e-003	0.2459	1.9800e-003	0.2479	0.0652	1.8200e-003	0.0670		236.0294	236.0294	0.0124		236.2896
Total	0.4908	0.1138	1.1876	2.9200e-003	0.2459	1.9800e-003	0.2479	0.0652	1.8200e-003	0.0670		236.0294	236.0294	0.0124		236.2896

Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- GHGs – Construction Emissions Summary

LAX/LAWA West Aircraft Maintenance Area Project
 Draft EIR Greenhouse Gas Analysis
 Summary of Construction-Related Greenhouse Gas Emissions

2014 CO2e (MT/yr)	
ACP Paving Crew	949
Gas Vehicles/Equipment	1
Admin Support Crew	207
Gas Vehicles/Equipment	1
Backfill Crew	155
Gas Vehicles/Equipment	0
Batch Plant Crew	204
Batch Plant Trucks	413
Gas Vehicles/Equipment	0
Building Systems Crew	32
Gas Vehicles/Equipment	0
Clear and Grub Crew	62
Gas Vehicles/Equipment	0
Crusher Crew	59
Gas Vehicles/Equipment	0
Demolition Crew	165
Gas Vehicles/Equipment	1
Drainage Crew	93
Gas Vehicles/Equipment	0
Electrical Crew	46
Gas Vehicles/Equipment	0
Environmental Crew	0
Excavation Crew	607
Gas Vehicles/Equipment	0
Export Truck Trips	1,651
Fence Crew	8
Gas Vehicles/Equipment	0
Finish Saw & Sealing Crew	11
Gas Vehicles/Equipment	2
Foundation Crew	147
Gas Vehicles/Equipment	1
Fuel Line/UG Utilities Crew	786
Gas Vehicles/Equipment	0
Grading Crew	1,636
Gas Vehicles/Equipment	11
Interior Rough Crew	19
Gas Vehicles/Equipment	1
LAWA/CM Staff	4
Lighting-Night Shift	80
Misc Labor Crew	48
Gas Vehicles/Equipment	6
PCCP Paving Crew	1,316
Gas Vehicles/Equipment	2
Quality Control Team	1
Saw Crew	46
Gas Vehicles/Equipment	0
Striping Crew	20
Gas Vehicles/Equipment	3
Structural Steel Crew	37
Gas Vehicles/Equipment	3
Survey Crew	3
SUBTOTAL	8,842

2015 CO2e (MT/yr)	
ACP Paving Crew	1,094
Gas Vehicles/Equipment	0
Admin Support Crew	119
Gas Vehicles/Equipment	0
Backfill Crew	33
Gas Vehicles/Equipment	0
Batch Plant Crew	63
Batch Plant Trucks	130
Gas Vehicles/Equipment	0
Building Systems Crew	45
Gas Vehicles/Equipment	0
Demolition Crew	138
Gas Vehicles/Equipment	1
Drainage Crew	92
Gas Vehicles/Equipment	0
Electrical Crew	25
Gas Vehicles/Equipment	0
Environmental Crew	1
Fence Crew	16
Gas Vehicles/Equipment	1
Finish Saw & Sealing Crew	35
Gas Vehicles/Equipment	1
Fuel Line/UG Utilities Crew	214
Gas Vehicles/Equipment	0
Installation Crew	62
Gas Vehicles/Equipment	1
Interior Concrete Flooring	88
Gas Vehicles/Equipment	6
Interior Finishes Crew	41
Gas Vehicles/Equipment	1
LAWA/CM Staff	1
Lighting-Night Shift	53
Misc Labor Crew	28
Gas Vehicles/Equipment	3
PCCP Paving Crew	414
Gas Vehicles/Equipment	2
Quality Control Team	2
Saw Crew	45
Gas Vehicles/Equipment	2
Striping Crew	55
Gas Vehicles/Equipment	2
Survey Crew	2
SUBTOTAL	2,817

2016 CO2e (MT/yr)	
Admin Support Crew	50
Gas Vehicles/Equipment	0
Batch Plant Crew	96
Batch Plant Trucks	199
Gas Vehicles/Equipment	1
Fence Crew	7
Gas Vehicles/Equipment	3
Foundation Crew	216
Gas Vehicles/Equipment	0
LAWA/CM Staff	1
Misc Labor Crew	12
Gas Vehicles/Equipment	1
Quality Control Team	1
Survey Crew	1
SUBTOTAL	587

2017 CO2e (MT/yr)	
ACP Paving Crew	27
Gas Vehicles/Equipment	0
Admin Support Crew	196
Gas Vehicles/Equipment	0
Building Systems Crew	43
Gas Vehicles/Equipment	1
Electrical Crew	6
Gas Vehicles/Equipment	0
Installation Crew	47
Gas Vehicles/Equipment	1
Interior Finishes Crew	7
Gas Vehicles/Equipment	11
Interior Rough Crew	27
Gas Vehicles/Equipment	1
LAWA/CM Staff	5
Misc Labor Crew	45
Gas Vehicles/Equipment	1
Quality Control Team	1
Structural Steel Crew	138
Gas Vehicles/Equipment	1
Survey Crew	1
SUBTOTAL	561

2018 CO2e (MT/yr)	
ACP Paving Crew	29
Gas Vehicles/Equipment	0
Admin Support Crew	48
Gas Vehicles/Equipment	0
Building Systems Crew	21
Gas Vehicles/Equipment	0
Electrical Crew	6
Gas Vehicles/Equipment	0
Fence Crew	4
Gas Vehicles/Equipment	0
Installation Crew	23
Gas Vehicles/Equipment	3
Interior Finishes Crew	15
Gas Vehicles/Equipment	0
LAWA/CM Staff	1
Misc Labor Crew	11
Gas Vehicles/Equipment	1
Quality Control Team	1
SUBTOTAL	164

Summary:	
Year	CO2e (MT/yr)
2014	8,842
2015	2,817
2016	587
2017	561
2018	164
TOTAL	12,971
Amortized over 30 yrs	432

Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- GHGs – Export Haul Truck On-Road/Off-Site Emissions

LAX/LAWA West Aircraft Maintenance Area Project
Draft EIR Greenhouse Gas Analysis
Haul Truck Emissions: On-Road/Off-Site (Model Year 2007 or later)

Material Type: LAWA WAWA Site Non-Hazardous Soil
One-Way Distance (miles): 25
Number of Work Days in 2014: 81

On-Road Haul Truck Running Emissions

Source	Vehicle Category	Region	Calendar Year	Model Year ¹	Running Speed per Day	One-Way Trips per Day	Total Miles per Day	Without Pavley+Low Carbon Fuel Standard				With Pavley+Low Carbon Fuel Standard											
								GHG Emission Factor (grams/mile)	CO ₂	CH ₄	N ₂ O	CO ₂ e	GHG Emission Factor (grams/mile)	CO ₂	CH ₄	N ₂ O	CO ₂ e						
Year 2014 Emissions 16 CY Haul Trucks	T7 single construction	South Coast	2014	2007	Aggregated	456	11,400	1754.14	0.0116	0.0585	1775.52	20.00	1.32E-04	6.67E-04	20.21	1727.83	0.0116	0.0585	1746.21	19.70	1.32E-04	6.67E-04	19.91

Abbreviations:
Exh = Exhaust (i.e., fuel combustion emissions).

Notes:
1. EMFAC2011 Model run with 2007 model year, based on LAWA/LAX commitments to utilize temporary construction equipment meeting such standards. See California Air Resources Board, "EMFAC Emissions Database," <http://www.arb.ca.gov/emfac/>, Accessed April 2013.
Per CARB guidance, methane (CH4) emission factors for heavy-duty vehicles are calculated as follows: CH4 Factor = 0.0408 * TOG Factor.
Per CARB guidance, nitrous oxide (N2O) emission factors for heavy-duty vehicles are calculated as follows: N2O Factor = 0.3316 grams/gal * gal/mile conversion factor from EMFAC2011.
http://www.arb.ca.gov/mse/emfac2011-faq.html#emfac2011_web_db_qstn07.

On-Road Haul Truck Idling Emissions

Source	Vehicle Category	Queuing Stops per Day	Idling Minutes per Queuing Stop	Loadings per Day	Idling Minutes Unloadings per Day	Idling Minutes per Unloading	Without Pavley+Low Carbon Fuel Standard				With Pavley+Low Carbon Fuel Standard												
							GHG Emission Factor (grams/hour)	CO ₂	CH ₄	N ₂ O	CO ₂ e	GHG Emission Factor (grams/mile)	CO ₂	CH ₄	N ₂ O	CO ₂ e							
Year 2014 Emissions 16 CY Haul Trucks	T7 single construction	456	5	228	4	228	4	7035.29	0.3435	0.2026	7105.32	0.48	2.35E-05	1.39E-05	0.49	6925.77	0.3435	0.2026	6999.79	0.47	2.35E-05	1.39E-05	0.48

Abbreviations:
Exh = Exhaust (i.e., fuel combustion emissions).

Sources:
California Air Resources Board, "EMFAC Emissions Database," <http://www.arb.ca.gov/emfac/>, Accessed April 2013.
Per CARB guidance, methane (CH4) emission factors for heavy-duty vehicles are calculated as follows: CH4 Factor = 0.0408 * TOG Factor.
Per CARB guidance, nitrous oxide (N2O) emission factors for heavy-duty vehicles are calculated as follows: N2O Factor = 0.3316 grams/gal * gal/hour conversion factor from EMFAC2011.
http://www.arb.ca.gov/mse/emfac2011-faq.html#emfac2011_web_db_qstn07.

Total On-Road Haul Truck Emissions

Source	Year 2014 Emissions 16 CY Haul Trucks	Running Speed	Days/Year	Without Pavley+Low Carbon Fuel Standard				With Pavley+Low Carbon Fuel Standard			
				GHG Emissions (metric tons CO ₂ e/year)	CO ₂	CH ₄	N ₂ O	CO ₂ e	GHG Emissions (metric tons CO ₂ e/year)	CO ₂	CH ₄
Aggregated	81	1658.74996	1.26E-02	5.51E-02	1.67E-01	55.87	1633.87	1.26E-02	5.51E-02	1.651.23	55.04

Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- GHGs – Batch Plant Truck On-Road/On-Site Emissions

LAX/LAWA West Aircraft Maintenance Area Project

Draft EIR Greenhouse Gas Analysis

Concrete Truck Emissions: Batch Plant, On-Road/On-Site (Model Year 2007 or later)

Number of Work Days Year 2014: 132
 Number of Work Days Year 2015: 42
 Number of Work Days Year 2016: 65

On-Road Concrete Truck Running Emissions

Source	Vehicle Category	Region	Calendar Year	Model Year ¹	Running Speed	One-Way Trips per Day	Miles per One-Way Trip	Without Pavley+Low Carbon Fuel Standard				With Pavley+Low Carbon Fuel Standard											
								GHG Emission Factor (grams/mile)	CO ₂	CH ₄	N ₂ O	CO ₂ e	GHG Emission Factor (grams/mile)	CO ₂	CH ₄	N ₂ O	CO ₂ e						
Year 2014 Emissions 10 CY Ready Mix Trucks	T7 single construction	South Coast	2014	2007	15	1000	0.5	2782.68	0.0461	2.30E-05	2801.76	1.39	0.0584	2.92E-05	1.40	2740.94	0.0461	0.0584	2760.02	1.37	2.30E-05	2.92E-05	1.38
Year 2015 Emissions 10 CY Ready Mix Trucks	T7 single construction	South Coast	2015	2007	15	1000	0.5	2782.68	0.0479	2.40E-05	2801.82	1.39	2.40E-05	2.92E-05	1.40	2713.12	0.0479	0.0585	2732.25	1.36	2.40E-05	2.92E-05	1.37
Year 2016 Emissions 10 CY Ready Mix Trucks	T7 single construction	South Coast	2016	2007	15	1000	0.5	2782.68	0.0497	2.48E-05	2801.86	1.39	2.48E-05	2.92E-05	1.40	2685.29	0.0497	0.0585	2704.47	1.34	2.48E-05	2.92E-05	1.35

Abbreviations:
 Exh = Exhaust (i.e., fuel combustion emissions).

Notes:

- EMFAC2011 Model run with 2007 model year, based on LAWA/LAX commitments to utilize temporary construction equipment meeting such standards.
- 5.0K emission factor based on EMFAC2011 model run with aggregated speeds.

Sources:

California Air Resources Board, "EMFAC Emissions Database," <http://www.arb.ca.gov/emfac/>, Accessed April 2013.
 PCR Services Corporation, 2013.

On-Road Concrete Truck Idling Emissions

Source	Vehicle Category	Queuing Stops per Day	Idling Minutes per Queuing Stop	Loadings per Day	Idling Minutes per Loading	Unloadings per Day	Idling Minutes per Unloading	Without Pavley+Low Carbon Fuel Standard				With Pavley+Low Carbon Fuel Standard											
								GHG Emission Factor (grams/hour)	CO ₂	CH ₄	N ₂ O	CO ₂ e	GHG Emission Factor (grams/mile)	CO ₂	CH ₄	N ₂ O	CO ₂ e						
Year 2014 Emissions 10 CY Ready Mix Trucks	T7 single construction	1000	5	500	10	500	10	7035.29	0.3435	0.2023	7105.23	1.76	8.59E-05	5.06E-05	1.78	6929.77	0.3435	0.2023	6999.70	1.73	8.59E-05	5.06E-05	1.75
Year 2015 Emissions 10 CY Ready Mix Trucks	T7 single construction	1000	5	500	10	500	10	7035.29	0.3435	0.1921	7102.05	1.76	8.59E-05	4.80E-05	1.78	6859.41	0.3435	0.1921	6926.16	1.71	8.59E-05	4.80E-05	1.73
Year 2016 Emissions 10 CY Ready Mix Trucks	T7 single construction	1000	5	500	10	500	10	7035.29	0.3435	0.1840	7099.54	1.76	8.59E-05	4.60E-05	1.77	6789.06	0.3435	0.1840	6853.31	1.70	8.59E-05	4.60E-05	1.71

Abbreviations:

Exh = Exhaust (i.e., fuel combustion emissions).

Notes:

- EMFAC2011 Model run with 2007 model year, based on LAWA/LAX commitments to utilize temporary construction equipment meeting such standards.
- 5.0K emission factor based on EMFAC2011 model run with aggregated speeds.

Sources:

California Air Resources Board, "EMFAC Emissions Database," <http://www.arb.ca.gov/emfac/>, Accessed April 2013.
 PCR Services Corporation, 2013.

Total On-Road Concrete Truck Emissions

Source	Running Speed	Days/Year	Without Pavley+Low Carbon Fuel Standard				With Pavley+Low Carbon Fuel Standard				
			GHG Emissions (metric tons CO ₂ e/year)	CO ₂	CH ₄	N ₂ O	GHG Emissions (metric tons CO ₂ e/year)	CO ₂	CH ₄	N ₂ O	
Year 2014 Emissions 10 CY Ready Mix Trucks	15	132	415.82	1.44E-02	1.05E-02	419.39	13.98	409.58	1.44E-02	1.05E-02	413.15
Year 2015 Emissions 10 CY Ready Mix Trucks	15	42	132.31	4.61E-03	3.24E-03	133.41	4.45	129.00	4.61E-03	3.24E-03	130.10
Year 2016 Emissions 10 CY Ready Mix Trucks	15	65	204.76	7.20E-03	4.89E-03	206.43	6.88	197.59	7.20E-03	4.89E-03	199.26
Total GHG Emissions			752.89	2.62E-02	1.87E-02	759.23	25.31	736.18	2.62E-02	1.87E-02	742.51

30-Year Amortized CO₂e

13.77
4.34
6.64
24.75

Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- GHGs – Gas-fueled Vehicles/Equipment On-Road/On-Site Emissions

	2017	2018	2014	2015	2016	2017	2018											
Lighting - Night Shift	-	-	10.08	0.00	0.00	0.00	11.16	0.37	9.93	0.00	0.00	0.00	11.01	0.37	-	-	-	-
Lighting - Night Shift	-	-	5.89	0.00	0.00	0.00	6.50	0.22	5.75	0.00	0.00	0.00	6.36	0.21	-	-	-	-
LAWA/CM Staff	-	-	2.53	0.00	0.00	0.00	2.78	0.09	2.44	0.00	0.00	0.00	2.69	0.09	-	-	-	-
LAWA/CM Staff	-	-	10.10	0.00	0.00	0.00	11.07	0.37	9.59	0.00	0.00	0.00	10.57	0.35	-	-	-	-
LAWA/CM Staff	-	-	2.52	0.00	0.00	0.00	2.76	0.09	2.36	0.00	0.00	0.00	2.60	0.09	-	-	-	-

Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- Criteria Pollutant and GHGs – CalEEMod Off-Road/On-Site, Worker Commute, Vendor Truck Delivery Emissions (Tons per Year)
 - Year 1 (2014)

LAX West Aircraft Maintenance Area Project - ACP Paving Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	14.50	Acre	14.50	631,620.00	0
Enclosed Parking Structure	62.50	1000sqft	1.43	62,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				

CO2 Intensity (lb/MW/hr) 1104

CH4 Intensity (lb/MW/hr) 0.029

N2O Intensity (lb/MW/hr) 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Paver" = Loader; "Paving Equipment" = Flat Bed Truck;

"Roller" = Dump Truck.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Architectural Coating -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	947430	187500
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation		Tier	No Change		Tier 3								
tblConstEquipMitigation		Tier	No Change		Tier 3								
tblConstructionPhase		NumDays	20.00		132.00								
tblConstructionPhase		NumDays	20.00		132.00								
tblConstructionPhase		PhaseEndDate	7/3/2015		12/31/2014								
tblConstructionPhase		PhaseStartDate	1/1/2015		7/1/2014								
tblOffRoadEquipment		HorsePower	125.00		174.00								
tblOffRoadEquipment		HorsePower	125.00		90.00								
tblOffRoadEquipment		HorsePower	130.00		99.00								
tblOffRoadEquipment		HorsePower	130.00		200.00								
tblOffRoadEquipment		HorsePower	80.00		145.00								
tblOffRoadEquipment		HorsePower	80.00		350.00								
tblOffRoadEquipment		LoadFactor	0.42		0.36								
tblOffRoadEquipment		LoadFactor	0.36		0.31								
tblOffRoadEquipment		LoadFactor	0.38		0.31								
tblOffRoadEquipment		OffRoadEquipmentUnitAmount	2.00		1.00								
tblOffRoadEquipment		OffRoadEquipmentUnitAmount	2.00		1.00								
tblOffRoadEquipment		OffRoadEquipmentUnitAmount	2.00		1.00								
tblOffRoadEquipment		OffRoadEquipmentUnitAmount	2.00		1.00								
tblOffRoadEquipment		OffRoadEquipmentUnitAmount	2.00		13.00								
tblOffRoadEquipment		UsageHours	8.00		2.00								
tblProjectCharacteristics		CO2IntensityFactor	1227.89		1104								
tblProjectCharacteristics		OperationalYear	2014		2018								
tblTripsAndVMT		WorkerTripNumber	10.00		44.00								
tblTripsAndVMT		WorkerTripNumber	38.00		0.00								

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2014	0.8824	10.1709	6.6100	9.8800e-003	0.0319	0.4310	0.4629	8.4600e-003	0.3965	0.4050	0.0000	944.5308	944.5308	0.2716	0.0000	950.2341
Total	0.8824	10.1709	6.6100	9.8800e-003	0.0319	0.4310	0.4629	8.4600e-003	0.3965	0.4050	0.0000	944.5308	944.5308	0.2716	0.0000	950.2341

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.3396	4.5437	5.5275	9.8700e-003	0.0319	0.0276	0.0595	8.4600e-003	0.0335	0.0420	0.0000	943.4452	943.4452	0.2713	0.0000	949.1418
Total	0.3396	4.5437	5.5275	9.8700e-003	0.0319	0.0276	0.0595	8.4600e-003	0.0335	0.0420	0.0000	943.4452	943.4452	0.2713	0.0000	949.1418

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	61.5183	55.3270	16.3778	0.1012	0.0000	93.5989	87.1565	0.0000	91.5444	89.6321	0.0000	0.1149	0.1149	0.1178	0.0000	0.1150

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	ACP Paving Crew pt.1 - Jul-Dec 2014	Paving	17/1/2014	12/31/2014	5	132	
2	ACP Paving Crew pt.2 - Jul-Dec 2014	Paving	17/1/2014	12/31/2014	5	132	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
ACP Paving Crew pt.1 - Jul-Dec 2014	Pavers	1	8.00	174	0.42
ACP Paving Crew pt.1 - Jul-Dec 2014	Paving Equipment	2	8.00	99	0.36
ACP Paving Crew pt.1 - Jul-Dec 2014	Rollers	1	8.00	145	0.38
ACP Paving Crew pt.2 - Jul-Dec 2014	Pavers	1	8.00	90	0.36
ACP Paving Crew pt.2 - Jul-Dec 2014	Paving Equipment	1	2.00	200	0.31
ACP Paving Crew pt.2 - Jul-Dec 2014	Rollers	13	8.00	350	0.31

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
ACP Paving Crew pt.1	4	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Jul-Dec 2014										
ACP Paving Crew pt.2	15	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Jul-Dec 2014										

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
 Use DPF for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area

3.2 ACP Paving Crew pt.1 - Jul-Dec 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.1225	1.3195	0.7756	1.1300e-003	0.0788	0.0788	0.0788	0.0725	0.0725	0.0725	0.0000	108.9331	108.9331	0.0322	0.0000	109.6091
Paving	0.0190				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1415	1.3195	0.7756	1.1300e-003	0.0788	0.0788	0.0788	0.0725	0.0725	0.0725	0.0000	108.9331	108.9331	0.0322	0.0000	109.6091

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0703	0.0212	0.2194	3.9000e-004	0.0319	3.1000e-004	0.0322	8.4600e-003	2.8000e-004	8.7400e-003	0.0000	31.9482	31.9482	1.9100e-003	0.0000	31.9882
Total	0.0703	0.0212	0.2194	3.9000e-004	0.0319	3.1000e-004	0.0322	8.4600e-003	2.8000e-004	8.7400e-003	0.0000	31.9482	31.9482	1.9100e-003	0.0000	31.9882

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0278	0.5728	0.8580	1.1300e-003	4.4900e-003	4.4900e-003	4.4900e-003	4.4900e-003	4.4900e-003	4.4900e-003	0.0000	108.8035	108.8035	0.0322	0.0000	109.4787
Paving	0.0190					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0468	0.5728	0.8580	1.1300e-003	4.4900e-003	4.4900e-003	4.4900e-003	4.4900e-003	4.4900e-003	4.4900e-003	0.0000	108.8035	108.8035	0.0322	0.0000	109.4787

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0703	0.0212	0.2194	3.9000e-004	0.0319	3.1000e-004	0.0322	8.4600e-003	2.8000e-004	8.7400e-003	0.0000	31.9482	31.9482	1.9100e-003	0.0000	31.9882
Total	0.0703	0.0212	0.2194	3.9000e-004	0.0319	3.1000e-004	0.0322	8.4600e-003	2.8000e-004	8.7400e-003	0.0000	31.9482	31.9482	1.9100e-003	0.0000	31.9882

3.3 ACP Paving Crew pt.2 - Jul-Dec 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.6517	8.8303	5.6151	8.3500e-003	0.3520	0.3520	0.3520	0.3238	0.3238	0.3238	0.0000	803.6496	803.6496	0.2375	0.0000	808.6368
Paving	0.0190					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.6707	8.8303	5.6151	8.3500e-003	0.3520	0.3520	0.3520	0.3238	0.3238	0.3238	0.0000	803.6496	803.6496	0.2375	0.0000	808.6368

LAX West Aircraft Maintenance Area Project - Admin Support Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr) 1104 **CH4 Intensity (lb/MW/hr)** 0.029 **N2O Intensity (lb/MW/hr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Mechanics Truck"; "Tractor/Loader/Backhoe" = "Vacuum Sweeper"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 3 Engines; Level 3 DPFs; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOffEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOffEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	40.00	261.00
tblLandscapeEquipment	NumberSummerDays	250	365

tblLandUse				LandUseSquareFeet				2,395,800.00								0.00													
tblOffRoadEquipment				HorsePower				255.00									200.00												
tblOffRoadEquipment				HorsePower				97.00									170.00												
tblOffRoadEquipment				LoadFactor				0.40									0.38												
tblOffRoadEquipment				LoadFactor				0.37									0.46												
tblOffRoadEquipment				OffRoadEquipmentUnitAmount				3.00									1.00												
tblOffRoadEquipment				OffRoadEquipmentUnitAmount				4.00									1.00												
tblProjectCharacteristics				CO2IntensityFactor				1227.89									1104												
tblProjectCharacteristics				OperationalYear				2014									2018												
tblTripsAndVMT				VendorTripNumber				0.00									2.00												
tblTripsAndVMT				WorkerTripNumber				5.00									24.00												

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.2835	2.3352	1.3264	2.2000e-003	0.8219	0.1142	0.9360	0.4416	0.1050	0.5466	0.0000	205.7547	205.7547	0.0512	0.0000	206.8293
Total	0.2835	2.3352	1.3264	2.2000e-003	0.8219	0.1142	0.9360	0.4416	0.1050	0.5466	0.0000	205.7547	205.7547	0.0512	0.0000	206.8293

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.1237	0.8739	1.3876	2.2000e-003	0.3425	6.2200e-003	0.3487	0.1781	6.7800e-003	0.1848	0.0000	205.5572	205.5572	0.0511	0.0000	206.6306
Total	0.1237	0.8739	1.3876	2.2000e-003	0.3425	6.2200e-003	0.3487	0.1781	6.7800e-003	0.1848	0.0000	205.5572	205.5572	0.0511	0.0000	206.6306

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	56.3512	62.5765	-4.6162	0.0000	58.3306	94.5525	62.7491	59.6757	93.5453	66.1843	0.0000	0.0960	0.0960	0.1173	0.0000	0.0961

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Administrative Support Crew	Site Preparation	1/1/2014	12/31/2014	5	261	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Administrative Support Crew	Rubber Tired Dozers	1	8.00	200	0.38
Administrative Support Crew	Tractors/Loaders/Backhoes	1	8.00	170	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Administrative Support Crew	2	24.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Administrative Support Crew - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	CH4	N2O	CO2e
Fugitive Dust					0.7859	0.0000	0.7859	0.4320	0.0000	0.4320	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2022	2.2818	1.0541	1.7200e-003	0.1133	0.1133	0.1133	0.1042	0.1042	0.1042	0.0000	0.0491	0.0000	167.0686
Total	0.2022	2.2818	1.0541	1.7200e-003	0.7859	0.1133	0.8992	0.4320	0.1042	0.5362	0.0000	0.0491	0.0000	167.0686

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5100e-003	0.0306	0.0357	6.0000e-005	1.6100e-003	5.8000e-004	2.1900e-003	4.6000e-004	5.4000e-004	9.9000e-004	0.0000	5.2600	5.2600	5.0000e-005	0.0000	5.2610
Worker	0.0758	0.0228	0.2366	4.2000e-004	0.0344	3.3000e-004	0.0347	9.1300e-003	3.0000e-004	9.4300e-003	0.0000	34.4565	34.4565	2.0600e-003	0.0000	34.4997
Total	0.0813	0.0535	0.2723	4.8000e-004	0.0360	9.1000e-004	0.0369	9.5900e-003	8.4000e-004	0.0104	0.0000	39.7165	39.7165	2.1100e-003	0.0000	39.7607

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.3065	0.0000	0.3065	0.1685	0.0000	0.1685	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0424	0.8205	1.1153	1.7200e-003	5.3100e-003	5.3100e-003	5.3100e-003	5.9400e-003	5.9400e-003	0.0000	0.0000	165.8407	165.8407	0.0490	0.0000	166.8699
Total	0.0424	0.8205	1.1153	1.7200e-003	0.3065	5.3100e-003	0.3118	0.1685	5.9400e-003	0.1744	0.0000	165.8407	165.8407	0.0490	0.0000	166.8699

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5100e-003	0.0306	0.0357	6.0000e-005	1.6100e-003	5.8000e-004	2.1900e-003	4.6000e-004	5.4000e-004	9.9000e-004	0.0000	5.2600	5.2600	5.0000e-005	0.0000	5.2610
Worker	0.0758	0.0228	0.2366	4.2000e-004	0.0344	3.3000e-004	0.0347	9.1300e-003	3.0000e-004	9.4300e-003	0.0000	34.4565	34.4565	2.0600e-003	0.0000	34.4997
Total	0.0813	0.0535	0.2723	4.8000e-004	0.0360	9.1000e-004	0.0369	9.5900e-003	8.4000e-004	0.0104	0.0000	39.7165	39.7165	2.1100e-003	0.0000	39.7607

LAX West Aircraft Maintenance Area Project - Backfill Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Roller; "Grader" = Loader.

Grading - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Roller; "Grader" = Loader.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Roller; "Grader" = Loader.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	197.00
tblGrading	AcresOfGrading	98.50	55.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	162.00	232.00

tblOffRoadEquipment	HorsePower	174.00	235.00
tblOffRoadEquipment	LoadFactor	0.41	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	5.00	12.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.1310	1.5221	0.5103	1.6300e-003	0.0421	0.0486	0.0908	6.5900e-003	0.0447	0.0513	0.0000	154.5227	154.5227	0.0426	0.0000	155.4173
Total	0.1310	1.5221	0.5103	1.6300e-003	0.0421	0.0486	0.0908	6.5900e-003	0.0447	0.0513	0.0000	154.5227	154.5227	0.0426	0.0000	155.4173

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0646	0.7041	0.8687	1.6300e-003	0.0243	4.0800e-003	0.0284	4.6700e-003	5.1500e-003	9.8200e-003	0.0000	154.3544	154.3544	0.0426	0.0000	155.2479
Total	0.0646	0.7041	0.8687	1.6300e-003	0.0243	4.0800e-003	0.0284	4.6700e-003	5.1500e-003	9.8200e-003	0.0000	154.3544	154.3544	0.0426	0.0000	155.2479

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	50.6835	53.7425	-70.2293	0.0000	42.2264	91.6084	68.6832	29.1351	88.4865	80.8652	0.0000	0.1089	0.1089	0.1174	0.0000	0.1090

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Backfill Crew - Apr-Dec 2014	Grading	4/1/2014	12/31/2014	5	197	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Backfill Crew - Apr-Dec 2014	Excavators	1	8.00	232	0.38
Backfill Crew - Apr-Dec 2014	Rubber Tired Dozers	0	8.00	255	0.40
Backfill Crew - Apr-Dec 2014	Graders	1	8.00	235	0.36
Backfill Crew - Apr-Dec 2014	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Backfill Crew - Apr-Dec 2014	Scrapers	0	8.00	361	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Backfill Crew - Apr-Dec 2014	2	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Backfill Crew - Apr-Dec 2014 - 2014

Unmitigated Construction On-Site Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0292	0.0000	0.0292	3.1500e-003	0.0000	3.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1024	1.5135	0.4210	1.4700e-003	0.0485	0.0485	0.0485	0.0446	0.0446	0.0446	0.0000	141.5190	141.5190	0.0418	0.0000	142.3973
Total	0.1024	1.5135	0.4210	1.4700e-003	0.0292	0.0485	0.0777	0.0446	0.0446	0.0478	0.0000	141.5190	141.5190	0.0418	0.0000	142.3973

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0286	8.6200e-003	0.0893	1.6000e-004	0.0130	1.2000e-004	0.0131	3.4400e-003	1.1000e-004	3.5600e-003	0.0000	13.0037	13.0037	7.8000e-004	0.0000	13.0200
Total	0.0286	8.6200e-003	0.0893	1.6000e-004	0.0130	1.2000e-004	0.0131	3.4400e-003	1.1000e-004	3.5600e-003	0.0000	13.0037	13.0037	7.8000e-004	0.0000	13.0200

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0114	0.0000	0.0114	1.2300e-003	0.0000	1.2300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0360	0.6955	0.7794	1.4700e-003	3.9600e-003	3.9600e-003	3.9600e-003	5.0400e-003	5.0400e-003	5.0400e-003	0.0000	141.3507	141.3507	0.0418	0.0000	142.2279
Total	0.0360	0.6955	0.7794	1.4700e-003	0.0114	3.9600e-003	0.0153	1.2300e-003	5.0400e-003	6.2700e-003	0.0000	141.3507	141.3507	0.0418	0.0000	142.2279

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0286	8.6200e-003	0.0893	1.6000e-004	0.0130	1.2000e-004	0.0131	3.4400e-003	1.1000e-004	3.5600e-003	0.0000	13.0037	13.0037	7.8000e-004	0.0000	13.0200
Total	0.0286	8.6200e-003	0.0893	1.6000e-004	0.0130	1.2000e-004	0.0131	3.4400e-003	1.1000e-004	3.5600e-003	0.0000	13.0037	13.0037	7.8000e-004	0.0000	13.0200

LAX West Aircraft Maintenance Area Project - Backfill Crew 2014 South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Roller; "Grader" = Loader.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Grading - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Roller; "Grader" = Loader.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Roller; "Grader" = Loader.

Table Name	Column Name	Default Value	New Value
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	197.00
tblGrading	AcresOfGrading	98.50	68.00
tblLandUse	LandUseSquareFeet	2,962,080.00	0.00
tblOffRoadEquipment	HorsePower	162.00	232.00
tblOffRoadEquipment	HorsePower	174.00	235.00
tblOffRoadEquipment	LoadFactor	0.41	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	5.00	12.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
2014	0.1310	1.5221	0.5103	1.6300e-003	0.0490	0.0486	0.0976	7.3400e-003	0.0447	0.0521	0.0000	154.5227	154.5227	0.0426	0.0000	155.4173

Total	0.1310	1.5221	0.5103	1.6300e-003	0.0490	0.0486	0.0976	7.3400e-003	0.0447	0.0521	0.0000	154.5227	0.0426	0.0000	155.4173
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Mitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0646	0.7041	0.8687	1.6300e-003	0.0270	4.0800e-003	0.0311	4.9600e-003	5.1500e-003	0.0101	0.0000	154.3544	0.0426	0.0000	0.0000	155.2479
Total	0.0646	0.7041	0.8687	1.6300e-003	0.0270	4.0800e-003	0.0311	4.9600e-003	5.1500e-003	0.0101	0.0000	154.3544	0.0426	0.0000	0.0000	155.2479

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	50.6835	53.7425	-70.2293	0.0000	44.8705	91.6084	32.4251	88.4865	80.5801	0.0000	0.1089	0.1089	0.1174	0.0000	0.1090

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Backfill Crew - Apr-Dec 2014	Grading	4/1/2014	12/31/2014	5	197	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Backfill Crew - Apr-Dec 2014	Excavators	1	8.00	232	0.38
Backfill Crew - Apr-Dec 2014	Graders	1	8.00	235	0.36
Backfill Crew - Apr-Dec 2014	Rubber Tired Dozers	0	8.00	255	0.40
Backfill Crew - Apr-Dec 2014	Scrapers	0	8.00	361	0.48

Backfill Crew - Apr-Dec 2014	Tractors/Loaders/Backhoes	0	8.00	97	0.37
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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Backfill Crew - Apr-Dec 2014	2	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	LD_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Backfill Crew - Apr-Dec 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0361	0.0000	0.0361	3.8900e-003	0.0000	3.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1024	1.5135	0.4210	1.4700e-003	0.0485	0.0485	0.0485	0.0446	0.0446	0.0446	0.0000	141.5190	141.5190	0.0418	0.0000	142.3973
Total	0.1024	1.5135	0.4210	1.4700e-003	0.0361	0.0485	0.0846	0.0446	0.0446	0.0485	0.0000	141.5190	141.5190	0.0418	0.0000	142.3973

Unmitigated Construction Off-Site

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0286	8.6200e-003	0.0893	1.6000e-004	0.0130	1.2000e-004	0.0131	3.4400e-003	1.1000e-004	3.5600e-003	0.0000	13.0037	13.0037	7.8000e-004	0.0000	0.0000	0.0000	0.0000	13.0200
Total	0.0286	8.6200e-003	0.0893	1.6000e-004	0.0130	1.2000e-004	0.0131	3.4400e-003	1.1000e-004	3.5600e-003	0.0000	13.0037	13.0037	7.8000e-004	0.0000	0.0000	0.0000	0.0000	13.0200

LAX West Aircraft Maintenance Area Project - Batch Plant Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 3 Engines; Level 3 DPFs; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozer" = CAT 988 Loader.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOffEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	40.00	132.00
tblLandscapeEquipment	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	255.00	475.00
tblOffRoadEquipment	LoadFactor	0.40	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	5.00	12.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.3086	3.3029	2.5822	2.1300e-003	0.8036	0.1538	0.9574	0.4393	0.1415	0.5808	0.0000	203.4644	203.4644	0.0581	0.0000	204.6839
Total	0.3086	3.3029	2.5822	2.1300e-003	0.8036	0.1538	0.9574	0.4393	0.1415	0.5808	0.0000	203.4644	203.4644	0.0581	0.0000	204.6839

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0682	0.9539	1.1224	2.1300e-003	0.3187	5.4800e-003	0.3242	0.1727	6.9400e-003	0.1797	0.0000	203.2327	203.2327	0.0580	0.0000	204.4508
Total	0.0682	0.9539	1.1224	2.1300e-003	0.3187	5.4800e-003	0.3242	0.1727	6.9400e-003	0.1797	0.0000	203.2327	203.2327	0.0580	0.0000	204.4508

Percent Reduction	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	77.8934	71.1191	56.5336	0.0000	60.3397	96.4372	66.1403	60.6793	95.0958	69.0647	0.0000	0.1139	0.1139	0.1205	0.0000	0.1139

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Batch Plant Crew - Jul-Dec 2014	Site Preparation	7/1/2014	12/31/2014	5i	132i	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor

Batch Plant Crew - Jul-Dec 2014	Rubber Tired Dozers	8.00	475	0.37
Batch Plant Crew - Jul-Dec 2014	Tractors/Loaders/Backhoes	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Batch Plant Crew - Jul-Dec 2014	2	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Batch Plant Crew - Jul-Dec 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	BiC-CO2	NBibC-CO2	Total CO2	CH4	N2O	CO2e
MT/yr																
Fugitive Dust					0.7949	0.0000	0.7949	0.4370	0.0000	0.4370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2894	3.2971	2.5224	2.0200e-003	0.1537	0.1537	0.1537	0.1414	0.1414	0.1414	0.0000	194.7513	194.7513	0.0576	0.0000	195.9598
Total	0.2894	3.2971	2.5224	2.0200e-003	0.7949	0.1537	0.9487	0.4370	0.1414	0.5784	0.0000	194.7513	194.7513	0.0576	0.0000	195.9598

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0192	5.7800e-003	0.0598	1.1000e-004	8.6900e-003	8.0000e-005	8.7700e-003	2.3100e-003	8.0000e-005	2.3800e-003	0.0000	8.7131	8.7131	5.2000e-004	0.0000	8.7241
Total	0.0192	5.7800e-003	0.0598	1.1000e-004	8.6900e-003	8.0000e-005	8.7700e-003	2.3100e-003	8.0000e-005	2.3800e-003	0.0000	8.7131	8.7131	5.2000e-004	0.0000	8.7241

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.3100	0.0000	0.3100	0.1704	0.0000	0.1704	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0490	0.9481	1.0626	2.0200e-003	5.3900e-003	5.3900e-003	5.3900e-003	6.8700e-003	6.8700e-003	6.8700e-003	0.0000	194.5196	194.5196	0.0575	0.0000	195.7267
Total	0.0490	0.9481	1.0626	2.0200e-003	0.3100	5.3900e-003	0.3154	0.1704	6.8700e-003	0.1773	0.0000	194.5196	194.5196	0.0575	0.0000	195.7267

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0192	5.7800e-003	0.0598	1.1000e-004	8.6900e-003	8.0000e-005	8.7700e-003	2.3100e-003	8.0000e-005	2.3800e-003	0.0000	8.7131	8.7131	5.2000e-004	0.0000	8.7241
Total	0.0192	5.7800e-003	0.0598	1.1000e-004	8.6900e-003	8.0000e-005	8.7700e-003	2.3100e-003	8.0000e-005	2.3800e-003	0.0000	8.7131	8.7131	5.2000e-004	0.0000	8.7241

LAX West Aircraft Maintenance Area Project - Building Systems Crew 2014 South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	1,110.00	20.00
tblConstructionPhase	NumDays	1,110.00	23.00
tblConstructionPhase	PhaseEndDate	11/28/2014	11/30/2014
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	125.00

tblOffRoadEquipment	HorsePower	89.00	50.00
tblOffRoadEquipment	HorsePower	226.00	125.00
tblOffRoadEquipment	HorsePower	89.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	28.00
tblTripsAndVMT	WorkerTripNumber	53.00	28.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr					
	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
2014	0.0897	0.3580	0.3323	3.4000e-004	6.6000e-003	0.0281	0.0347	1.7500e-003	0.0259	0.0276	0.0000	31.3722	31.3722	7.7100e-003	0.0000	0.0000	31.5341
Total	0.0897	0.3580	0.3323	3.4000e-004	6.6000e-003	0.0281	0.0347	1.7500e-003	0.0259	0.0276	0.0000	31.3722	31.3722	7.7100e-003	0.0000	0.0000	31.5341

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0744	0.2190	0.3267	3.4000e-004	6.6000e-003	0.0182	0.0248	1.7500e-003	0.0168	0.0185	0.0000	31.3428	31.3428	7.7000e-003	0.0000	31.5045
Total	0.0744	0.2190	0.3267	3.4000e-004	6.6000e-003	0.0182	0.0248	1.7500e-003	0.0168	0.0185	0.0000	31.3428	31.3428	7.7000e-003	0.0000	31.5045

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	17.0199	38.8206	1.6733	0.0000	35.3715	28.6413	0.0000	35.2396	33.0318	0.0000	0.0938	0.0938	0.1297	0.0000	0.0940

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Systems Crew - Nov 2014	Building Construction	11/11/2014	11/30/2014	5	20	
2	Building Systems Crew - Dec 2014	Building Construction	12/1/2014	12/31/2014	5	23	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Systems Crew - Nov 2014	Cranes	1	8.00	125	0.31
Building Systems Crew - Nov 2014	Forklifts	3	8.00	50	0.31
Building Systems Crew - Nov 2014	Generator Sets	0	8.00	84	0.74
Building Systems Crew - Nov 2014	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Systems Crew - Nov 2014	Welders	0	8.00	46	0.45
Building Systems Crew - Dec 2014	Cranes	2	8.00	125	0.31
Building Systems Crew - Dec 2014	Forklifts	6	8.00	50	0.31
Building Systems Crew - Dec 2014	Generator Sets	0	8.00	84	0.74
Building Systems Crew - Dec 2014	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Systems Crew - Dec 2014	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Systems Crew - Nov 2014	4	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	IHDT
Building Systems Crew - Dec 2014	8	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	IHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Building Systems Crew - Nov 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.0228	0.1072	0.0869	8.0000e-005	8.5100e-003	8.5100e-003	8.5100e-003	7.8300e-003	7.8300e-003	7.8300e-003	0.0000	7.4998	7.4998	2.2200e-003	0.0000	7.5464
Total	0.0228	0.1072	0.0869	8.0000e-005	8.5100e-003	8.5100e-003	8.5100e-003	7.8300e-003	7.8300e-003	7.8300e-003	0.0000	7.4998	7.4998	2.2200e-003	0.0000	7.5464

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7800e-003	2.0400e-003	0.0212	4.0000e-005	3.0700e-003	3.0000e-005	3.1000e-003	8.2000e-004	3.0000e-005	8.4000e-004	0.0000	3.0804	3.0804	1.8000e-004	0.0000	3.0843
Total	6.7800e-003	2.0400e-003	0.0212	4.0000e-005	3.0700e-003	3.0000e-005	3.1000e-003	8.2000e-004	3.0000e-005	8.4000e-004	0.0000	3.0804	3.0804	1.8000e-004	0.0000	3.0843

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
	tons/yr										MT/yr						
Off-Road	0.0181	0.0650	0.0852	8.0000e-005	5.4900e-003	5.4900e-003	5.4900e-003	5.0600e-003	5.0600e-003	5.0600e-003	0.0000	7.4909	7.4909	2.2100e-003	0.0000	0.0000	7.5374
Total	0.0181	0.0650	0.0852	8.0000e-005	5.4900e-003	5.4900e-003	5.4900e-003	5.0600e-003	5.0600e-003	5.0600e-003	0.0000	7.4909	7.4909	2.2100e-003	0.0000	0.0000	7.5374

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7800e-003	2.0400e-003	0.0212	4.0000e-005	3.0700e-003	3.0000e-005	3.1000e-003	8.2000e-004	3.0000e-005	8.4000e-004	0.0000	3.0804	3.0804	1.8000e-004	0.0000	3.0843
Total	6.7800e-003	2.0400e-003	0.0212	4.0000e-005	3.0700e-003	3.0000e-005	3.1000e-003	8.2000e-004	3.0000e-005	8.4000e-004	0.0000	3.0804	3.0804	1.8000e-004	0.0000	3.0843

3.3 Building Systems Crew - Dec 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0523	0.2464	0.1999	1.8000e-004	0.0196	0.0196	0.0196	0.0180	0.0180	0.0180	0.0000	17.2496	17.2496	5.1000e-003	0.0000	17.3566
Total	0.0523	0.2464	0.1999	1.8000e-004	0.0196	0.0196	0.0196	0.0180	0.0180	0.0180	0.0000	17.2496	17.2496	5.1000e-003	0.0000	17.3566

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7900e-003	2.3500e-003	0.0243	4.0000e-005	3.5300e-003	3.0000e-005	3.5700e-003	9.4000e-004	3.0000e-005	9.7000e-004	0.0000	3.5425	3.5425	2.1000e-004	0.0000	3.5469
Total	7.7900e-003	2.3500e-003	0.0243	4.0000e-005	3.5300e-003	3.0000e-005	3.5700e-003	9.4000e-004	3.0000e-005	9.7000e-004	0.0000	3.5425	3.5425	2.1000e-004	0.0000	3.5469

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Off-Road	0.0417	0.1496	0.1960	1.8000e-004	0.0126	0.0126	0.0126	0.0116	0.0116	0.0116	0.0000	17.2290	17.2290	5.0900e-003	0.0000	17.3360
Total	0.0417	0.1496	0.1960	1.8000e-004	0.0126	0.0126	0.0126	0.0116	0.0116	0.0116	0.0000	17.2290	17.2290	5.0900e-003	0.0000	17.3360

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7900e-003	2.3500e-003	0.0243	4.0000e-005	3.5300e-003	3.0000e-005	3.5700e-003	9.4000e-004	3.0000e-005	9.7000e-004	0.0000	3.5425	3.5425	2.1000e-004	0.0000	3.5469
Total	7.7900e-003	2.3500e-003	0.0243	4.0000e-005	3.5300e-003	3.0000e-005	3.5700e-003	9.4000e-004	3.0000e-005	9.7000e-004	0.0000	3.5425	3.5425	2.1000e-004	0.0000	3.5469

LAX West Aircraft Maintenance Area Project - Clear and Grub Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Dozer" = Loader & Dump Trucks; "Tractor/Loader/Backhoe" = Water Truck.

Grading - Refer to Construction Model Inputs worksheet provided in this appendix.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Dozer" = Loader & Dump Trucks; "Tractor/Loader/Backhoe" = Water Truck.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	40.00	23.00
tblGrading	AcresOfGrading	0.00	55.00

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Clean and Grub Crew - Jan 2014	Site Preparation	1/1/2014	1/31/2014	5	23	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Clean and Grub Crew - Jan 2014	Tractors/Loaders/Backhoes	1	8.00	230	0.38
Clean and Grub Crew - Jan 2014	Rubber Tired Dozers	4	8.00	350	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Clean and Grub Crew - Jan 2014	5	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Clean and Grub Crew - Jan 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
MTT/yr																
Fugitive Dust					0.3062	0.0000	0.3062	0.1554	0.0000	0.1554	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0821	0.9568	0.6896	6.2000e-004	0.434	0.0399	0.434	0.0399	0.0399	0.0399	59.6443	59.6443	59.6443	0.0176	0.0000	60.0144
Total	0.0821	0.9568	0.6896	6.2000e-004	0.3062	0.0434	0.3495	0.1554	0.0399	0.1953	0.0000	59.6443	59.6443	0.0176	0.0000	60.0144

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5700e-003	1.6800e-003	0.0174	3.0000e-005	2.5200e-003	2.0000e-005	2.5500e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.5303	2.5303	1.5000e-004	0.0000	2.5335
Total	5.5700e-003	1.6800e-003	0.0174	3.0000e-005	2.5200e-003	2.0000e-005	2.5500e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.5303	2.5303	1.5000e-004	0.0000	2.5335

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust	0.0151	0.2911	0.3263	6.2000e-004	0.1194	0.0000	0.1194	0.0606	0.0000	0.0606	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0151	0.2911	0.3263	6.2000e-004	1.6600e-003	0.0000	1.6600e-003	2.1100e-003	2.1100e-003	4.2200e-003	0.0000	59.5733	59.5733	0.0176	0.0000	59.9430
Total	0.0151	0.2911	0.3263	6.2000e-004	0.1194	1.6600e-003	0.1211	0.0606	2.1100e-003	0.0627	0.0000	59.5733	59.5733	0.0176	0.0000	59.9430

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5700e-003	1.6800e-003	0.0174	3.0000e-005	2.5200e-003	2.0000e-005	2.5500e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.5303	2.5303	1.5000e-004	0.0000	2.5335
Total	5.5700e-003	1.6800e-003	0.0174	3.0000e-005	2.5200e-003	2.0000e-005	2.5500e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.5303	2.5303	1.5000e-004	0.0000	2.5335

LAX West Aircraft Maintenance Area Project - Clear and Grub Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Dozer" = Loader & Dump Trucks; "Tractor/Loader/Backhoe" = Water Truck.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Grading - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Dozer" = Loader & Dump Trucks; "Tractor/Loader/Backhoe" = Water Truck.

Table Name	Column Name	Default Value	New Value
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	40.00	23.00
tblGrading	AcresOfGrading	0.00	68.00
tblLandUse	LandUseSquareFeet	2,962,080.00	0.00
tblOffRoadEquipment	HorsePower	255.00	350.00
tblOffRoadEquipment	HorsePower	97.00	230.00
tblOffRoadEquipment	LoadFactor	0.40	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	13.00	20.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
2014	0.0877	0.9584	0.7070	6.5000e-004	0.3156	0.0434	0.3590	0.1568	0.0399	0.1967	0.0000	62.1746	62.1746	0.0178	0.0000	62.5479
Total	0.0877	0.9584	0.7070	6.5000e-004	0.3156	0.0434	0.3590	0.1568	0.0399	0.1967	0.0000	62.1746	62.1746	0.0178	0.0000	62.5479

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
2014	0.0206	0.2928	0.3436	6.5000e-004	0.1246	1.6800e-003	0.1263	0.0616	2.1300e-003	0.0637	0.0000	62.1037	62.1037	0.0178	0.0000	62.4765
Total	0.0206	0.2928	0.3436	6.5000e-004	0.1246	1.6800e-003	0.1263	0.0616	2.1300e-003	0.0637	0.0000	62.1037	62.1037	0.0178	0.0000	62.4765

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	76.4827	69.4511	51.3940	0.0000	60.5133	64.8170	60.7409	94.6630	67.6222	0.0000	0.1141	0.1141	0.1125	0.0000	0.1141

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Clean and Grub Crew - Jan 2014	Site Preparation	1/1/2014	1/31/2014	5	23	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Clean and Grub Crew - Jan 2014	Rubber Tired Dozers	4	8.00	350	0.38
Clean and Grub Crew - Jan 2014	Tractors/Loaders/Backhoes	1	8.00	230	0.38

Trips and VMT

LAX West Aircraft Maintenance Area Project – Crusher Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Cranes" = "CAT 988 Loaders". "Forklifts" = "Crusher".

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Cranes" = "CAT 988 Loaders". "Forklifts" = "Crusher".

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Cranes" = "CAT 988 Loaders". "Forklifts" = "Crusher".

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	40.00	20.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	475.00
tblOffRoadEquipment	HorsePower	89.00	450.00

tblOffRoadEquipment	LoadFactor	0.29	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.78
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0654	0.7822	0.5282	6.2000e-004	8.8000e-004	0.0340	0.0349	2.3000e-004	0.0313	0.0315	0.0000	59.0428	59.0428	0.0172	0.0000	59.4048
Total	0.0654	0.7822	0.5282	6.2000e-004	8.8000e-004	0.0340	0.0349	2.3000e-004	0.0313	0.0315	0.0000	59.0428	59.0428	0.0172	0.0000	59.4048

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0168	0.2877	0.3278	6.1000e-004	8.8000e-004	1.6400e-003	2.5200e-003	2.3000e-004	2.0900e-003	2.3200e-003	0.0000	58.9736	58.9736	0.0172	0.0000	59.3352
Total	0.0168	0.2877	0.3278	6.1000e-004	8.8000e-004	1.6400e-003	2.5200e-003	2.3000e-004	2.0900e-003	2.3200e-003	0.0000	58.9736	58.9736	0.0172	0.0000	59.3352

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	74.3194	63.2195	37.9413	1.6129	0.0000	95.1765	92.7752	0.0000	93.3184	92.6373	0.0000	0.1172	0.1172	0.1160	0.0000	0.1172

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Crusher Crew 2014	Site Preparation	12/1/2014	2/28/2014	5	20	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Crusher Crew 2014	Rubber Tired Dozers	01	8.00	255	0.40
Crusher Crew 2014	Generator Sets	01	8.00	84	0.74
Crusher Crew 2014	Cranes	2	8.00	475	0.37
Crusher Crew 2014	Forklifts	1	8.00	450	0.78
Crusher Crew 2014	Tractors/Loaders/Backhoes	01	7.00	97	0.37
Crusher Crew 2014	Welders	01	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Crusher Crew 2014	31	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Crusher Crew 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBl6-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0635	0.7816	0.5222	6.0000e-004	0.0340	0.0340	0.0340	0.0313	0.0313	0.0313	0.0000	58.1627	58.1627	0.0172	0.0000	58.5236
Total	0.0635	0.7816	0.5222	6.0000e-004	0.0340	0.0340	0.0340	0.0313	0.0313	0.0313	0.0000	58.1627	58.1627	0.0172	0.0000	58.5236

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9400e-003	5.8000e-004	6.0400e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8801	0.8801	5.0000e-005	0.0000	0.8812
Total	1.9400e-003	5.8000e-004	6.0400e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8801	0.8801	5.0000e-005	0.0000	0.8812

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0749	0.2871	0.3218	6.0000e-004	1.6300e-003	1.6300e-003	1.6300e-003	2.0800e-003	2.0800e-003	2.0800e-003	0.0000	58.0935	58.0935	0.0172	0.0000	58.4540
Total	0.0749	0.2871	0.3218	6.0000e-004	1.6300e-003	1.6300e-003	1.6300e-003	2.0800e-003	2.0800e-003	2.0800e-003	0.0000	58.0935	58.0935	0.0172	0.0000	58.4540

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9400e-003	5.8000e-004	6.0400e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8801	0.8801	5.0000e-005	0.0000	0.8812
Total	1.9400e-003	5.8000e-004	6.0400e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8801	0.8801	5.0000e-005	0.0000	0.8812

LAX West Aircraft Maintenance Area Project - Demolition Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Concrete/Industrial Saw" = Air Compressor; Excavator; "Rubber Tired Dozer" = Loader.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Demolition -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	70.00	23.00

tblConstructionPhase	NumDays	70.00	23.00
tblConstructionPhase	PhaseEndDate	3/5/2014	1/31/2014
tblConstructionPhase	PhaseStartDate	2/1/2014	1/1/2014
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	81.00	170.00
tblOffRoadEquipment	HorsePower	162.00	247.00
tblOffRoadEquipment	HorsePower	162.00	350.00
tblOffRoadEquipment	HorsePower	255.00	475.00
tblOffRoadEquipment	LoadFactor	0.73	0.48
tblOffRoadEquipment	LoadFactor	0.73	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
2014	0.1274	1.5266	0.8423	1.7200e-003	3.7900e-003	0.0585	0.0623	1.0100e-003	0.0541	0.0551	0.0000	164.0803	164.0803	0.0458	0.0000	165.0413
Total	0.1274	1.5266	0.8423	1.7200e-003	3.7900e-003	0.0585	0.0623	1.0100e-003	0.0541	0.0551	0.0000	164.0803	164.0803	0.0458	0.0000	165.0413

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
2014	0.0491	0.7899	0.9267	1.7200e-003	3.7900e-003	4.5800e-003	8.3600e-003	1.0100e-003	5.7400e-003	6.7400e-003	0.0000	163.8896	163.8896	0.0457	0.0000	164.8495
Total	0.0491	0.7899	0.9267	1.7200e-003	3.7900e-003	4.5800e-003	8.3600e-003	1.0100e-003	5.7400e-003	6.7400e-003	0.0000	163.8896	163.8896	0.0457	0.0000	164.8495

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
61.4696	48.2559	-10.0153	0.0000	0.0000	92.1669	86.5724	0.0000	89.3900	87.7677	0.0000	0.1162	0.1162	0.1093	0.0000	0.1162

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition Crew pt. 1- Jan 2014	Demolition	1/1/2014	1/31/2014	5	23	
2	Demolition Crew pt. 2 - Jan 2014	Demolition	1/1/2014	1/31/2014	5	23	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition Crew pt. 1- Jan 2014	Concrete/Industrial Saws	1	8.00	170	0.48
Demolition Crew pt. 1- Jan 2014	Excavators	2	8.00	247	0.38
Demolition Crew pt. 1- Jan 2014	Rubber Tired Dozers	2	8.00	475	0.36
Demolition Crew pt. 2 - Jan 2014	Concrete/Industrial Saws	0	8.00	81	0.38
Demolition Crew pt. 2 - Jan 2014	Excavators	8	8.00	350	0.38
Demolition Crew pt. 2 - Jan 2014	Rubber Tired Dozers	0	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition Crew pt. 1- Jan 2014	5	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition Crew pt. 2 - Jan 2014	8	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Demolition Crew pt. 1- Jan 2014 - 2014

Acres of Grading: 0

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0688	0.8005	0.5298	6.3000e-004	0.0351	0.0351	0.0351	0.0326	0.0326	0.0326	0.0000	59.4181	59.4181	0.0157	0.0000	59.7484
Total	0.0688	0.8005	0.5298	6.3000e-004	0.0351	0.0351	0.0351	0.0326	0.0326	0.0326	0.0000	59.4181	59.4181	0.0157	0.0000	59.7484

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3500e-003	2.5200e-003	0.0261	5.0000e-005	3.7900e-003	4.0000e-005	3.8200e-003	1.0700e-003	3.0000e-005	1.0400e-003	0.0000	3.7955	3.7955	2.3000e-004	0.0000	3.8003
Total	8.3500e-003	2.5200e-003	0.0261	5.0000e-005	3.7900e-003	4.0000e-005	3.8200e-003	1.0700e-003	3.0000e-005	1.0400e-003	0.0000	3.7955	3.7955	2.3000e-004	0.0000	3.8003

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0149	0.2873	0.3402	6.3000e-004	1.6900e-003	1.6900e-003	1.6900e-003	2.0800e-003	2.0800e-003	2.0800e-003	0.0000	59.3474	59.3474	0.0157	0.0000	59.6773
Total	0.0149	0.2873	0.3402	6.3000e-004	1.6900e-003	1.6900e-003	1.6900e-003	2.0800e-003	2.0800e-003	2.0800e-003	0.0000	59.3474	59.3474	0.0157	0.0000	59.6773

LAX West Aircraft Maintenance Area Project - Drainage Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Compactor; "Tractor/Loader/Backhoe" = Flat Bed Truck; "Welder" = Dump Truck.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Grading -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Compactor; "Tractor/Loader/Backhoe" = Flat Bed Truck; "Crane" = Dump Truck.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Compactor; "Tractor/Loader/Backhoe" = Flat Bed Truck; "Welder" = Dump Truck.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Dump Truck.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	1,110.00	44.00
tblConstructionPhase	NumDays	1,110.00	44.00
tblConstructionPhase	PhaseEndDate	8/29/2014	8/31/2014
tblConstructionPhase	PhaseEndDate	10/30/2014	8/31/2014
tblConstructionPhase	PhaseStartDate	9/1/2014	7/1/2014
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	247.00
tblOffRoadEquipment	HorsePower	89.00	235.00
tblOffRoadEquipment	HorsePower	84.00	145.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	HorsePower	226.00	350.00
tblOffRoadEquipment	LoadFactor	0.29	0.38
tblOffRoadEquipment	LoadFactor	0.20	0.36
tblOffRoadEquipment	LoadFactor	0.74	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	16.00
tblTripsAndVMT	WorkerTripNumber	53.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.1077	1.2119	0.6392	9.8000e-004	3.8600e-003	0.0523	0.0562	1.0300e-003	0.0485	0.0495	0.0000	92.5048	92.5048	0.0240	0.0000	93.0088
Total	0.1077	1.2119	0.6392	9.8000e-004	3.8600e-003	0.0523	0.0562	1.0300e-003	0.0485	0.0495	0.0000	92.5048	92.5048	0.0240	0.0000	93.0088

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0309	0.4356	0.5353	9.8000e-004	3.8600e-003	2.5800e-003	6.4400e-003	1.0300e-003	3.1700e-003	4.1900e-003	0.0000	92.3993	92.3993	0.0240	0.0000	92.9027
Total	0.0309	0.4356	0.5353	9.8000e-004	3.8600e-003	2.5800e-003	6.4400e-003	1.0300e-003	3.1700e-003	4.1900e-003	0.0000	92.3993	92.3993	0.0240	0.0000	92.9027

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	71.3106	64.0609	16.2503	0.0000	0.0000	95.0660	88.5307	0.0000	93.4599	91.5354	0.0000	0.1140	0.1140	0.1250	0.0000	0.1140

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Weeks	Phase Description
1	Drainage Crew pt.1 - Jul-Aug 2014	Building Construction	7/1/2014	8/31/2014	51	441	
2	Drainage Crew pt.2 - Jul-Aug 2014	Building Construction	7/1/2014	8/31/2014	51	441	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Drainage Crew pt.1 - Jul-Aug 2014	Cranes	1	8.00	247	0.38

Drainage Crew pt.1 - Jul-Aug 2014	Forklifts	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Drainage Crew pt.1 - Jul-Aug 2014	Generator Sets		16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drainage Crew pt.1 - Jul-Aug 2014	Tractors/Loaders/Backhoes		0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drainage Crew pt.1 - Jul-Aug 2014	Welders		0	0	0		8.00	46			
Drainage Crew pt.2 - Jul-Aug 2014	Cranes		2	0	2		8.00	350			
Drainage Crew pt.2 - Jul-Aug 2014	Forklifts		0	0	0		8.00	89			
Drainage Crew pt.2 - Jul-Aug 2014	Generator Sets		0	0	0		8.00	84			
Drainage Crew pt.2 - Jul-Aug 2014	Tractors/Loaders/Backhoes		0	0	0		7.00	97			
Drainage Crew pt.2 - Jul-Aug 2014	Welders		0	0	0		8.00	46			

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Drainage Crew pt.1 - Jul-Aug 2014	4	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drainage Crew pt.2 - Jul-Aug 2014	2	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
 Use DPF for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Drainage Crew pt.1 - Jul-Aug 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0586	0.6819	0.2609	5.2000e-004	0.0304	0.0304	0.0304	0.0283	0.0283	0.0283	0.0000	49.1739	49.1739	0.0121	0.0000	49.4282
Total	0.0586	0.6819	0.2609	5.2000e-004	0.0304	0.0304	0.0304	0.0283	0.0283	0.0283	0.0000	49.1739	49.1739	0.0121	0.0000	49.4282

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5200e-003	2.5700e-003	0.0266	5.0000e-005	3.8600e-003	4.0000e-005	3.9000e-003	1.0300e-003	3.0000e-005	1.0600e-003	0.0000	3.8725	3.8725	2.3000e-004	0.0000	3.8774
Total	8.5200e-003	2.5700e-003	0.0266	5.0000e-005	3.8600e-003	4.0000e-005	3.9000e-003	1.0300e-003	3.0000e-005	1.0600e-003	0.0000	3.8725	3.8725	2.3000e-004	0.0000	3.8774

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.0123	0.2379	0.2901	5.2000e-004	1.4300e-003	0.0000	1.4300e-003	1.7200e-003	0.0000	1.7200e-003	0.0000	49.1154	49.1154	0.0121	0.0000	49.3694
Total	0.0123	0.2379	0.2901	5.2000e-004	1.4300e-003	0.0000	1.4300e-003	1.7200e-003	0.0000	1.7200e-003	0.0000	49.1154	49.1154	0.0121	0.0000	49.3694

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5200e-003	2.5700e-003	0.0266	5.0000e-005	3.8600e-003	4.0000e-005	3.9000e-003	1.0300e-003	3.0000e-005	1.0600e-003	0.0000	3.8725	3.8725	2.3000e-004	0.0000	3.8774
Total	8.5200e-003	2.5700e-003	0.0266	5.0000e-005	3.8600e-003	4.0000e-005	3.9000e-003	1.0300e-003	3.0000e-005	1.0600e-003	0.0000	3.8725	3.8725	2.3000e-004	0.0000	3.8774

3.3 Drainage Crew pt.2 - Jul-Aug 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0407	0.5274	0.3517	4.1000e-004	0.0219	0.0219	0.0219	0.0201	0.0201	0.0201	0.0000	39.4583	39.4583	0.0117	0.0000	39.7032
Total	0.0407	0.5274	0.3517	4.1000e-004	0.0219	0.0219	0.0219	0.0201	0.0201	0.0201	0.0000	39.4583	39.4583	0.0117	0.0000	39.7032

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0701	0.1951	0.2187	4.1000e-004	1.1100e-003	1.1100e-003	1.1100e-003	1.4100e-003	1.4100e-003	1.4100e-003	0.0000	39.4114	39.4114	0.0117	0.0000	39.6560
Total	0.0701	0.1951	0.2187	4.1000e-004	1.1100e-003	1.1100e-003	1.1100e-003	1.4100e-003	1.4100e-003	1.4100e-003	0.0000	39.4114	39.4114	0.0117	0.0000	39.6560

LAX West Aircraft Maintenance Area Project – Electrical Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization Urban Wind Speed (m/s) 2.2 Precipitation Freq (Days) 31

Climate Zone 11 Operational Year 2018

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr) 1104 CH4 Intensity (lb/MW/hr) 0.029 N2O Intensity (lb/MW/hr) 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	1,110.00	153.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00

tblOffRoadEquipment	HorsePower	226.00	83.00
tblOffRoadEquipment	HorsePower	89.00	60.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	LoadFactor	0.20	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	8.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0713	0.5143	0.3708	4.8000e-004	6.7100e-003	0.0416	0.0483	1.7800e-003	0.0382	0.0400	0.0000	45.4371	45.4371	0.0118	0.0000	45.6857
Total	0.0713	0.5143	0.3708	4.8000e-004	6.7100e-003	0.0416	0.0483	1.7800e-003	0.0382	0.0400	0.0000	45.4371	45.4371	0.0118	0.0000	45.6857

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0247	0.2292	0.3497	4.8000e-004	6.7100e-003	2.2300e-003	8.9400e-003	1.7800e-003	2.0300e-003	3.8100e-003	0.0000	45.3911	45.3911	0.0118	0.0000	45.6394
Total	0.0247	0.2292	0.3497	4.8000e-004	6.7100e-003	2.2300e-003	8.9400e-003	1.7800e-003	2.0300e-003	3.8100e-003	0.0000	45.3911	45.3911	0.0118	0.0000	45.6394

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	65.4035	55.4356	5.6829	0.0000	94.6356	81.4830	0.0000	94.6914	90.4821	0.0000	0.1013	0.1013	0.0845	0.0000	0.1014

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Electrical Crew 2014	Building Construction	6/1/2014	12/31/2014	5	153	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Electrical Crew 2014	Rubber Tired Dozers	0	8.00	255	0.40
Electrical Crew 2014	Cranes	0	8.00	83	0.29
Electrical Crew 2014	Forklifts	1	8.00	60	0.50
Electrical Crew 2014	Generator Sets	0	8.00	84	0.74
Electrical Crew 2014	Welders	0	8.00	46	0.45
Electrical Crew 2014	Tractors/Loaders/Backhoes	1	8.00	83	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Electrical Crew 2014	2	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Electrical Crew 2014 - 2014
Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0564	0.5098	0.3245	4.0000e-004	0.0415	0.0415	0.0415	0.0382	0.0382	0.0382	0.0000	38.7042	38.7042	0.0114	0.0000	38.9444
Total	0.0564	0.5098	0.3245	4.0000e-004	0.0415	0.0415	0.0415	0.0382	0.0382	0.0382	0.0000	38.7042	38.7042	0.0114	0.0000	38.9444

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0148	4.4600e-003	0.0462	8.0000e-005	6.7100e-003	6.0000e-005	6.7800e-003	1.7800e-003	6.0000e-005	1.8400e-003	0.0000	6.7329	6.7329	4.0000e-004	0.0000	6.7413
Total	0.0148	4.4600e-003	0.0462	8.0000e-005	6.7100e-003	6.0000e-005	6.7800e-003	1.7800e-003	6.0000e-005	1.8400e-003	0.0000	6.7329	6.7329	4.0000e-004	0.0000	6.7413

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	9.8400e-003	0.2247	0.3035	4.0000e-004	2.1600e-003	2.1600e-003	2.1600e-003	1.9700e-003	1.9700e-003	1.9700e-003	0.0000	38.6582	38.6582	0.0114	0.0000	38.8981
Total	9.8400e-003	0.2247	0.3035	4.0000e-004	2.1600e-003	2.1600e-003	2.1600e-003	1.9700e-003	1.9700e-003	1.9700e-003	0.0000	38.6582	38.6582	0.0114	0.0000	38.8981

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0148	4.4600e-003	0.0462	8.0000e-005	6.7100e-003	6.0000e-005	6.7800e-003	1.7800e-003	6.0000e-005	1.8400e-003	0.0000	6.7329	6.7329	4.0000e-004	0.0000	6.7413
Total	0.0148	4.4600e-003	0.0462	8.0000e-005	6.7100e-003	6.0000e-005	6.7800e-003	1.7800e-003	6.0000e-005	1.8400e-003	0.0000	6.7329	6.7329	4.0000e-004	0.0000	6.7413

LAX West Aircraft Maintenance Area Project - Excavation Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 3 Engines; Level 3 DPFs; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Grader" = CAT 966 Loader; "Rubber Tired Dozer" = CAT330C L Excavator; "Scraper" = Tri-axle Dump Truck

Table Name	Column Name	Default Value	New Value
tbiConstEquipMitigation	DPF	No Change	Level 3
tbiConstEquipMitigation	DPF	No Change	Level 3
tbiConstEquipMitigation	DPF	No Change	Level 3
tbiConstEquipMitigation	DPF	No Change	Level 3
tbiConstEquipMitigation	DPF	No Change	Level 3
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	NumDays	110.00	106.00
tblConstructionPhase	AcresOfGrading	901.00	75.00
tblGrading	NumberSummerDays	250	365
tblLandscapEquip	LandUseSquareFeet	2,395,800.00	0.00
tblLandUse	HorsePower	174.00	235.00
tblOffRoadEquipment	HorsePower	255.00	247.00
tblOffRoadEquipment	HorsePower	361.00	350.00
tblOffRoadEquipment	LoadFactor	0.41	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
2014	0.6727	8.1065	4.6034	6.3300e-003	0.6944	0.3354	1.0298	0.3595	0.3086	0.6681	0.0000	606.7522	606.7522	0.1755	0.0000	610.4367
Total	0.6727	8.1065	4.6034	6.3300e-003	0.6944	0.3354	1.0298	0.3595	0.3086	0.6681	0.0000	606.7522	606.7522	0.1755	0.0000	610.4367

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
2014	0.1865	2.9220	3.3746	6.3300e-003	0.2807	0.0167	0.2975	0.1428	0.0212	0.1641	0.0000	606.0498	606.0498	0.1753	0.0000	609.7300
Total	0.1865	2.9220	3.3746	6.3300e-003	0.2807	0.0167	0.2975	0.1428	0.0212	0.1641	0.0000	606.0498	606.0498	0.1753	0.0000	609.7300

Total	0.1865	2.9220	3.3746	6.3300e-003	0.2807	0.0167	0.2975	0.1428	0.0212	0.1641	0.0000	606.0498	606.0498	0.1753	0.0000	609.7300
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ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
72.2770	63.9549	26.6925	0.0000	59.5703	95.0149	71.1145	60.2670	93.1229	75.4412	0.0000	0.1158	0.1158	0.1140	0.0000	0.1158

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Excavation Crew	Grading	2/1/2014	6/30/2014	5	106	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Excavation Crew	Excavators	0	8.00	162	0.38
Excavation Crew	Graders	1	8.00	235	0.37
Excavation Crew	Rubber Tired Dozers	2	8.00	247	0.38
Excavation Crew	Scrapers	8	8.00	350	0.38
Excavation Crew	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Excavation Crew	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Excavation Crew - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.6781	0.0000	0.6781	0.3552	0.0000	0.3552	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6368	8.0957	4.4913	6.1300e-003	0.3352	0.3352	0.3352	0.3084	0.3084	0.3084	0.0000	590.4261	590.4261	0.1745	0.0000	594.0901
Total	0.6368	8.0957	4.4913	6.1300e-003	0.6781	0.3352	1.0134	0.3552	0.3084	0.6636	0.0000	590.4261	590.4261	0.1745	0.0000	594.0901

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0359	0.0108	0.1121	2.0000e-004	0.0163	1.6000e-004	0.0164	4.3200e-003	1.4000e-004	4.4700e-003	0.0000	16.3261	16.3261	9.8000e-004	0.0000	16.3466
Total	0.0359	0.0108	0.1121	2.0000e-004	0.0163	1.6000e-004	0.0164	4.3200e-003	1.4000e-004	4.4700e-003	0.0000	16.3261	16.3261	9.8000e-004	0.0000	16.3466

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.2645	0.0000	0.2645	0.1385	0.0000	0.1385	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1506	2.9112	3.2625	6.1300e-003	0.0166	0.0166	0.0166	0.0211	0.0211	0.0211	0.0000	589.7237	589.7237	0.1743	0.0000	593.3834
Total	0.1506	2.9112	3.2625	6.1300e-003	0.2645	0.0166	0.2810	0.1385	0.0211	0.1596	0.0000	589.7237	589.7237	0.1743	0.0000	593.3834

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0359	0.0108	0.1121	2.0000e-004	0.0163	1.6000e-004	0.0164	4.3200e-003	1.4000e-004	4.4700e-003	0.0000	16.3261	16.3261	9.8000e-004	0.0000	16.3466
Total	0.0359	0.0108	0.1121	2.0000e-004	0.0163	1.6000e-004	0.0164	4.3200e-003	1.4000e-004	4.4700e-003	0.0000	16.3261	16.3261	9.8000e-004	0.0000	16.3466

LAX West Aircraft Maintenance Area Project - Excavation Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips).

Grading - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Tier 3 Engines; Level 3 DPFs; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	106.00
tblGrading	AcresOfGrading	901.00	84.00
tblGrading	PhaseName	Excavation Crew	Excavation Crew - Feb-Jun 2014
tblLandscapeEquipment	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,962,080.00	0.00
tblOffRoadEquipment	HorsePower	174.00	235.00
tblOffRoadEquipment	HorsePower	255.00	247.00
tblOffRoadEquipment	HorsePower	361.00	350.00
tblOffRoadEquipment	LoadFactor	0.41	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	PhaseName	Excavation Crew	Excavation Crew - Feb-Jun 2014
tblOffRoadEquipment	PhaseName	Excavation Crew	Excavation Crew - Feb-Jun 2014

tblOffRoadEquipment	PhaseName	Excavation Crew - Feb-Jun 2014
tblOffRoadEquipment	PhaseName	Excavation Crew - Feb-Jun 2014
tblOffRoadEquipment	PhaseName	Excavation Crew - Feb-Jun 2014
tblOnRoadDust	PhaseName	Excavation Crew - Feb-Jun 2014
tblProjectCharacteristics	CO2IntensityFactor	1104
tblProjectCharacteristics	OperationalYear	2018
tblTripsAndVMT	PhaseName	Excavation Crew - Feb-Jun 2014

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2014	0.6703	8.0755	4.5840	6.3100e-003	0.6992	0.3342	1.0333	0.3600	0.3074	0.6674	0.0000	604.4182	604.4182	0.1748	0.0000	608.0882
Total	0.6703	8.0755	4.5840	6.3100e-003	0.6992	0.3342	1.0333	0.3600	0.3074	0.6674	0.0000	604.4182	604.4182	0.1748	0.0000	608.0882

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2014	0.1859	2.9105	3.3617	6.3000e-003	0.2826	0.0167	0.2993	0.1430	0.0211	0.1642	0.0000	603.7186	603.7186	0.1746	0.0000	607.3843
Total	0.1859	2.9105	3.3617	6.3000e-003	0.2826	0.0167	0.2993	0.1430	0.0211	0.1642	0.0000	603.7186	603.7186	0.1746	0.0000	607.3843

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
72.2681	63.9592	26.6640	0.1585	59.5786	95.0172	71.0387	60.2689	93.1232	75.4012	0.0000	0.1157	0.1157	0.1144	0.0000	0.1158

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Excavation Crew - Feb-Jun 2014	Grading	2/1/2014	6/30/2014	5	106	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Excavation Crew - Feb-Jun 2014	Excavators	0	8.00	162	0.38
Excavation Crew - Feb-Jun 2014	Graders	1	8.00	235	0.37
Excavation Crew - Feb-Jun 2014	Rubber Tired Dozers	2	8.00	247	0.38
Excavation Crew - Feb-Jun 2014	Scrapers	8	8.00	350	0.38
Excavation Crew - Feb-Jun 2014	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Excavation Crew - Feb-Jun 2014	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area

3.2 Excavation Crew - Feb-Jun 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.6829	0.0000	0.6829	0.3557	0.0000	0.3557	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6344	8.0647	4.4719	6.1100e-003	0.3340	0.3340	0.3340	0.3073	0.3073	0.3073	0.0000	588.0921	588.0921	0.1738	0.0000	591.7416
Total	0.6344	8.0647	4.4719	6.1100e-003	0.6829	0.3340	1.0169	0.3557	0.3073	0.6630	0.0000	588.0921	588.0921	0.1738	0.0000	591.7416

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0359	0.0108	0.1121	2.0000e-004	0.0163	1.6000e-004	0.0164	4.3200e-003	1.4000e-004	4.4700e-003	0.0000	16.3261	16.3261	9.8000e-004	0.0000	16.3466
Total	0.0359	0.0108	0.1121	2.0000e-004	0.0163	1.6000e-004	0.0164	4.3200e-003	1.4000e-004	4.4700e-003	0.0000	16.3261	16.3261	9.8000e-004	0.0000	16.3466

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.2663	0.0000	0.2663	0.1387	0.0000	0.1387	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1500	2.8996	3.2496	6.1000e-003	0.0165	0.0165	0.0165	0.0210	0.0210	0.0210	0.0000	587.3925	587.3925	0.1736	0.0000	591.0377
Total	0.1500	2.8996	3.2496	6.1000e-003	0.2663	0.0165	0.2828	0.1387	0.0210	0.1597	0.0000	587.3925	587.3925	0.1736	0.0000	591.0377

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0359	0.0108	0.1121	2.0000e-004	0.0163	1.6000e-004	0.0164	4.3200e-003	1.4000e-004	4.4700e-003	0.0000	16.3261	16.3261	9.8000e-004	0.0000	16.3466
Total	0.0359	0.0108	0.1121	2.0000e-004	0.0163	1.6000e-004	0.0164	4.3200e-003	1.4000e-004	4.4700e-003	0.0000	16.3261	16.3261	9.8000e-004	0.0000	16.3466

LAX West Aircraft Maintenance Area Project - Fence Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 3 Engines; Level 3 DPFs; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	40.00	23.00
tblLandscapeEquipment	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	LoadFactor	0.40	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
2014	0.0123	0.1238	0.0455	8.0000e-005	0.0698	6.0900e-003	0.0758	0.0382	5.6000e-003	0.0438	0.0000	7.8143	7.8143	2.1900e-003	0.0000	7.8602
Total	0.0123	0.1238	0.0455	8.0000e-005	0.0698	6.0900e-003	0.0758	0.0382	5.6000e-003	0.0438	0.0000	7.8143	7.8143	2.1900e-003	0.0000	7.8602

Mitigated Construction

Year	tons/yr											MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
2014	2.9700e-003	0.0362	0.0437	8.0000e-005	0.0275	2.1000e-004	0.0277	0.0150	2.6000e-004	0.0152	0.0000	7.8056	7.8056	2.1900e-003	0.0000	7.8515
Total	2.9700e-003	0.0362	0.0437	8.0000e-005	0.0275	2.1000e-004	0.0277	0.0150	2.6000e-004	0.0152	0.0000	7.8056	7.8056	2.1900e-003	0.0000	7.8515

Percent Reduction	tons/yr											MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
	75.8340	70.7445	3.9129	0.0000	60.5648	96.5517	63.4494	60.7863	95.3571	65.2055	0.0000	0.1112	0.1112	0.0000	0.0000	0.1113

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fence Crew	Site Preparation	1/1/2014	1/31/2014	5	23	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fence Crew	Rubber Tired Dozers	1	8.00	200	0.38
Fence Crew	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fence Crew	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	LD_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Fence Crew - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	CH4	N2O	CO2e
Fugitive Dust					0.0693	0.0000	0.0693	0.0381	0.0000	0.0381	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0112	0.1235	0.0420	8.0000e-005	6.0800e-003	6.0800e-003	6.0800e-003	5.5900e-003	5.5900e-003	5.5900e-003	0.0000	7.3082	0.0000	7.3535
Total	0.0112	0.1235	0.0420	8.0000e-005	0.0693	6.0800e-003	0.0753	0.0381	5.5900e-003	0.0437	0.0000	7.3082	0.0000	7.3535

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	3.4000e-004	3.4700e-003	1.0000e-005	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.5061	0.5061	3.0000e-005	0.0000	0.5067
Total	1.1100e-003	3.4000e-004	3.4700e-003	1.0000e-005	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.5061	0.5061	3.0000e-005	0.0000	0.5067

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust	0.0270	0.0000	0.0000	0.0000	0.0270	0.0000	0.0270	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8600e-003	0.0359	0.0402	8.0000e-005	2.0000e-004	2.0000e-004	2.0000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	7.2995	7.2995	2.1600e-003	0.0000	7.3448
Total	1.8600e-003	0.0359	0.0402	8.0000e-005	0.0270	2.0000e-004	0.0272	0.0149	2.6000e-004	0.0151	0.0000	7.2995	7.2995	2.1600e-003	0.0000	7.3448

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1100e-003	3.4000e-004	3.4700e-003	1.0000e-005	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.5061	0.5061	3.0000e-005	0.0000	0.5067
Total	1.1100e-003	3.4000e-004	3.4700e-003	1.0000e-005	5.0000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.5061	0.5061	3.0000e-005	0.0000	0.5067

LAX West Aircraft Maintenance Area Project - Finish Saw/Sealing Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2014		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Truck.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Truck.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	1,110.00	21.00
tblConstructionPhase	PhaseEndDate	8/29/2014	8/31/2014
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	85.00

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tblOffRoadEquipment	HorsePower								89.00			200.00			
	tblOffRoadEquipment	LoadFactor							0.29	0.48			0.48			
	tblOffRoadEquipment	LoadFactor							0.20	0.38			0.38			
	tblOffRoadEquipment	OffRoadEquipmentUnitAmount							3.00	1.00			1.00			
	tblOffRoadEquipment	OffRoadEquipmentUnitAmount							1.00	0.00			0.00			
	tblOffRoadEquipment	OffRoadEquipmentUnitAmount							3.00	0.00			0.00			
	tblOffRoadEquipment	OffRoadEquipmentUnitAmount							1.00	0.00			0.00			
	tblOffRoadEquipment	UsageHours							7.00	8.00			8.00			
	tblProjectCharacteristics	CO2IntensityFactor							1227.89	1104			1104			
	tblTripsAndVMT	VendorTripNumber							20.00	0.00			0.00			
	tblTripsAndVMT	WorkerTripNumber							53.00	10.00			10.00			

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0206	0.1810	0.0803	1.2000e-004	1.1500e-003	0.0104	0.0116	3.1000e-004	9.6000e-003	9.9100e-003	0.0000	11.2927	11.2927	3.0600e-003	0.0000	11.3571
Total	0.0206	0.1810	0.0803	1.2000e-004	1.1500e-003	0.0104	0.0116	3.1000e-004	9.6000e-003	9.9100e-003	0.0000	11.2927	11.2927	3.0600e-003	0.0000	11.3571

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	5.1300e-003	0.0541	0.0724	1.2000e-004	1.1500e-003	3.8000e-004	1.5300e-003	3.1000e-004	4.3000e-004	7.3000e-004	0.0000	11.2806	11.2806	3.0600e-003	0.0000	11.3449
Total	5.1300e-003	0.0541	0.0724	1.2000e-004	1.1500e-003	3.8000e-004	1.5300e-003	3.1000e-004	4.3000e-004	7.3000e-004	0.0000	11.2806	11.2806	3.0600e-003	0.0000	11.3449

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	75.0971	70.1342	9.8718	0.0000	96.3602	86.7990	0.0000	95.5208	92.6337	0.0000	0.1068	0.1068	0.0000	0.0000	0.1069

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Finish Saw & Sealing Crew - Aug 2014	Building Construction	8/1/2014	8/31/2014	5	21	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Finish Saw & Sealing Crew - Aug 2014	Cranes	1	8.00	85	0.48
Finish Saw & Sealing Crew - Aug 2014	Forklifts	1	8.00	200	0.38
Finish Saw & Sealing Crew - Aug 2014	Generator Sets	0	8.00	84	0.74
Finish Saw & Sealing Crew - Aug 2014	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Finish Saw & Sealing Crew - Aug 2014	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Finish Saw & Sealing Crew - Aug 2014	2	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

- ### 3.1 Mitigation Measures Construction
- Use Cleaner Engines for Construction Equipment
 - Use DPF for Construction Equipment
 - Use Soil Stabilizer
 - Water Exposed Area
 - Clean Paved Roads

3.2 Finish Saw & Sealing Crew - Aug 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr										MT/yr						
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Off-Road	0.0181	0.1802	0.0724	1.1000e-004	0.0104	0.0104	0.0104	9.5900e-003	9.5900e-003	9.5900e-003	0.0000	10.1375	10.1375	3.0000e-003	0.0000	0.0000	10.2005
Total	0.0181	0.1802	0.0724	1.1000e-004	0.0104	0.0104	0.0104	9.5900e-003	9.5900e-003	9.5900e-003	0.0000	10.1375	10.1375	3.0000e-003	0.0000	0.0000	10.2005

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr						
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5400e-003	7.7000e-004	7.9300e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.1552	1.1552	7.0000e-005	0.0000	0.0000	1.1566
Total	2.5400e-003	7.7000e-004	7.9300e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.1552	1.1552	7.0000e-005	0.0000	0.0000	1.1566

Mitigated Construction On-Site

Category	tons/yr										MT/yr						
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Off-Road	2.5900e-003	0.0533	0.0645	1.1000e-004	3.7000e-004	3.7000e-004	3.7000e-004	4.2000e-004	4.2000e-004	4.2000e-004	0.0000	10.1255	10.1255	2.9900e-003	0.0000	0.0000	10.1883
Total	2.5900e-003	0.0533	0.0645	1.1000e-004	3.7000e-004	3.7000e-004	3.7000e-004	4.2000e-004	4.2000e-004	4.2000e-004	0.0000	10.1255	10.1255	2.9900e-003	0.0000	0.0000	10.1883

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5400e-003	7.7000e-004	7.9300e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.1552	1.1552	7.0000e-005	0.0000	1.1566
Total	2.5400e-003	7.7000e-004	7.9300e-003	1.0000e-005	1.1500e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.1552	1.1552	7.0000e-005	0.0000	1.1566

LAX West Aircraft Maintenance Area Project - Foundation Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.
 Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Grading -

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	1,110.00	44.00
tblConstructionPhase	PhaseEndDate	8/29/2014	8/31/2014
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	170.00
tblOffRoadEquipment	HorsePower	89.00	84.00
tblOffRoadEquipment	HorsePower	84.00	350.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	HorsePower	46.00	125.00
tblOffRoadEquipment	LoadFactor	0.29	0.48
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.74	0.38
tblOffRoadEquipment	LoadFactor	0.45	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	28.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.1229	1.2386	0.5519	1.4800e-003	6.7600e-003	0.0520	0.0587	1.7900e-003	0.0499	0.0516	0.0000	147.1720	147.1720	0.0135	0.0000	147.4565
Total	0.1229	1.2386	0.5519	1.4800e-003	6.7600e-003	0.0520	0.0587	1.7900e-003	0.0499	0.0516	0.0000	147.1720	147.1720	0.0135	0.0000	147.4565

Mitigated Construction

tons/yr														MT/yr			
Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
2014	0.0481	0.6567	0.8438	1.4800e-003	6.7600e-003	4.1400e-003	0.0109	1.7900e-003	4.8800e-003	6.6800e-003	0.0000	147.0050	147.0050	0.0135	0.0000	147.2891	
Total	0.0481	0.6567	0.8438	1.4800e-003	6.7600e-003	4.1400e-003	0.0109	1.7900e-003	4.8800e-003	6.6800e-003	0.0000	147.0050	147.0050	0.0135	0.0000	147.2891	

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
60.8367	46.9854	-52.8901	0.0000	0.0000	92.0354	81.4436	0.0000	90.2106	87.0643	0.0000	0.1135	0.1135	0.0739	0.0000	0.1135

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Foundation Crew - Jul-Aug 2014	Building Construction	7/1/2014	8/31/2014	5	44	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Foundation Crew - Jul-Aug 2014	Cranes	1	8.00	170	0.48
Foundation Crew - Jul-Aug 2014	Forklifts	1	8.00	84	0.37
Foundation Crew - Jul-Aug 2014	Generator Sets	4	8.00	350	0.38
Foundation Crew - Jul-Aug 2014	Tractors/Loaders/Backhoes	1	8.00	83	0.37
Foundation Crew - Jul-Aug 2014	Welders	1	8.00	125	0.31

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Foundation Crew - Jul-Aug 2014	8	28.00	0.00	0.00	14.70	6.90	20.00_LD_Mix	HDT_Mix	HHDT

- 3.1 Mitigation Measures Construction**
- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Foundation Crew - Jul-Aug 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.1080	1.2341	0.5064	1.3900e-003	0.0519	0.0519	0.0519	0.0498	0.0498	0.0498	0.0000	140.3951	140.3951	0.0131	0.0000	140.6711
Total	0.1080	1.2341	0.5064	1.3900e-003	0.0519	0.0519	0.0519	0.0498	0.0498	0.0498	0.0000	140.3951	140.3951	0.0131	0.0000	140.6711

Unmitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0149	4.4900e-003	0.0465	8.0000e-005	6.7600e-003	6.0000e-005	6.8200e-003	1.7900e-003	6.0000e-005	1.8500e-003	0.0000	6.7769	6.7769	4.0000e-004	0.0000	6.7854
Total	0.0149	4.4900e-003	0.0465	8.0000e-005	6.7600e-003	6.0000e-005	6.8200e-003	1.7900e-003	6.0000e-005	1.8500e-003	0.0000	6.7769	6.7769	4.0000e-004	0.0000	6.7854

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0332	0.6522	0.7972	1.3900e-003	4.0800e-003	4.0800e-003	4.0800e-003	4.8200e-003	4.8200e-003	4.8200e-003	0.0000	140.2281	140.2281	0.0131	0.0000	140.5037
Total	0.0332	0.6522	0.7972	1.3900e-003	4.0800e-003	4.0800e-003	4.0800e-003	4.8200e-003	4.8200e-003	4.8200e-003	0.0000	140.2281	140.2281	0.0131	0.0000	140.5037
MT/yr																

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0149	4.4900e-003	0.0465	8.0000e-005	6.7600e-003	6.0000e-005	6.8200e-003	1.7900e-003	6.0000e-005	1.8500e-003	0.0000	6.7769	6.7769	4.0000e-004	0.0000	6.7854
Total	0.0149	4.4900e-003	0.0465	8.0000e-005	6.7600e-003	6.0000e-005	6.8200e-003	1.7900e-003	6.0000e-005	1.8500e-003	0.0000	6.7769	6.7769	4.0000e-004	0.0000	6.7854
MT/yr																

LAX West Aircraft Maintenance Area Project - Fuel Line/UG Utilities Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Truck/Tractor; Backhoe.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Dump Truck; "Forklift" = Roller; "Generator" = Air Compressor; Welder.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	NumDays	1,110.00	153.00
tblConstEquipMitigation	NumDays	1,110.00	153.00
tblConstEquipMitigation	PhaseEndDate	8/3/2015	12/31/2014
tblConstEquipMitigation	PhaseStartDate	1/1/2015	6/1/2014
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	247.00
tblOffRoadEquipment	HorsePower	89.00	235.00
tblOffRoadEquipment	HorsePower	84.00	400.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	HorsePower	226.00	350.00
tblOffRoadEquipment	HorsePower	89.00	232.00
tblOffRoadEquipment	HorsePower	84.00	85.00
tblOffRoadEquipment	HorsePower	46.00	30.00
tblOffRoadEquipment	LoadFactor	0.29	0.38
tblOffRoadEquipment	LoadFactor	0.20	0.36
tblOffRoadEquipment	LoadFactor	0.74	0.38
tblOffRoadEquipment	LoadFactor	0.29	0.38
tblOffRoadEquipment	LoadFactor	0.20	0.38
tblOffRoadEquipment	LoadFactor	0.74	0.48
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	36.00
tblTripsAndVMT	WorkerTripNumber	53.00	0.00

2.0 Emissions Summary

**2.1 Overall Construction
Unmitigated Construction**

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.8712	9.1001	4.7075	8.1400e-003	0.0302	0.3995	0.4297	8.0200e-003	0.3740	0.3821	0.0000	783.5228	783.5228	0.1662	0.0000	787.0124
Total	0.8712	9.1001	4.7075	8.1400e-003	0.0302	0.3995	0.4297	8.0200e-003	0.3740	0.3821	0.0000	783.5228	783.5228	0.1662	0.0000	787.0124

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.3178	3.7733	4.4676	8.1400e-003	0.0302	0.0386	0.0688	8.0200e-003	0.0437	0.0517	0.0000	782.6268	782.6268	0.1660	0.0000	786.1122
Total	0.3178	3.7733	4.4676	8.1400e-003	0.0302	0.0386	0.0688	8.0200e-003	0.0437	0.0517	0.0000	782.6268	782.6268	0.1660	0.0000	786.1122

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	63.5165	58.5357	5.0961	0.0000	0.0000	90.3459	83.9946	0.0000	88.3275	86.4733	0.0000	0.1144	0.1144	0.1204	0.0000	0.1144

**3.0 Construction Detail
Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014	Building Construction	6/1/2014	12/31/2014	5	153	
2	Fuel Line/UG Utilities Pt. 2 - Jun-Dec 2014	Building Construction	6/1/2014	12/31/2014	5	153	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fuel Line/UG Utilities Pt. 2 - Jun-Dec 2014	Cranes	3	8.00	350	0.38
Fuel Line/UG Utilities Pt. 2 - Jun-Dec 2014	Forklifts	1	8.00	232	0.38

Fuel Line/UG Utilities Pt. 2 - Jun-Dec 2014	Generator Sets	1	8.00	85	0.48
Fuel Line/UG Utilities Pt. 2 - Jun-Dec 2014	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014	Cranes	1	8.00	247	0.38
Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014	Forklifts	2	8.00	235	0.36
Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014	Generator Sets	2	8.00	400	0.38
Fuel Line/UG Utilities Pt. 2 - Jun-Dec 2014	Welders	2	8.00	30	0.45
Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014	Tractors/Loaders/Backhoes	1	8.00	83	0.37
Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fuel Line/UG Utilities Pt. 2 - Jun-Dec 2014	7	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014	6	36.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.3626	4.3655	1.5494	3.9900e-003	0.1818	0.1818	0.1818	0.1707	0.1707	0.1707	0.0000	397.8795	397.8795	0.0644	0.0000	399.2317
Total	0.3626	4.3655	1.5494	3.9900e-003	0.1818	0.1818	0.1818	0.1707	0.1707	0.1707	0.0000	397.8795	397.8795	0.0644	0.0000	399.2317

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0667	0.0201	0.2080	3.7000e-004	0.0302	2.9000e-004	0.0305	8.0200e-003	2.7000e-004	8.2900e-003	0.0000	30.2979	30.2979	1.8100e-003	0.0000	30.3360
Total	0.0667	0.0201	0.2080	3.7000e-004	0.0302	2.9000e-004	0.0305	8.0200e-003	2.7000e-004	8.2900e-003	0.0000	30.2979	30.2979	1.8100e-003	0.0000	30.3360

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0967	1.8863	2.1400	3.9800e-003	0.0111	0.0111	0.0111	0.0138	0.0138	0.0138	0.0000	397.4061	397.4061	0.0643	0.0000	398.7567
Total	0.0967	1.8863	2.1400	3.9800e-003	0.0111	0.0111	0.0111	0.0138	0.0138	0.0138	0.0000	397.4061	397.4061	0.0643	0.0000	398.7567

LAX West Aircraft Maintenance Area Project - Grading Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 3 Engines; Level 3 DPFs; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = CAT CS583E Compactor; "Grader" = CAT 14H Motor Grader; "Rubber Tired Dozer" = CAT 623 Scraper; "Scraper" = CAT RM350B Reclaimer

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = CAT 330C L Excavator; "Grader" = CAT 966 Loader; "Scrapers" = Tri-axle Dump Truck

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	NumDays	110.00	215.00
tblConstEquipMitigation	NumDays	110.00	215.00
tblConstructionPhase	PhaseEndDate	9/25/2015	11/28/2014
tblConstructionPhase	PhaseStartDate	11/29/2014	2/1/2014
tblGrading	AcresOfGrading	322.50	75.00
tblGrading	AcresOfGrading	1,827.50	75.00
tblLandscapeEquipment	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	162.00	150.00
tblOffRoadEquipment	HorsePower	174.00	220.00
tblOffRoadEquipment	HorsePower	255.00	330.00
tblOffRoadEquipment	HorsePower	361.00	500.00
tblOffRoadEquipment	HorsePower	162.00	247.00
tblOffRoadEquipment	HorsePower	174.00	235.00
tblOffRoadEquipment	HorsePower	361.00	350.00
tblOffRoadEquipment	LoadFactor	0.38	0.43
tblOffRoadEquipment	LoadFactor	0.40	0.48
tblOffRoadEquipment	LoadFactor	0.48	0.34
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.48	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	Operational Year	2014	2018
tblTripsAndVMT	Worker Trip Number	13.00	8.00
tblTripsAndVMT	Worker Trip Number	25.00	12.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	1.6752	21.0277	12.7101	0.0170	0.7505	0.8503	1.6008	0.3707	0.7823	1.1530	0.0000	1,634.1709	1,634.1709	0.4773	0.0000	1,644.1951
Total	1.6752	21.0277	12.7101	0.0170	0.7505	0.8503	1.6008	0.3707	0.7823	1.1530	0.0000	1,634.1709	1,634.1709	0.4773	0.0000	1,644.1951

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.4624	7.9499	9.3229	0.0170	0.3071	0.0463	0.3533	0.1484	0.0577	0.2061	0.0000	1,632.2551	1,632.2551	0.4768	0.0000	1,642.2673
Total	0.4624	7.9499	9.3229	0.0170	0.3071	0.0463	0.3533	0.1484	0.0577	0.2061	0.0000	1,632.2551	1,632.2551	0.4768	0.0000	1,642.2673

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	72.3961	62.1931	26.6492	0.0588	59.0833	94.5606	77.9276	59.9676	92.6290	82.1277	0.0000	0.1172	0.1172	0.1194	0.0000	0.1172

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading Crew Pt. 1	Grading	2/1/2014	11/28/2014	5	215	
2	Grading Crew Pt. 2	Grading	2/1/2014	11/28/2014	5	215	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading Crew Pt. 1	Excavators	2	8.00	150	0.43
Grading Crew Pt. 1	Graders	1	8.00	220	0.41
Grading Crew Pt. 1	Rubber Tired Dozers	1	8.00	330	0.48
Grading Crew Pt. 1	Scrapers	1	8.00	500	0.34
Grading Crew Pt. 1	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading Crew Pt. 2	Excavators	1	8.00	247	0.37
Grading Crew Pt. 2	Graders	1	8.00	235	0.41

Grading Crew Pt. 2	Rubber Tired Dozers	8.00	255	0.40
Grading Crew Pt. 2	Scrapers	8.00	350	0.38
Grading Crew Pt. 2	Tractors/Loaders/Backhoes	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading Crew Pt. 1	5	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading Crew Pt. 2	10	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Grading Crew Pt. 1 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Fugitive Dust					0.6871	0.0000	0.6871	0.3601	0.0000	0.3601	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5306	6.5718	4.1450	5.1100e-003	0.2825	0.2825	0.2825	0.2599	0.2599	0.2599	0.0000	491.4219	491.4219	0.1452	0.0000	494.4715
Total	0.5306	6.5718	4.1450	5.1100e-003	0.6871	0.2825	0.9697	0.3601	0.2599	0.6201	0.0000	491.4219	491.4219	0.1452	0.0000	494.4715

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0208	6.2700e-003	0.0650	1.2000e-004	9.4400e-003	9.0000e-005	9.5300e-003	2.5100e-003	8.0000e-005	2.5900e-003	0.0000	9.4612	9.4612	5.7000e-004	0.0000	9.4731

Total	0.0208	6.2700e-003	0.0650	1.2000e-004	9.4400e-003	9.0000e-005	9.5300e-003	2.5100e-003	8.0000e-005	2.5900e-003	0.0000	9.4612	9.4612	5.7000e-004	0.0000	9.4731
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Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust					0.2680	0.0000	0.2680	0.1405	0.0000	0.1405	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1248	2.4131	2.9730	5.1000e-003	0.0146	0.0146	0.0146	0.0175	0.0175	0.0175	0.0000	490.8373	490.8373	0.1451	0.0000	493.8833
Total	0.1248	2.4131	2.9730	5.1000e-003	0.2680	0.0146	0.2826	0.1405	0.0175	0.1579	0.0000	490.8373	490.8373	0.1451	0.0000	493.8833

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0208	6.2700e-003	0.0650	1.2000e-004	9.4400e-003	9.0000e-005	9.5300e-003	2.5100e-003	8.0000e-005	2.5900e-003	0.0000	9.4612	9.4612	5.7000e-004	0.0000	9.4731
Total	0.0208	6.2700e-003	0.0650	1.2000e-004	9.4400e-003	9.0000e-005	9.5300e-003	2.5100e-003	8.0000e-005	2.5900e-003	0.0000	9.4612	9.4612	5.7000e-004	0.0000	9.4731

3.3 Grading Crew Pt. 2 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust					0.0398	0.0000	0.0398	4.2900e-003	0.0000	4.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0926	14.4402	8.4027	0.0116	0.5675	0.5675	0.5675	0.5221	0.5221	0.5221	0.0000	1,119.096	1,119.096	0.3307	0.0000	1,126.0408
Total	1.0926	14.4402	8.4027	0.0116	0.0398	0.5675	0.6073	4.2900e-003	0.5221	0.5264	0.0000	1,119.096	1,119.096	0.3307	0.0000	1,126.0408

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0312	9.4100e-003	0.0974	1.7000e-004	0.0142	1.4000e-004	0.0143	3.7600e-003	1.2000e-004	3.8800e-003	0.0000	14.1918	14.1918	8.5000e-004	0.0000	14.2097
Total	0.0312	9.4100e-003	0.0974	1.7000e-004	0.0142	1.4000e-004	0.0143	3.7600e-003	1.2000e-004	3.8800e-003	0.0000	14.1918	14.1918	8.5000e-004	0.0000	14.2097

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Fugitive Dust					0.0155	0.0000	0.0155	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2856	5.5212	6.1875	0.0116	0.0314	0.0314	0.0314	0.0400	0.0400	0.0400	0.0000	1,117.7647	1,117.7647	0.3303	0.0000	1,124.7013
Total	0.2856	5.5212	6.1875	0.0116	0.0155	0.0314	0.0469	1.6700e-003	0.0400	0.0417	0.0000	1,117.7647	1,117.7647	0.3303	0.0000	1,124.7013

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0312	9.4100e-003	0.0974	1.7000e-004	0.0142	1.4000e-004	0.0143	3.7600e-003	1.2000e-004	3.8800e-003	0.0000	14.1918	14.1918	8.5000e-004	0.0000	14.2097
Total	0.0312	9.4100e-003	0.0974	1.7000e-004	0.0142	1.4000e-004	0.0143	3.7600e-003	1.2000e-004	3.8800e-003	0.0000	14.1918	14.1918	8.5000e-004	0.0000	14.2097

LAX West Aircraft Maintenance Area Project - Grading Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 3 Engines; Level 3 DPFs; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	110.00	215.00
tblConstructionPhase	NumDays	110.00	215.00
tblConstructionPhase	PhaseEndDate	9/25/2015	11/28/2014
tblConstructionPhase	PhaseStartDate	11/29/2014	2/1/2014
tblGrading	AcresOfGrading	322.50	84.00
tblGrading	AcresOfGrading	1,827.50	84.00
tblLandscapeEquipment	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,962,080.00	0.00
tblOffRoadEquipment	HorsePower	162.00	150.00
tblOffRoadEquipment	HorsePower	162.00	247.00
tblOffRoadEquipment	HorsePower	174.00	220.00
tblOffRoadEquipment	HorsePower	174.00	235.00
tblOffRoadEquipment	HorsePower	255.00	330.00
tblOffRoadEquipment	HorsePower	361.00	500.00
tblOffRoadEquipment	HorsePower	361.00	350.00
tblOffRoadEquipment	LoadFactor	0.38	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.37

tblOffRoadEquipment	LoadFactor	0.40	0.48
tblOffRoadEquipment	LoadFactor	0.48	0.34
tblOffRoadEquipment	LoadFactor	0.48	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	13.00	8.00
tblTripsAndVMT	WorkerTripNumber	25.00	12.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
2014	1.6687	20.9457	12.6562	0.0170	0.7600	0.8469	1.6069	0.3717	0.7791	1.1509	0.0000	1,628.295	1,628.295	0.4756	0.0000	1,638.2831
Total	1.6687	20.9457	12.6562	0.0170	0.7600	0.8469	1.6069	0.3717	0.7791	1.1509	0.0000	1,628.295	1,628.295	0.4756	0.0000	1,638.2831

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
2014	0.4609	7.9210	9.2905	0.0169	0.3108	0.0461	0.3569	0.1488	0.0575	0.2063	0.0000	1,626.386	1,626.386	0.4750	0.0000	1,636.3624
Total	0.4609	7.9210	9.2905	0.0169	0.3108	0.0461	0.3569	0.1488	0.0575	0.2063	0.0000	1,626.386	1,626.386	0.4750	0.0000	1,636.3624

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	72.3792	62.1834	26.5933	0.1179	59.1061	94.5688	77.7904	59.9709	92.6263	82.0785	0.0000	0.1172	0.1172	0.1177	0.0000	0.1172

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading Crew Pt. 1 - Feb-Nov 2014	Grading	2/1/2014	11/28/2014	5	215	
2	Grading Crew Pt. 2 - Feb-Nov 2014	Grading	2/1/2014	11/28/2014	5	215	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading Crew Pt. 1 - Feb-Nov 2014	Excavators	2	8.00	150	0.43
Grading Crew Pt. 1 - Feb-Nov 2014	Graders	1	8.00	220	0.41
Grading Crew Pt. 1 - Feb-Nov 2014	Rubber Tired Dozers	1	8.00	330	0.48
Grading Crew Pt. 1 - Feb-Nov 2014	Scrapers	1	8.00	500	0.34
Grading Crew Pt. 1 - Feb-Nov 2014	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading Crew Pt. 2 - Feb-Nov 2014	Excavators	1	8.00	247	0.37
Grading Crew Pt. 2 - Feb-Nov 2014	Graders	1	8.00	235	0.41
Grading Crew Pt. 2 - Feb-Nov 2014	Rubber Tired Dozers	0	8.00	255	0.40
Grading Crew Pt. 2 - Feb-Nov 2014	Scrapers	8	8.00	350	0.38

Grading Crew Pt. 2 - Feb-Nov 2014	Tractors/Loaders/Backhoes	0	8.00	97	0.37
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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading Crew Pt. 1 - Feb-Nov 2014	5	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading Crew Pt. 2 - Feb-Nov 2014	10	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Grading Crew Pt. 1 - Feb-Nov 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	MT/yr															
Fugitive Dust					0.6919	0.0000	0.6919	0.3607	0.0000	0.3607	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5288	6.5497	4.1295	5.0900e-003	0.2816	0.2816	0.2816	0.2590	0.2590	0.2590	0.0000	489.9507	489.9507	0.1448	0.0000	492.9912
Total	0.5288	6.5497	4.1295	5.0900e-003	0.6919	0.2816	0.9735	0.3607	0.2590	0.6197	0.0000	489.9507	489.9507	0.1448	0.0000	492.9912

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0208	6.2700e-003	0.0650	1.2000e-004	9.4400e-003	9.0000e-005	9.5300e-003	2.5100e-003	8.0000e-005	2.5900e-003	0.0000	9.4612	9.4612	5.7000e-004	0.0000	9.4731
Total	0.0208	6.2700e-003	0.0650	1.2000e-004	9.4400e-003	9.0000e-005	9.5300e-003	2.5100e-003	8.0000e-005	2.5900e-003	0.0000	9.4612	9.4612	5.7000e-004	0.0000	9.4731

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Fugitive Dust					0.2699	0.0000	0.2699	0.1407	0.0000	0.1407	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1244	2.4058	2.9649	5.0800e-003	0.0146	0.0146	0.0146	0.0174	0.0174	0.0174	0.0000	489.3679	489.3679	0.1446	0.0000	492.4048
Total	0.1244	2.4058	2.9649	5.0800e-003	0.2699	0.0146	0.2844	0.1407	0.0174	0.1581	0.0000	489.3679	489.3679	0.1446	0.0000	492.4048

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0208	6.2700e-003	0.0650	1.2000e-004	9.4400e-003	9.0000e-005	9.5300e-003	2.5100e-003	8.0000e-005	2.5900e-003	0.0000	9.4612	9.4612	5.7000e-004	0.0000	0.0000	0.0000	9.4731
Total	0.0208	6.2700e-003	0.0650	1.2000e-004	9.4400e-003	9.0000e-005	9.5300e-003	2.5100e-003	8.0000e-005	2.5900e-003	0.0000	9.4612	9.4612	5.7000e-004	0.0000	0.0000	0.0000	9.4731

3.3 Grading Crew Pt. 2 - Feb-Nov 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Fugitive Dust					0.0445	0.0000	0.0445	4.8100e-003	0.0000	4.8100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0880	14.3804	8.3643	0.0116	0.5651	0.5651	0.5651	0.5199	0.5199	0.5199	0.0000	1,114.6916	1,114.6916	0.3294	0.0000	11,121.6091
Total	1.0880	14.3804	8.3643	0.0116	0.0445	0.5651	0.6096	4.8100e-003	0.5199	0.5247	0.0000	1,114.6916	1,114.6916	0.3294	0.0000	1,121.6091

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0312	9.4100e-003	0.0974	1.7000e-004	0.0142	1.4000e-004	0.0143	3.7600e-003	1.2000e-004	3.8800e-003	0.0000	14.1918	14.1918	8.5000e-004	0.0000	14.2097

Total	0.0312	9.4100e-003	0.0974	1.7000e-004	0.0142	1.4000e-004	0.0143	3.7600e-003	1.2000e-004	3.8800e-003	0.0000	14.1918	14.1918	8.5000e-004	0.0000	14.2097
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Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.0174	0.0000	0.0174	1.8800e-003	0.0000	1.8800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2845	5.4994	6.1632	0.0116	0.0313	0.0313	0.0313	0.0398	0.0398	0.0398	0.0000	1,113.3656	1,113.3656	0.3290	0.0000	11,120.2748
Total	0.2845	5.4994	6.1632	0.0116	0.0174	0.0313	0.0487	1.8800e-003	0.0398	0.0417	0.0000	1,113.3656	1,113.3656	0.3290	0.0000	1,120.2748

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0312	9.4100e-003	0.0974	1.7000e-004	0.0142	1.4000e-004	0.0143	3.7600e-003	1.2000e-004	3.8800e-003	0.0000	14.1918	14.1918	8.5000e-004	0.0000	14.2097
Total	0.0312	9.4100e-003	0.0974	1.7000e-004	0.0142	1.4000e-004	0.0143	3.7600e-003	1.2000e-004	3.8800e-003	0.0000	14.1918	14.1918	8.5000e-004	0.0000	14.2097

LAX West Aircraft Maintenance Area Project - Interior Rough Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1,110.00	43.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018

fbTripsAndVMT	Vendor Trip Number	20.00	0.00
fbTripsAndVMT	Worker Trip Number	53.00	30.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr										MT/yr					CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
2014	0.0653	0.1480	0.2163	2.1000e-004	7.0800e-003	0.0144	0.0214	1.8800e-003	0.0132	0.0151	0.0000	19.1890	19.1890	4.0000e-003	0.0000	19.2730
Total	0.0653	0.1480	0.2163	2.1000e-004	7.0800e-003	0.0144	0.0214	1.8800e-003	0.0132	0.0151	0.0000	19.1890	19.1890	4.0000e-003	0.0000	19.2730

Mitigated Construction

Year	tons/yr										MT/yr					CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
2014	0.0653	0.1478	0.2161	2.1000e-004	7.0800e-003	0.0143	0.0214	1.8800e-003	0.0132	0.0151	0.0000	19.1746	19.1746	3.9900e-003	0.0000	19.2585
Total	0.0653	0.1478	0.2161	2.1000e-004	7.0800e-003	0.0143	0.0214	1.8800e-003	0.0132	0.0151	0.0000	19.1746	19.1746	3.9900e-003	0.0000	19.2585

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		0.0918	0.1149	0.0925	0.0000	0.0000	0.1394	0.0934	0.0000	0.1515	0.1326	0.0000	0.0749	0.0749	0.2500	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Interior Rough Crew - Nov-Dec 2014	Building Construction	11/1/2014	12/31/2014	5	43	

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Worker	0.0156	4.7000e-003	0.0487	9.0000e-005	7.0800e-003	7.0000e-005	7.1400e-003	1.8800e-003	6.0000e-005	1.9400e-003	7.0959	4.2000e-004	0.0000	7.0959	0.0000	0.0000	0.0000	7.0959	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.1048
Total	0.0156	4.7000e-003	0.0487	9.0000e-005	7.0800e-003	7.0000e-005	7.1400e-003	1.8800e-003	6.0000e-005	1.9400e-003	7.0959	4.2000e-004	0.0000	7.0959	0.0000	0.0000	0.0000	7.0959	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.1048

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0497	0.1431	0.1673	1.2000e-004	0.0143	0.0143	0.0143	0.0131	0.0131	0.0131	0.0000	12.0787	12.0787	3.5700e-003	0.0000	12.1537
Total	0.0497	0.1431	0.1673	1.2000e-004	0.0143	0.0143	0.0143	0.0131	0.0131	0.0131	0.0000	12.0787	12.0787	3.5700e-003	0.0000	12.1537

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0156	4.7000e-003	0.0487	9.0000e-005	7.0800e-003	7.0000e-005	7.1400e-003	1.8800e-003	6.0000e-005	1.9400e-003	0.0000	7.0959	7.0959	4.2000e-004	0.0000	7.1048
Total	0.0156	4.7000e-003	0.0487	9.0000e-005	7.0800e-003	7.0000e-005	7.1400e-003	1.8800e-003	6.0000e-005	1.9400e-003	0.0000	7.0959	7.0959	4.2000e-004	0.0000	7.1048

LAX West Aircraft Maintenance Area Project - Lighting-Night Shift 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Utility Company	Los Angeles Department of Water & Power	Operational Year	2014
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1,110.00	132.00
tblEnergyUse	LightingElect	2.63	2.63
tblEnergyUse	T24E	3.92	3.92
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	84.00	15.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.1214	0.8325	0.5773	1.2400e-003	0.0000	0.0462	0.0462	0.0000	0.0462	0.0462	0.0000	79.9365	79.9365	9.8500e-003	0.0000	80.1433
Total	0.1214	0.8325	0.5773	1.2400e-003	0.0000	0.0462	0.0462	0.0000	0.0462	0.0462	0.0000	79.9365	79.9365	9.8500e-003	0.0000	80.1433

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.1213	0.8315	0.5766	1.2400e-003	0.0000	0.0462	0.0462	0.0000	0.0462	0.0462	0.0000	79.8414	79.8414	9.8300e-003	0.0000	80.0479
Total	0.1213	0.8315	0.5766	1.2400e-003	0.0000	0.0462	0.0462	0.0000	0.0462	0.0462	0.0000	79.8414	79.8414	9.8300e-003	0.0000	80.0479

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
0.1153	0.1189	0.1178	0.0000	0.0000	0.1082	0.1082	0.0000	0.1082	0.1082	0.0000	0.1190	0.1190	0.2030	0.0000	0.1190
Percent Reduction															

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	7/1/2014	12/31/2014	5	132	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	0	7.00	226	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	12	8.00	15	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	12	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Lighting-Night Shift - Jul-Dec 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.1214	0.8325	0.5773	1.2400e-003	0.0462	0.0462	0.0462	0.0462	0.0462	0.0462	0.0000	79.9365	79.9365	9.8500e-003	0.0000	80.1433
Total	0.1214	0.8325	0.5773	1.2400e-003	0.0462	0.0462	0.0462	0.0462	0.0462	0.0462	0.0000	79.9365	79.9365	9.8500e-003	0.0000	80.1433
	MT/yr															

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	MT/yr															

LAX West Aircraft Maintenance Area Project - Misc Labor Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 3 Engines; Level 3 DPFs; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Tractor/Loader/Backhoe" = CAT 428 Backhoe

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOffEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	40.00	261.00
tblLandscapeEquipment	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104

tblProjectCharacteristics	Operational Year	2014	2018
tblTripsAndVMT	Worker Trip Number	3.00	10.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0727	0.4040	0.3691	5.2000e-004	0.0143	0.0311	0.0454	3.8000e-003	0.0286	0.0324	0.0000	47.8940	47.8940	0.0108	0.0000	48.1201
Total	0.0727	0.4040	0.3691	5.2000e-004	0.0143	0.0311	0.0454	3.8000e-003	0.0286	0.0324	0.0000	47.8940	47.8940	0.0108	0.0000	48.1201

Mitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0401	0.2030	0.3598	5.2000e-004	0.0143	1.8300e-003	0.0162	3.8000e-003	1.8200e-003	5.6200e-003	0.0000	47.8541	47.8541	0.0108	0.0000	48.0800
Total	0.0401	0.2030	0.3598	5.2000e-004	0.0143	1.8300e-003	0.0162	3.8000e-003	1.8200e-003	5.6200e-003	0.0000	47.8541	47.8541	0.0108	0.0000	48.0800

Percent Reduction	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	44.9333	49.7611	2.5224	0.0000	0.0000	94.1214	64.4586	0.0000	93.6430	82.6757	0.0000	0.0833	0.0833	0.0929	0.0000	0.0834

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Miscellaneous Labor Crew	Site Preparation	1/1/2014	12/31/2014	5	261	

Worker	0.0316	9.5200e-003	0.0986	1.8000e-004	0.0143	1.4000e-004	0.0145	3.8000e-003	1.3000e-004	3.9300e-003	0.0000	14.3569	14.3569	0.0000	8.6000e-004	0.0000	14.3749
Total	0.0316	9.5200e-003	0.0986	1.8000e-004	0.0143	1.4000e-004	0.0145	3.8000e-003	1.3000e-004	3.9300e-003	0.0000	14.3569	14.3569	0.0000	8.6000e-004	0.0000	14.3749

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.4700e-003	0.1934	0.2612	3.5000e-004	1.6900e-003	1.6900e-003	1.6900e-003	1.6900e-003	1.6900e-003	1.6900e-003	0.0000	33.4972	33.4972	9.9000e-003	0.0000	33.7051
Total	8.4700e-003	0.1934	0.2612	3.5000e-004	0.0000	1.6900e-003	1.6900e-003	0.0000	1.6900e-003	1.6900e-003	0.0000	33.4972	33.4972	9.9000e-003	0.0000	33.7051

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0316	9.5200e-003	0.0986	1.8000e-004	0.0143	1.4000e-004	0.0145	3.8000e-003	1.3000e-004	3.9300e-003	0.0000	14.3569	14.3569	8.6000e-004	0.0000	14.3749
Total	0.0316	9.5200e-003	0.0986	1.8000e-004	0.0143	1.4000e-004	0.0145	3.8000e-003	1.3000e-004	3.9300e-003	0.0000	14.3569	14.3569	8.6000e-004	0.0000	14.3749

tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	53.00	26.00
tblTripsAndVMT	WorkerTripNumber	53.00	48.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
2014	1.4207	16.1536	10.8566	0.0138	0.0698	0.6872	0.7570	0.0189	0.6335	0.6523	0.0000	1,310.086	1,310.086	0.3554	0.0000	1,317.5506
Total	1.4207	16.1536	10.8566	0.0138	0.0698	0.6872	0.7570	0.0189	0.6335	0.6523	0.0000	1,310.086	1,310.086	0.3554	0.0000	1,317.5506

Mitigated Construction

Year	tons/yr											MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
2014	0.4812	6.3436	7.5377	0.0138	0.0698	0.0419	0.1117	0.0189	0.0499	0.0688	0.0000	1,308.655	1,308.655	0.3550	0.0000	1,316.1105
Total	0.4812	6.3436	7.5377	0.0138	0.0698	0.0419	0.1117	0.0189	0.0499	0.0688	0.0000	1,308.655	1,308.655	0.3550	0.0000	1,316.1105

Percent Reduction	tons/yr											MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
66.1313	60.7298	30.5703	0.0727	0.0000	93.9057	85.2448	0.0000	92.1228	89.4593	0.0000	0.1093	0.1093	0.1154	0.0000	0.1093	

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	PCCP Paving Crew Pt. 1 - Jul-Dec 2015	Building Construction	7/11/2014	12/31/2014	5	132	
2	PCCP Paving Crew Pt. 2 - Jul-Dec 2015	Building Construction	7/11/2014	12/31/2014	5	132	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
PCCP Paving Crew Pt. 1 - Jul-Dec 2015	Cranes	1	8.00	450	0.42
PCCP Paving Crew Pt. 2 - Jul-Dec 2015	Cranes	13	8.00	350	0.38
PCCP Paving Crew Pt. 1 - Jul-Dec 2015	Forklifts	2	8.00	85	0.48
PCCP Paving Crew Pt. 2 - Jul-Dec 2015	Forklifts	0	8.00	89	0.20
PCCP Paving Crew Pt. 1 - Jul-Dec 2015	Generator Sets	1	8.00	70	0.50
PCCP Paving Crew Pt. 2 - Jul-Dec 2015	Generator Sets	0	8.00	84	0.74
PCCP Paving Crew Pt. 1 - Jul-Dec 2015	Tractors/Loaders/Backhoes	2	8.00	200	0.42
PCCP Paving Crew Pt. 2 - Jul-Dec 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37
PCCP Paving Crew Pt. 1 - Jul-Dec 2015	Welders	0	8.00	46	0.45
PCCP Paving Crew Pt. 2 - Jul-Dec 2015	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
PCCP Paving Crew Pt. 1 - Jul-Dec 2015	6	26.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	IHHDT
PCCP Paving Crew Pt. 2 - Jul-Dec 2015	21	48.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	IHHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 PCCP Paving Crew Pt. 1 - Jul-Dec 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.2750	3.2008	1.7194	2.7300e-003	0.1583	0.1583	0.1583	0.1469	0.1469	0.1469	0.0000	259.9701	259.9701	0.0730	0.0000	261.5035
Total	0.2750	3.2008	1.7194	2.7300e-003	0.1583	0.1583	0.1583	0.1469	0.1469	0.1469	0.0000	259.9701	259.9701	0.0730	0.0000	261.5035

Unmitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0279	0.1549	0.1807	2.9000e-004	8.1200e-003	2.9500e-003	0.0111	2.3200e-003	2.7100e-003	5.0300e-003	0.0000	26.6022	26.6022	2.4000e-004	0.0000	26.6072
Worker	0.0415	0.0125	0.1296	2.3000e-004	0.0188	1.8000e-004	0.0190	5.0000e-003	1.7000e-004	5.1700e-003	0.0000	18.8785	18.8785	1.1300e-003	0.0000	18.9021
Total	0.0694	0.1674	0.3103	5.2000e-004	0.0270	3.1300e-003	0.0301	7.3200e-003	2.8800e-003	0.0102	0.0000	45.4806	45.4806	1.3700e-003	0.0000	45.5093

Mitigated Construction On-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0661	1.3344	1.5808	2.7200e-003	8.9300e-003	8.9300e-003	8.9300e-003	0.0102	0.0102	0.0102	0.0000	259.6608	259.6608	0.0729	0.0000	261.1924
Total	0.0661	1.3344	1.5808	2.7200e-003	8.9300e-003	8.9300e-003	8.9300e-003	0.0102	0.0102	0.0102	0.0000	259.6608	259.6608	0.0729	0.0000	261.1924

Mitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0279	0.1549	0.1807	2.9000e-004	8.1200e-003	2.9500e-003	0.0111	2.3200e-003	2.7100e-003	5.0300e-003	0.0000	26.6022	26.6022	2.4000e-004	0.0000	26.6072
Worker	0.0415	0.0125	0.1296	2.3000e-004	0.0188	1.8000e-004	0.0190	5.0000e-003	1.7000e-004	5.1700e-003	0.0000	18.8785	18.8785	1.1300e-003	0.0000	18.9021
Total	0.0694	0.1674	0.3103	5.2000e-004	0.0270	3.1300e-003	0.0301	7.3200e-003	2.8800e-003	0.0102	0.0000	45.4806	45.4806	1.3700e-003	0.0000	45.5093

3.3 PCCP Paving Crew Pt. 2 - Jul-Dec 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.9718	12.6074	8.4069	9.8000e-003	0.5225	0.5225	0.5225	0.4807	0.4807	0.4807	0.0000	943.1813	943.1813	0.2787	0.0000	949.0344
Total	0.9718	12.6074	8.4069	9.8000e-003	0.5225	0.5225	0.5225	0.4807	0.4807	0.4807	0.0000	943.1813	943.1813	0.2787	0.0000	949.0344

Unmitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0279	0.1549	0.1807	2.9000e-004	8.1200e-003	2.9500e-003	0.0111	2.3200e-003	2.7100e-003	5.0300e-003	0.0000	26.6022	26.6022	2.4000e-004	0.0000	26.6072
Worker	0.0767	0.0231	0.2393	4.3000e-004	0.0348	3.3000e-004	0.0351	9.2300e-003	3.1000e-004	9.5400e-003	0.0000	34.8525	34.8525	2.0800e-003	0.0000	34.8963
Total	0.1045	0.1780	0.4200	7.2000e-004	0.0429	3.2800e-003	0.0462	0.0116	3.0200e-003	0.0146	0.0000	61.4547	61.4547	2.3200e-003	0.0000	61.5034

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.2412	4.6637	5.2266	9.7900e-003	0.0265	0.0265	0.0265	0.0338	0.0338	0.0338	0.0000	942.0593	942.0593	0.2784	0.0000	947.9054
Total	0.2412	4.6637	5.2266	9.7900e-003	0.0265	0.0265	0.0265	0.0338	0.0338	0.0338	0.0000	942.0593	942.0593	0.2784	0.0000	947.9054

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0279	0.1549	0.1807	2.9000e-004	8.1200e-003	2.9500e-003	0.0111	2.3200e-003	2.7100e-003	5.0300e-003	0.0000	26.6022	26.6022	2.4000e-004	0.0000	26.6072
Worker	0.0767	0.0231	0.2393	4.3000e-004	0.0348	3.3000e-004	0.0351	9.2300e-003	3.1000e-004	9.5400e-003	0.0000	34.8525	34.8525	2.0800e-003	0.0000	34.8963
Total	0.1045	0.1780	0.4200	7.2000e-004	0.0429	3.2800e-003	0.0462	0.0116	3.0200e-003	0.0146	0.0000	61.4547	61.4547	2.3200e-003	0.0000	61.5034

LAX West Aircraft Maintenance Area Project – Saw Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Cranes" = Water Truck. "Forklifts" = Vacuum Sweeper".

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Cranes" = Water Truck. "Forklifts" = "Vacuum Sweeper".

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Cranes" = "Water Truck". "Forklifts" = "Vacuum Sweeper".

Table Name	Column Name	Default Value	New Value
tbiConstEquipMitigation	DPF	No Change	Level 3
tbiConstEquipMitigation	DPF	No Change	Level 3
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tbiConstEquipMitigation	Tier	No Change	Tier 3
tbiConstEquipMitigation	Tier	No Change	Tier 3
tbiConstructionPhase	NumDays	1,110.00	44.00
tbiConstructionPhase	NumDays	1,110.00	43.00
tbiConstructionPhase	PhaseEndDate	8/29/2014	8/31/2014

tblConstructionPhase	PhaseEndDate	10/29/2014	12/31/2014
tblConstructionPhase	PhaseStartDate	9/1/2014	11/1/2014
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	230.00
tblOffRoadEquipment	HorsePower	89.00	99.00
tblOffRoadEquipment	HorsePower	226.00	230.00
tblOffRoadEquipment	HorsePower	89.00	99.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.46
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.46
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	8.00
tblTripsAndVMT	WorkerTripNumber	53.00	8.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	INBio-CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
2014	0.0723	0.6718	0.3180	4.8000e-004	3.8200e-003	0.0398	0.0436	1.0700e-003	0.0366	0.0376	0.0000	45.8754	45.8754	0.0127	0.0000	46.1412
Total	0.0723	0.6718	0.3180	4.8000e-004	3.8200e-003	0.0398	0.0436	1.0700e-003	0.0366	0.0376	0.0000	45.8754	45.8754	0.0127	0.0000	46.1412

Mitigated Construction

tons/yr													MT/yr			
Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.0192	0.2249	0.2975	4.8000e-004	3.8200e-003	1.6000e-003	5.4100e-003	1.0100e-003	1.7900e-003	2.8000e-003	0.0000	45.8254	45.8254	0.0126	0.0000	46.0908
Total	0.0192	0.2249	0.2975	4.8000e-004	3.8200e-003	1.6000e-003	5.4100e-003	1.0100e-003	1.7900e-003	2.8000e-003	0.0000	45.8254	45.8254	0.0126	0.0000	46.0908

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	73.4928	66.5203	6.4444	0.0000	95.9789	87.5946	0.0000	95.1106	92.5572	0.0000	0.1090	0.1090	0.0791	0.0000	0.1091

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Saw Crew Jul-Aug 2014	Building Construction	7/1/2014	8/31/2014	5	44	
2	Saw Crew Nov-Dec 2014	Building Construction	11/1/2014	12/31/2014	5	43	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Saw Crew Nov-Dec 2014	Cranes	1	8.00	230	0.31
Saw Crew Nov-Dec 2014	Forklifts	1	8.00	99	0.46
Saw Crew Nov-Dec 2014	Generator Sets	0	8.00	84	0.74
Saw Crew Jul-Aug 2014	Generator Sets	0	8.00	84	0.74
Saw Crew Jul-Aug 2014	Cranes	1	8.00	230	0.31
Saw Crew Jul-Aug 2014	Forklifts	1	8.00	99	0.46
Saw Crew Nov-Dec 2014	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Saw Crew Nov-Dec 2014	Welders	0	8.00	46	0.45
Saw Crew Jul-Aug 2014	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Saw Crew Jul-Aug 2014	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Saw Crew Nov-Dec 2014	2	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Saw Crew Jul-Aug 2014	2	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use DPF for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Saw Crew Jul-Aug 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Off-Road	0.0323	0.3385	0.1475	2.2000e-004	0.0201	0.0201	0.0201	0.0185	0.0185	0.0185	0.0000	21.2651	21.2651	6.2800e-003	0.0000	21.3971
Total	0.0323	0.3385	0.1475	2.2000e-004	0.0201	0.0201	0.0201	0.0185	0.0185	0.0185	0.0000	21.2651	21.2651	6.2800e-003	0.0000	21.3971

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2600e-003	1.2800e-003	0.0133	2.0000e-005	1.9300e-003	2.0000e-005	1.9500e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.9363	1.9363	1.2000e-004	0.0000	1.9387
Total	4.2600e-003	1.2800e-003	0.0133	2.0000e-005	1.9300e-003	2.0000e-005	1.9500e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.9363	1.9363	1.2000e-004	0.0000	1.9387

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Off-Road	5.4300e-003	0.1125	0.1372	2.2000e-004	7.9000e-004	7.9000e-004	7.9000e-004	8.9000e-004	8.9000e-004	8.9000e-004	0.0000	21.2398	21.2398	6.2800e-003	0.0000	21.3716
Total	5.4300e-003	0.1125	0.1372	2.2000e-004	7.9000e-004	7.9000e-004	7.9000e-004	8.9000e-004	8.9000e-004	8.9000e-004	0.0000	21.2398	21.2398	6.2800e-003	0.0000	21.3716

Category	tons/yr					MT/yr						
	Off-Road	5.3100e-003	0.1099	0.1340	2.2000e-004	7.7000e-004	8.7000e-004	8.7000e-004	20.7571	20.7571	6.1300e-003	0.0000
Total	5.3100e-003	0.1099	0.1340	2.2000e-004	7.7000e-004	8.7000e-004	8.7000e-004	20.7571	20.7571	6.1300e-003	0.0000	20.8859

Mitigated Construction Off-Site

Category	tons/yr										MT/yr													
	Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1600e-003	1.2500e-003	0.0130	2.0000e-005	1.8900e-003	2.0000e-005	5.0000e-004	1.9100e-003	2.0000e-005	5.2000e-004	2.0000e-005	5.2000e-004	1.8923	1.8923	1.1000e-004	1.8923	1.8923	1.8923	1.8923	1.8923	1.1000e-004	0.0000	1.8946	
Total	4.1600e-003	1.2500e-003	0.0130	2.0000e-005	1.8900e-003	2.0000e-005	5.0000e-004	1.9100e-003	2.0000e-005	5.2000e-004	2.0000e-005	5.2000e-004	1.8923	1.8923	1.1000e-004	1.8923	1.8923	1.8923	1.8923	1.8923	1.1000e-004	0.0000	1.8946	

LAX West Aircraft Maintenance Area Project - Striping Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Paint Truck; "Forklift" = Flat Bed Truck.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Paint Truck; "Forklift" = Flat Bed Truck.

Architectural Coating - Months 8-9: 41,033.20 sqft of outdoor painted area (6% of [55 * 2/7 = 15.7 acres]).

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	62,500.00	41,033.20
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	187,500.00	0.00
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	75.00	44.00
tblConstructionPhase	NumDays	1,110.00	44.00

tblConstructionPhase	PhaseEndDate	10/30/2014	8/29/2014
tblConstructionPhase	PhaseEndDate	8/29/2014	8/31/2014
tblConstructionPhase	PhaseStartDate	9/1/2014	7/1/2014
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	175.00
tblOffRoadEquipment	HorsePower	89.00	200.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	3.00
tblTripsAndVMT	WorkerTripNumber	11.00	3.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2014	0.2687	0.3106	0.1379	2.1000e-004	1.4500e-003	0.0156	0.0170	3.8000e-004	0.0143	0.0147	0.0000	19.8519	19.8519	5.5200e-003	0.0000	19.9679
Total	0.2687	0.3106	0.1379	2.1000e-004	1.4500e-003	0.0156	0.0170	3.8000e-004	0.0143	0.0147	0.0000	19.8519	19.8519	5.5200e-003	0.0000	19.9679

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2014	0.2456	0.0916	0.1115	2.1000e-004	1.4500e-003	5.3000e-004	1.9800e-003	3.8000e-004	6.7000e-004	1.0500e-003	0.0000	19.8300	19.8300	5.5200e-003	0.0000	19.9459
Total	0.2456	0.0916	0.1115	2.1000e-004	1.4500e-003	5.3000e-004	1.9800e-003	3.8000e-004	6.7000e-004	1.0500e-003	0.0000	19.8300	19.8300	5.5200e-003	0.0000	19.9459

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
8.5963	70.5200	19.1281	0.0000	0.0000	96.6004	88.3803	0.0000	95.3278	92.8717	0.0000	0.1103	0.1103	0.0000	0.0000	0.1103

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Striping Crew - Aug-Sep 2014, bc	Building Construction	7/11/2014	8/31/2014	5	44	
2	Striping Crew - Aug-Sep 2014, ac	Architectural Coating	7/11/2014	8/29/2014	5	44	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Striping Crew - Aug-Sep 2014, ac	Air Compressors	0	6.00	78	0.48
Striping Crew - Aug-Sep 2014, bc	Cranes	1	8.00	175	0.31
Striping Crew - Aug-Sep 2014, bc	Forklifts	1	6.00	200	0.31
Striping Crew - Aug-Sep 2014, bc	Generator Sets	0	8.00	84	0.74
Striping Crew - Aug-Sep 2014, bc	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Striping Crew - Aug-Sep 2014, bc	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Striping Crew - Aug-Sep 2014, bc	2	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Striping Crew - Aug-Sep 2014, ac	0	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Striping Crew - Aug-Sep 2014, bc - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr											MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
Off-Road	0.0278	0.3096	0.1279	1.9000e-004		0.0156	0.0156		0.0143	0.0143	0.0000	18.3997	18.3997	5.4400e-003	0.0000	18.5139
Total	0.0278	0.3096	0.1279	1.9000e-004		0.0156	0.0156		0.0143	0.0143	0.0000	18.3997	18.3997	5.4400e-003	0.0000	18.5139

Unmitigated Construction Off-Site

Category	tons/yr											MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270
Total	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270

Mitigated Construction On-Site

Category	tons/yr											MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
Off-Road	4.6900e-003	0.0906	0.1015	1.9000e-004		5.2000e-004	5.2000e-004		6.6000e-004	6.6000e-004	0.0000	18.3778	18.3778	5.4300e-003	0.0000	18.4918
Total	4.6900e-003	0.0906	0.1015	1.9000e-004		5.2000e-004	5.2000e-004		6.6000e-004	6.6000e-004	0.0000	18.3778	18.3778	5.4300e-003	0.0000	18.4918

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270
Total	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270

3.3 Striping Crew - Aug-Sep 2014, ac - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Archit. Coating	0.2377				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.2377	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270
Total	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Archit. Coating	0.2377				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.2377	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270
Total	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270

LAX West Aircraft Maintenance Area Project - Striping Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Paint Truck; "Forklift" = Flat Bed Truck.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Architectural Coating - Months 8-9: 50,780 sqft of outdoor painted area (6% of [68 * 2/7 = 19.43 acres]). (The 6% factor based on CalEEMod User's Guide, Appendix E, Section 7.)

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Paint Truck; "Forklift" = Flat Bed Truck.

Grading -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	62,500.00	50,780.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	187,500.00	0.00
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOffEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOffEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	75.00	44.00
tblConstructionPhase	NumDays	1,110.00	44.00
tblConstructionPhase	PhaseEndDate	10/30/2014	8/31/2014
tblConstructionPhase	PhaseEndDate	8/29/2014	8/31/2014
tblConstructionPhase	PhaseStartDate	9/1/2014	7/1/2014
tblLandUse	LandUseSquareFeet	2,962,080.00	0.00
tblOffRoadEquipment	HorsePower	226.00	175.00
tblOffRoadEquipment	HorsePower	89.00	200.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	20.00	0.00

tblTripsAndVMT	WorkerTripNumber	53.00	3.00
tblTripsAndVMT	WorkerTripNumber	11.00	3.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.3252	0.3106	0.1379	2.1000e-004	1.4500e-003	0.0156	0.0170	3.8000e-004	0.0143	0.0147	0.0000	19.8519	19.8519	5.5200e-003	0.0000	19.9679
Total	0.3252	0.3106	0.1379	2.1000e-004	1.4500e-003	0.0156	0.0170	3.8000e-004	0.0143	0.0147	0.0000	19.8519	19.8519	5.5200e-003	0.0000	19.9679

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2014	0.3021	0.0916	0.1115	2.1000e-004	1.4500e-003	5.3000e-004	1.9800e-003	3.8000e-004	6.7000e-004	1.0500e-003	0.0000	19.8300	19.8300	5.5200e-003	0.0000	19.9459
Total	0.3021	0.0916	0.1115	2.1000e-004	1.4500e-003	5.3000e-004	1.9800e-003	3.8000e-004	6.7000e-004	1.0500e-003	0.0000	19.8300	19.8300	5.5200e-003	0.0000	19.9459

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	7.1035	70.5200	19.1281	0.0000	0.0000	96.6004	88.3803	0.0000	95.3278	92.8717	0.0000	0.1103	0.1103	0.0000	0.0000	0.1103

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Striping Crew - Aug-Sep 2014, bc	Building Construction	7/1/2014	8/31/2014	5	44	
2	Striping Crew - Aug-Sep 2014, ac	Architectural Coating	7/1/2014	8/31/2014	5	44	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Striping Crew - Aug-Sep 2014, bc	Cranes	1	8.00	175	0.31
Striping Crew - Aug-Sep 2014, bc	Forklifts	1	6.00	200	0.31
Striping Crew - Aug-Sep 2014, bc	Generator Sets	0	8.00	84	0.74
Striping Crew - Aug-Sep 2014, bc	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Striping Crew - Aug-Sep 2014, bc	Welders	0	8.00	46	0.45
Striping Crew - Aug-Sep 2014, ac	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Striping Crew - Aug-Sep 2014, bc	2	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Striping Crew - Aug-Sep 2014, ac	0	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area

3.2 Striping Crew - Aug-Sep 2014, bc - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0278	0.3096	0.1279	1.9000e-004	0.0156	0.0156	0.0156	0.0143	0.0143	0.0143	0.0000	18.3997	18.3997	5.4400e-003	0.0000	18.5139
Total	0.0278	0.3096	0.1279	1.9000e-004	0.0156	0.0156	0.0156	0.0143	0.0143	0.0143	0.0000	18.3997	18.3997	5.4400e-003	0.0000	18.5139

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270
Total	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270
Total	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	0.7261	4.0000e-005	0.0000	0.7270
MT/yr																

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Archit. Coating	0.2942					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.2942	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MT/yr																

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																

Category	tons/yr										MT/yr			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	4.0000e-005	0.7270
Total	1.6000e-003	4.8000e-004	4.9900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7261	4.0000e-005	0.7270

LAX West Aircraft Maintenance Area Project - Structural Steel Crew 2014

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	1,110.00	45.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	332.00
tblOffRoadEquipment	HorsePower	89.00	125.00
tblOffRoadEquipment	HorsePower	84.00	50.00

	tblOffRoadEquipment	tblOffRoadEquipment	tblOffRoadEquipment	tblOffRoadEquipment	tblOffRoadEquipment	tblOffRoadEquipment	tblOffRoadEquipment	tblOffRoadEquipment	tblOffRoadEquipment	tblProjectCharacteristics	tblProjectCharacteristics	tblTripsAndVMT	tblTripsAndVMT
	LoadFactor	LoadFactor	OffRoadEquipmentUnitAmount	OffRoadEquipmentUnitAmount	OffRoadEquipmentUnitAmount	OffRoadEquipmentUnitAmount	OffRoadEquipmentUnitAmount	UsageHours	CO2IntensityFactor	OperationalYear	VendorTripNumber	WorkerTripNumber	
	0.20	0.74	3.00	1.00	3.00	1.00	7.00	1227.89	2014	20.00	53.00		
	0.31	0.31	1.00	2.00	0.00	0.00	8.00	1104	2018	0.00	22.00		

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr															
2014	0.0569	0.4027	0.3087	4.1000e-004	5.4300e-003	0.0201	0.0255	1.4400e-003	0.0188	0.0203	0.0000	36.9008	36.9008	9.1700e-003	0.0000	37.0935
Total	0.0569	0.4027	0.3087	4.1000e-004	5.4300e-003	0.0201	0.0255	1.4400e-003	0.0188	0.0203	0.0000	36.9008	36.9008	9.1700e-003	0.0000	37.0935
	MT/yr															

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr															
2014	0.0359	0.1898	0.2510	4.1000e-004	5.4300e-003	5.5900e-003	0.0110	1.4400e-003	5.7300e-003	7.1700e-003	0.0000	36.8634	36.8634	9.1600e-003	0.0000	37.0559
Total	0.0359	0.1898	0.2510	4.1000e-004	5.4300e-003	5.5900e-003	0.0110	1.4400e-003	5.7300e-003	7.1700e-003	0.0000	36.8634	36.8634	9.1600e-003	0.0000	37.0559

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	36.8032	52.8705	18.7057	0.0000	0.0000	72.1336	56.7674	0.0000	69.5860	64.6450	0.0000	0.1014	0.1014	0.1091	0.0000	0.1015

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Structural Steel Crew - Sep-Oct 2014	Building Construction	9/1/2014	10/31/2014	5	45	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Structural Steel Crew - Sep-Oct 2014	Cranes	1	8.00	332	0.29
Structural Steel Crew - Sep-Oct 2014	Forklifts	1	8.00	125	0.31
Structural Steel Crew - Sep-Oct 2014	Generator Sets	2	8.00	50	0.31
Structural Steel Crew - Sep-Oct 2014	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Structural Steel Crew - Sep-Oct 2014	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Structural Steel Crew - Sep-Oct 2014	4	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Structural Steel Crew - Sep-Oct 2014 - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	CH4	N2O	CO2e
Off-Road	0.0449	0.3991	0.2713	3.5000e-004	0.0200	0.0188	0.0200	0.0188	0.0188	0.0188	0.0000	31.4551	8.8500e-003	31.6410
Total	0.0449	0.3991	0.2713	3.5000e-004	0.0200	0.0188	0.0200	0.0188	0.0188	0.0188	0.0000	31.4551	8.8500e-003	31.6410

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0120	3.6100e-003	0.0374	7.0000e-005	5.4300e-003	5.0000e-005	5.4800e-003	1.4400e-003	5.0000e-005	1.4900e-003	0.0000	5.4457	5.4457	3.3000e-004	0.0000	5.4525
Total	0.0120	3.6100e-003	0.0374	7.0000e-005	5.4300e-003	5.0000e-005	5.4800e-003	1.4400e-003	5.0000e-005	1.4900e-003	0.0000	5.4457	5.4457	3.3000e-004	0.0000	5.4525

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0240	0.1862	0.2136	3.5000e-004	5.5400e-003	5.5400e-003	5.5400e-003	5.6800e-003	5.6800e-003	5.6800e-003	0.0000	31.4177	31.4177	8.8400e-003	0.0000	31.6033
Total	0.0240	0.1862	0.2136	3.5000e-004	5.5400e-003	5.5400e-003	5.5400e-003	5.6800e-003	5.6800e-003	5.6800e-003	0.0000	31.4177	31.4177	8.8400e-003	0.0000	31.6033

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0120	3.6100e-003	0.0374	7.0000e-005	5.4300e-003	5.0000e-005	5.4800e-003	1.4400e-003	5.0000e-005	1.4900e-003	0.0000	5.4457	5.4457	3.3000e-004	0.0000	5.4525
Total	0.0120	3.6100e-003	0.0374	7.0000e-005	5.4300e-003	5.0000e-005	5.4800e-003	1.4400e-003	5.0000e-005	1.4900e-003	0.0000	5.4457	5.4457	3.3000e-004	0.0000	5.4525

Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- Criteria Pollutant and GHGs – CalEEMod Off-Road/On-Site, Worker Commute, Vendor Truck Delivery Emissions (Tons per Year)
 - Year 2 (2015)

LAX West Aircraft Maintenance Area Project - ACP Paving Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	62.50	1000sqft	1.43	62,500.00	0
Other Asphalt Surfaces	14.50	Acre	14.50	631,620.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller. Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Architectural Coating -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Paver" = Loader; "Paving Equipment" = Flat Bed Truck; "Roller" = Dump Truck.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	1041180	947430
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	152.00
tblConstructionPhase	NumDays	20.00	152.00

tblConstructionPhase	PhaseStartDate	PhaseEndDate	7/31/2015
tblConstructionPhase	8/1/2015	3/1/2016	1/1/2015
tblOffRoadEquipment	HorsePower	125.00	174.00
tblOffRoadEquipment	HorsePower	80.00	145.00
tblOffRoadEquipment	HorsePower	130.00	99.00
tblOffRoadEquipment	HorsePower	125.00	90.00
tblOffRoadEquipment	HorsePower	130.00	200.00
tblOffRoadEquipment	HorsePower	80.00	350.00
tblOffRoadEquipment	LoadFactor	0.42	0.36
tblOffRoadEquipment	LoadFactor	0.36	0.31
tblOffRoadEquipment	LoadFactor	0.38	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	13.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	10.00	44.00
tblTripsAndVMT	WorkerTripNumber	38.00	0.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
2015	0.9837	11.4203	7.4888	0.0115	0.0367	0.4746	0.5113	9.7400e-003	0.4367	0.4464	0.0000	1,088.780	1,088.780	0.3164	0.0000	1,095.4256
Total	0.9837	11.4203	7.4888	0.0115	0.0367	0.4746	0.5113	9.7400e-003	0.4367	0.4464	0.0000	1,088.780	1,088.780	0.3164	0.0000	1,095.4256

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
2015	0.3029	3.2309	6.4360	0.0115	0.0367	0.0227	0.0594	9.7400e-003	0.0226	0.0324	0.0000	1,087.527	1,087.527	0.3161	0.0000	1,094.1649
Total	0.3029	3.2309	6.4360	0.0115	0.0367	0.0227	0.0594	9.7400e-003	0.0226	0.0324	0.0000	1,087.527	1,087.527	0.3161	0.0000	1,094.1649

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	69.2078	71.7094	14.0591	0.0869	0.0000	95.2236	88.3928	94.8152	92.7464	0.0000	0.1151	0.1151	0.1169	0.0000	0.1151

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	ACP Paving Crew pt.1 - Jan-Jul 2015	Paving	1/1/2015	7/31/2015	5	152	
2	ACP Paving Crew pt.2 - Jan-Jul 2015	Paving	1/1/2015	7/31/2015	5	152	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
ACP Paving Crew pt.2 - Jan-Jul 2015	Pavers	1	8.00	90	0.36
ACP Paving Crew pt.2 - Jan-Jul 2015	Paving Equipment	1	2.00	200	0.31
ACP Paving Crew pt.2 - Jan-Jul 2015	Rollers	13	8.00	350	0.31
ACP Paving Crew pt.1 - Jan-Jul 2015	Pavers	1	8.00	174	0.42
ACP Paving Crew pt.1 - Jan-Jul 2015	Rollers	2	8.00	145	0.38
ACP Paving Crew pt.1 - Jan-Jul 2015	Paving Equipment	1	8.00	99	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
ACP Paving Crew pt.2 1 Jan-Jul 2015	15	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
ACP Paving Crew pt.1 1 Jan-Jul 2015	4	44.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 ACP Paving Crew pt.1 - Jan-Jul 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.1333	1.5199	0.9323	1.4300e-003	0.0815	0.0815	0.0815	0.0750	0.0750	0.0750	0.0000	136.2357	136.2357	0.0407	0.0000	137.0898
Paving	0.0190				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1523	1.5199	0.9323	1.4300e-003	0.0815	0.0815	0.0815	0.0750	0.0750	0.0750	0.0000	136.2357	136.2357	0.0407	0.0000	137.0898
MT/yr																

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0752	0.0219	0.2272	4.5000e-004	0.0367	3.3000e-004	0.0370	9.7400e-003	3.0000e-004	0.0100	0.0000	35.6024	35.6024	2.0100e-003	0.0000	35.6446
Total	0.0752	0.0219	0.2272	4.5000e-004	0.0367	3.3000e-004	0.0370	9.7400e-003	3.0000e-004	0.0100	0.0000	35.6024	35.6024	2.0100e-003	0.0000	35.6446
MT/yr																

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0322	0.6421	1.0845	1.4300e-003	4.6400e-003	4.6400e-003	4.6400e-003	4.6400e-003	4.6400e-003	4.6400e-003	0.0000	136.0736	136.0736	0.0406	0.0000	136.9267
Paving	0.0190				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0512	0.6421	1.0845	1.4300e-003	4.6400e-003	4.6400e-003	4.6400e-003	4.6400e-003	4.6400e-003	4.6400e-003	0.0000	136.0736	136.0736	0.0406	0.0000	136.9267
MT/yr																

LAX West Aircraft Maintenance Area Project - Admin Support Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozer" = "Mechanics Truck"; "Tractors/Loaders/Backhoes" = "Vacuum Sweeper"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOffEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOffEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	40.00	152.00
tblLandscapEquip	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	97.00	170.00

	tblOffRoadEquipment	tblOffRoadEquipment	tblOffRoadEquipment	tblOffRoadEquipment	tblProjectCharacteristics	tblProjectCharacteristics	tblTripsAndVMT	tblTripsAndVMT
	LoadFactor	LoadFactor	OffRoadEquipmentUnitAmount	OffRoadEquipmentUnitAmount	CO2IntensityFactor	OperationalYear	VendorTripNumber	WorkerTripNumber
	0.40	0.37	3.00	4.00	1227.89	2014	0.00	5.00
	0.38	0.46	1.00	1.00	1104	2018	2.00	24.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
2015	0.1620	1.3469	0.7595	1.2800e-003	0.4786	0.0661	0.5448	0.2572	0.0608	0.3180	0.0000	118.1649	118.1649	0.0297	0.0000	118.7886
Total	0.1620	1.3469	0.7595	1.2800e-003	0.4786	0.0661	0.5448	0.2572	0.0608	0.3180	0.0000	118.1649	118.1649	0.0297	0.0000	118.7886

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
2015	0.0633	0.3823	0.7925	1.2800e-003	0.1994	2.0900e-003	0.2015	0.1037	2.0500e-003	0.1058	0.0000	118.0511	118.0511	0.0297	0.0000	118.6740
Total	0.0633	0.3823	0.7925	1.2800e-003	0.1994	2.0900e-003	0.2015	0.1037	2.0500e-003	0.1058	0.0000	118.0511	118.0511	0.0297	0.0000	118.6740

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	60.9294	71.6138	-4.3463	0.0000	58.3311	96.8396	63.0057	59.6749	96.6305	66.7453	0.0000	0.0964	0.0964	0.1347	0.0000	0.0965

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Administrative Support Crew	Site Preparation	7/1/2015	7/31/2015	5	152	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Administrative Support Crew	Rubber Tired Dozers	1	8.00	200	0.38
Administrative Support Crew	Tractors/Loaders/Backhoes	1	8.00	170	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Administrative Support Crew	2	24.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Administrative Support Crew - 2015 Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBl6-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
M1/yr																
Fugitive Dust					0.4577	0.0000	0.4577	0.2516	0.0000	0.2516	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1183	1.3194	0.6165	1.0000e-003	0.0657	0.0657	0.0657	0.0604	0.0604	0.0604	0.0000	95.7162	95.7162	0.0286	0.0000	96.3163
Total	0.1183	1.3194	0.6165	1.0000e-003	0.4577	0.0657	0.5234	0.2516	0.0604	0.3120	0.0000	95.7162	95.7162	0.0286	0.0000	96.3163

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0156	0.0190	3.0000e-005	9.3000e-004	2.6000e-004	1.2000e-003	2.7000e-004	2.4000e-004	5.1000e-004	0.0000	3.0293	3.0293	2.0000e-005	0.0000	3.0298
Worker	0.0410	0.0119	0.1239	2.5000e-004	0.0200	1.8000e-004	0.0202	5.3100e-003	1.6000e-004	5.4800e-003	0.0000	19.4195	19.4195	1.1000e-003	0.0000	19.4425
Total	0.0437	0.0275	0.1430	2.8000e-004	0.0209	4.4000e-004	0.0214	5.5800e-003	4.0000e-004	5.9900e-003	0.0000	22.4487	22.4487	1.1200e-003	0.0000	22.4723

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.1785	0.0000	0.1785	0.0981	0.0000	0.0981	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0196	0.3549	0.6495	1.0000e-003	1.6500e-003	1.6500e-003	1.6500e-003	1.6500e-003	1.6500e-003	1.6500e-003	0.0000	95.6023	95.6023	0.0285	0.0000	96.2017
Total	0.0196	0.3549	0.6495	1.0000e-003	0.1785	1.6500e-003	0.1801	0.0981	1.6500e-003	0.0998	0.0000	95.6023	95.6023	0.0285	0.0000	96.2017

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0156	0.0190	3.0000e-005	9.3000e-004	2.6000e-004	1.2000e-003	2.7000e-004	2.4000e-004	5.1000e-004	0.0000	3.0293	3.0293	2.0000e-005	0.0000	3.0298
Worker	0.0410	0.0119	0.1239	2.5000e-004	0.0200	1.8000e-004	0.0202	5.3100e-003	1.6000e-004	5.4800e-003	0.0000	19.4195	19.4195	1.1000e-003	0.0000	19.4425
Total	0.0437	0.0275	0.1430	2.8000e-004	0.0209	4.4000e-004	0.0214	5.5800e-003	4.0000e-004	5.9900e-003	0.0000	22.4487	22.4487	1.1200e-003	0.0000	22.4723

LAX West Aircraft Maintenance Area Project - Backfill Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Roller; "Grader" = Loader.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Roller; "Grader" = Loader.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Grading - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Roller; "Grader" = Loader.

Architectural Coating -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	110.00	42.00
tblConstructionPhase	PhaseEndDate	2/27/2015	2/28/2015
tblGrading	AcresOfGrading	21.00	68.00
tblLandUse	LandUseSquareFeet	2,962,080.00	0.00
tblOffRoadEquipment	HorsePower	162.00	232.00
tblOffRoadEquipment	HorsePower	174.00	235.00
tblOffRoadEquipment	LoadFactor	0.41	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	5.00	12.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NI Bio- CO2	Total CO2	CH4	N2O	CO2e
MT/yr																
2015	0.0275	0.3177	0.1065	3.5000e-004	0.0388	0.0102	0.0490	4.6300e-003	9.3700e-003	0.0140	0.0000	32.5506	32.5506	9.0700e-003	0.0000	32.7410

Total	0.0275	0.3177	0.1065	3.5000e-004	0.0388	0.0102	0.0490	4.6300e-003	9.3700e-003	0.0140	0.0000	32.5506	32.5506	9.0700e-003	0.0000	32.7410
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Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0108	0.0841	0.1833	3.5000e-004	0.0168	5.4000e-004	0.0174	2.2500e-003	5.3000e-004	2.7900e-003	0.0000	32.5151	32.5151	9.0600e-003	0.0000	32.7053
Total	0.0108	0.0841	0.1833	3.5000e-004	0.0168	5.4000e-004	0.0174	2.2500e-003	5.3000e-004	2.7900e-003	0.0000	32.5151	32.5151	9.0600e-003	0.0000	32.7053

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	60.8000	73.5300	-72.0548	0.0000	56.6461	64.5787	51.4039	94.3436	80.0714	0.0000	0.1092	0.1092	0.1103	0.0000	0.1092

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Backfill Crew - Jan-Feb 2015	Grading	1/1/2015	2/28/2015	5	42	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Backfill Crew - Jan-Feb 2015	Excavators	1	8.00	232	0.38
Backfill Crew - Jan-Feb 2015	Graders	1	8.00	235	0.36
Backfill Crew - Jan-Feb 2015	Rubber Tired Dozers	0	8.00	255	0.40
Backfill Crew - Jan-Feb 2015	Scrapers	0	8.00	361	0.48

Worker	5.6600e-003	1.6500e-003	0.0171	3.0000e-005	2.7600e-003	2.0000e-005	2.7900e-003	7.3000e-004	2.0000e-005	7.6000e-004	0.0000	2.6830	1.5000e-004	0.0000	2.6861
Total	5.6600e-003	1.6500e-003	0.0171	3.0000e-005	2.7600e-003	2.0000e-005	2.7900e-003	7.3000e-004	2.0000e-005	7.6000e-004	0.0000	2.6830	1.5000e-004	0.0000	2.6861

LAX West Aircraft Maintenance Area Project - Batch Plant Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozer" = CAT 988 Loader

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4, Interim
tblConstEquipMitigation	Tier	No Change	Tier 4, Interim
tblConstructionPhase	NumDays	40.00	42.00
tblConstructionPhase	PhaseEndDate	2/27/2015	2/28/2015
tblLandscapEquip	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	255.00	475.00
tblOffRoadEquipment	LoadFactor	0.40	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	5.00	12.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0953	1.0147	0.7900	6.6000e-004	0.2557	0.0473	0.3030	0.1398	0.0435	0.1833	0.0000	62.3392	62.3392	0.0180	0.0000	62.7164
Total	0.0953	1.0147	0.7900	6.6000e-004	0.2557	0.0473	0.3030	0.1398	0.0435	0.1833	0.0000	62.3392	62.3392	0.0180	0.0000	62.7164

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0158	0.1649	0.3461	6.6000e-004	0.1014	1.0400e-003	0.1024	0.0550	1.0300e-003	0.0560	0.0000	62.2682	62.2682	0.0179	0.0000	62.6450
Total	0.0158	0.1649	0.3461	6.6000e-004	0.1014	1.0400e-003	0.1024	0.0550	1.0300e-003	0.0560	0.0000	62.2682	62.2682	0.0179	0.0000	62.6450

Percent Reduction	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	83.4330	83.7524	56.1931	0.0000	60.3387	97.8008	66.1892	60.8754	97.6327	69.4494	0.0000	0.1138	0.1138	0.1114	0.0000	0.1139

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Batch Plant Crew - Jan-Feb 2015	Site Preparation	1/1/2015	2/28/2015	5	42	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Batch Plant Crew - Jan-Feb 2015	Rubber Tired Dozers	21	8.00	475	0.36
Batch Plant Crew - Jan-Feb 2015	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Batch Plant Crew - Jan Feb 2015	2	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Batch Plant Crew - Jan-Feb 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr														
Fugitive Dust					0.2529	0.0000	0.2529	0.1390	0.1390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0896	1.0130	0.7729	6.3000e-004	0.0473	0.0473	0.0473	0.0435	0.0435	0.0000	59.6562	59.6562	0.0178	0.0000	60.0303
Total	0.0896	1.0130	0.7729	6.3000e-004	0.2529	0.0473	0.3002	0.0435	0.1825	0.0000	59.6562	59.6562	0.0178	0.0000	60.0303

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6600e-003	1.6500e-003	0.0171	3.0000e-005	2.7600e-003	2.0000e-005	2.7900e-003	7.3000e-004	2.0000e-005	7.6000e-004	0.0000	2.6830	2.6830	1.5000e-004	0.0000	2.8861
Total	5.6600e-003	1.6500e-003	0.0171	3.0000e-005	2.7600e-003	2.0000e-005	2.7900e-003	7.3000e-004	2.0000e-005	7.6000e-004	0.0000	2.6830	2.6830	1.5000e-004	0.0000	2.8861

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.0986	0.0000	0.0986	0.0542	0.0000	0.0542	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0101	0.1632	0.3290	6.2000e-004	1.0100e-003	1.0100e-003	1.0100e-003	1.0100e-003	1.0100e-003	1.0100e-003	0.0000	59.5853	59.5853	0.0178	0.0000	59.9588
Total	0.0101	0.1632	0.3290	6.2000e-004	0.0986	1.0100e-003	0.0997	0.0542	1.0100e-003	0.0552	0.0000	59.5853	59.5853	0.0178	0.0000	59.9588

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6600e-003	1.6500e-003	0.0171	3.0000e-005	2.7600e-003	2.0000e-005	2.7900e-003	7.3000e-004	2.0000e-005	7.6000e-004	0.0000	2.6830	2.6830	1.5000e-004	0.0000	2.8861
Total	5.6600e-003	1.6500e-003	0.0171	3.0000e-005	2.7600e-003	2.0000e-005	2.7900e-003	7.3000e-004	2.0000e-005	7.6000e-004	0.0000	2.6830	2.6830	1.5000e-004	0.0000	2.8861

LAX West Aircraft Maintenance Area Project - Building Systems Crew 2015 South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	1,110.00	86.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	125.00
tblOffRoadEquipment	HorsePower	89.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	53.00	28.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2015	0.1232	0.4617	0.4544	5.0000e-004	0.0132	0.0360	0.0492	3.5100e-003	0.0331	0.0366	0.0000	44.7409	44.7409	0.0103	0.0000	44.9563
Total	0.1232	0.4617	0.4544	5.0000e-004	0.0132	0.0360	0.0492	3.5100e-003	0.0331	0.0366	0.0000	44.7409	44.7409	0.0103	0.0000	44.9563

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2015	0.1033	0.2799	0.4475	5.0000e-004	0.0132	0.0230	0.0362	3.5100e-003	0.0212	0.0247	0.0000	44.7030	44.7030	0.0102	0.0000	44.9181
Total	0.1033	0.2799	0.4475	5.0000e-004	0.0132	0.0230	0.0362	3.5100e-003	0.0212	0.0247	0.0000	44.7030	44.7030	0.0102	0.0000	44.9181

Percent Reduction	tons/yr											MT/yr			
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O
16.1186	39.3767	1.5075	0.0000	0.0000	36.1466	26.4323	0.0000	36.1002	32.6419	0.0000	0.0849	0.0849	0.0976	0.0000	0.0850

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Systems Crew - Jan-Apr 2015	Building Construction	1/1/2015	4/30/2015	5	86	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Systems Crew - Jan-Apr 2015	Cranes	1	8.00	125	0.31
Building Systems Crew - Jan-Apr 2015	Forklifts	3	8.00	50	0.31
Building Systems Crew - Jan-Apr 2015	Generator Sets	0	8.00	84	0.74
Building Systems Crew - Jan-Apr 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Systems Crew - Jan-Apr 2015	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Systems Crew - Jan-Apr 2015	4	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Building Systems Crew - Jan-Apr 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
M/yr															
Off-Road	0.0961	0.4538	0.3726	3.3000e-004	0.0359	0.0330	0.0330	0.0330	0.0330	0.0000	31.9224	31.9224	9.5300e-003	0.0000	32.1225
Total	0.0961	0.4538	0.3726	3.3000e-004	0.0359	0.0330	0.0330	0.0330	0.0330	0.0000	31.9224	31.9224	9.5300e-003	0.0000	32.1225

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0271	7.8800e-003	0.0818	1.6000e-004	0.0132	1.2000e-004	0.0133	3.5100e-003	1.1000e-004	3.6200e-003	0.0000	12.8186	12.8186	7.2000e-004	0.0000	12.8338
Total	0.0271	7.8800e-003	0.0818	1.6000e-004	0.0132	1.2000e-004	0.0133	3.5100e-003	1.1000e-004	3.6200e-003	0.0000	12.8186	12.8186	7.2000e-004	0.0000	12.8338

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0762	0.2720	0.3657	3.3000e-004		0.0229	0.0229	0.0211	0.0211	0.0211	0.0000	31.8844	31.8844	9.5200e-003	0.0000	32.0843
Total	0.0762	0.2720	0.3657	3.3000e-004		0.0229	0.0229	0.0211	0.0211	0.0211	0.0000	31.8844	31.8844	9.5200e-003	0.0000	32.0843

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0271	7.8800e-003	0.0818	1.6000e-004	0.0132	1.2000e-004	0.0133	3.5100e-003	1.1000e-004	3.6200e-003	0.0000	12.8186	12.8186	7.2000e-004	0.0000	12.8338
Total	0.0271	7.8800e-003	0.0818	1.6000e-004	0.0132	1.2000e-004	0.0133	3.5100e-003	1.1000e-004	3.6200e-003	0.0000	12.8186	12.8186	7.2000e-004	0.0000	12.8338

LAX West Aircraft Maintenance Area Project - Demolition Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Concrete/Industrial Saw" = Air Compressor; Excavator; "Rubber Tired Dozer" = Loader.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Concrete/Industrial Saw" = Loader; Excavator; "Rubber Tired Dozer" = Air Compressor.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Excavator" = Dump Truck.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Demolition -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	70.00	22.00
tblConstructionPhase	NumDays	70.00	22.00
tblConstructionPhase	PhaseEndDate	6/1/2015	4/30/2015

tblConstructionPhase	PhaseStartDate	5/1/2015	4/1/2015
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	81.00	170.00
tblOffRoadEquipment	HorsePower	162.00	247.00
tblOffRoadEquipment	HorsePower	162.00	350.00
tblOffRoadEquipment	HorsePower	255.00	475.00
tblOffRoadEquipment	LoadFactor	0.73	0.48
tblOffRoadEquipment	LoadFactor	0.38	0.31
tblOffRoadEquipment	LoadFactor	0.40	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	13.00	30.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.1115	1.2914	0.7462	1.4600e-003	3.6200e-003	0.0505	0.0541	9.6000e-004	0.0467	0.0477	0.0000	137.7327	137.7327	0.0384	0.0000	138.5398
Total	0.1115	1.2914	0.7462	1.4600e-003	3.6200e-003	0.0505	0.0541	9.6000e-004	0.0467	0.0477	0.0000	137.7327	137.7327	0.0384	0.0000	138.5398

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0308	0.3856	0.7851	1.4600e-003	3.6200e-003	2.3300e-003	5.9500e-003	9.6000e-004	2.3200e-003	3.2800e-003	0.0000	137.5730	137.5730	0.0384	0.0000	138.3792
Total	0.0308	0.3856	0.7851	1.4600e-003	3.6200e-003	2.3300e-003	5.9500e-003	9.6000e-004	2.3200e-003	3.2800e-003	0.0000	137.5730	137.5730	0.0384	0.0000	138.3792

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0308	0.3856	0.7851	1.4600e-003	3.6200e-003	2.3300e-003	5.9500e-003	9.6000e-004	2.3200e-003	3.2800e-003	0.0000	137.5730	137.5730	0.0384	0.0000	138.3792
Total	0.0308	0.3856	0.7851	1.4600e-003	3.6200e-003	2.3300e-003	5.9500e-003	9.6000e-004	2.3200e-003	3.2800e-003	0.0000	137.5730	137.5730	0.0384	0.0000	138.3792

Percent Reduction	72.3538	70.1453	-5.2186	0.0000	0.0000	95.3825	88.9978	0.0000	95.0311	93.1165	0.0000	0.1159	0.1301	0.0000	0.1159
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3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition Crew pt. 1 - Apr 2015	Demolition	4/1/2015	4/30/2015	5	22	
2	Demolition Crew pt. 2 - Apr 2015	Demolition	4/1/2015	4/30/2015	5	22	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition Crew pt. 1 - Apr 2015	Concrete/Industrial Saws	1	8.00	170	0.48
Demolition Crew pt. 1 - Apr 2015	Excavators	2	8.00	247	0.38
Demolition Crew pt. 1 - Apr 2015	Rubber Tired Dozers	2	8.00	475	0.36
Demolition Crew pt. 2 - Apr 2015	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition Crew pt. 2 - Apr 2015	Excavators	8	8.00	350	0.31
Demolition Crew pt. 2 - Apr 2015	Rubber Tired Dozers	0	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition Crew pt. 1 - Apr 2015	5	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	IHHDT
Demolition Crew pt. 2 - Apr 2015	8	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	IHHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Demolition Crew pt. 1- Apr 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0650	0.7480	0.5020	6.0000e-004	0.0329	0.0329	0.0329	0.0305	0.0305	0.0305	0.0000	56.3279	56.3279	0.0150	0.0000	56.6425
Total	0.0650	0.7480	0.5020	6.0000e-004	0.0329	0.0329	0.0329	0.0305	0.0305	0.0305	0.0000	56.3279	56.3279	0.0150	0.0000	56.6425

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.5134	3.5134	2.0000e-004	0.0000	3.5176
Total	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.5134	3.5134	2.0000e-004	0.0000	3.5176

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	9.9500e-003	0.1664	0.3254	6.0000e-004	9.5000e-004	9.5000e-004	9.5000e-004	9.5000e-004	9.5000e-004	9.5000e-004	0.0000	56.2608	56.2608	0.0150	0.0000	56.5751
Total	9.9500e-003	0.1664	0.3254	6.0000e-004	9.5000e-004	9.5000e-004	9.5000e-004	9.5000e-004	9.5000e-004	9.5000e-004	0.0000	56.2608	56.2608	0.0150	0.0000	56.5751

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.5134	3.5134	2.0000e-004	0.0000	3.5176
Total	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.5134	3.5134	2.0000e-004	0.0000	3.5176

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005
Total	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005

3.3 Demolition Crew pt. 2 - Apr 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0391	0.5412	0.2217	8.2000e-004	0.0176	0.0176	0.0176	0.0162	0.0162	0.0162	0.0000	77.8914	77.8914	0.0233	0.0000	78.3798
Total	0.0391	0.5412	0.2217	8.2000e-004	0.0176	0.0176	0.0176	0.0162	0.0162	0.0162	0.0000	77.8914	77.8914	0.0233	0.0000	78.3798

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0135	0.2170	0.4373	8.2000e-004	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	0.0000	77.7988	77.7988	0.0232	0.0000	78.2865
Total	0.0135	0.2170	0.4373	8.2000e-004	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	0.0000	77.7988	77.7988	0.0232	0.0000	78.2865

LAX West Aircraft Maintenance Area Project - Drainage Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Compactor; "Tractor/Loader/Backhoe" = Flat Bed Truck; "Welder" = Dump Truck.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Grading -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Compactor; "Tractor/Loader/Backhoe" = Flat Bed Truck; "Crane" = Dump Truck.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Compactor; "Tractor/Loader/Backhoe" = Flat Bed Truck.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Dump Truck.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Compactor; "Tractor/Loader/Backhoe" = Flat Bed Truck.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Dump Truck

Table Name	Column Name	Default Value	New Value
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	1,110.00	22.00
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tblConstructionPhase	PhaseEndDate	7/30/2015	6/30/2015
tblConstructionPhase	PhaseStartDate	5/1/2015	4/1/2015
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tblConstructionPhase	PhaseStartDate	7/1/2015	6/1/2015
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	247.00
tblOffRoadEquipment	HorsePower	89.00	235.00
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tblOffRoadEquipment	HorsePower	97.00	200.00
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tblOffRoadEquipment						OffRoadEquipmentUnitAmount			1.00								2.00
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tblProjectCharacteristics						CO2IntensityFactor			1227.89								1104
tblProjectCharacteristics						OperationalYear			2014								2018
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tblTripsAndVMT						WorkerTripNumber			53.00								0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr												MT/yr				CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e	
2015	0.1032	1.1613	0.6222	9.8000e-004	3.8600e-003	0.0498	0.0536	1.0300e-003	0.0461	0.0471	0.0000	91.5787	91.5787	0.0239	0.0000	0.0000	92.0806
Total	0.1032	1.1613	0.6222	9.8000e-004	3.8600e-003	0.0498	0.0536	1.0300e-003	0.0461	0.0471	0.0000	91.5787	91.5787	0.0239	0.0000	0.0000	92.0806

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2015	0.0235	0.2614	0.5326	9.8000e-004	3.8600e-003	1.5300e-003	5.3900e-003	1.0300e-003	1.5200e-003	2.5500e-003	0.0000	91.4742	91.4742	0.0239	0.0000	91.9755
Total	0.0235	0.2614	0.5326	9.8000e-004	3.8600e-003	1.5300e-003	5.3900e-003	1.0300e-003	1.5200e-003	2.5500e-003	0.0000	91.4742	91.4742	0.0239	0.0000	91.9755

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	77.2392	77.4898	14.3982	0.0000	96.9259	89.9497	0.0000	96.7035	94.5906	0.0000	0.1141	0.1141	0.1255	0.0000	0.1141

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Drainage Crew pt.1 - Apr 2015	Building Construction	4/1/2015	4/30/2015	5	22	
2	Drainage Crew pt.2 - Apr 2015	Building Construction	4/1/2015	4/30/2015	5	22	
3	Drainage Crew pt.1 - Jun 2015	Building Construction	6/1/2015	6/30/2015	5	22	
4	Drainage Crew pt.2 - Jun 2015	Building Construction	6/1/2015	6/30/2015	5	22	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Drainage Crew pt.1 - Apr 2015	Cranes	1	8.00	247	0.38
Drainage Crew pt.1 - Apr 2015	Forklifts	1	8.00	235	0.36
Drainage Crew pt.1 - Apr 2015	Generator Sets	1	8.00	145	0.38
Drainage Crew pt.1 - Apr 2015	Tractors/Loaders/Backhoes	1	4.00	200	0.31
Drainage Crew pt.1 - Apr 2015	Welders	0	8.00	46	0.45
Drainage Crew pt.2 - Apr 2015	Cranes	2	8.00	350	0.31
Drainage Crew pt.2 - Apr 2015	Forklifts	0	8.00	89	0.20
Drainage Crew pt.2 - Apr 2015	Generator Sets	0	8.00	84	0.74
Drainage Crew pt.2 - Apr 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Drainage Crew pt.2 - Apr 2015	Welders	0	8.00	46	0.45
Drainage Crew pt.1 - Jun 2015	Cranes	1	8.00	247	0.38
Drainage Crew pt.2 - Jun 2015	Cranes	2	8.00	350	0.31
Drainage Crew pt.1 - Jun 2015	Forklifts	1	8.00	235	0.36
Drainage Crew pt.2 - Jun 2015	Forklifts	0	8.00	89	0.20

Drainage Crew pt.1 - Jun 2015	Generator Sets	1	8.00	145	0.38
Drainage Crew pt.2 - Jun 2015	Generator Sets	0	8.00	84	0.74
Drainage Crew pt.1 - Jun 2015	Tractors/Loaders/Backhoes	1	4.00	200	0.31
Drainage Crew pt.2 - Jun 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Drainage Crew pt.1 - Jun 2015	Welders	0	8.00	46	0.45
Drainage Crew pt.2 - Jun 2015	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Drainage Crew pt.1 - Apr 2015	4	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drainage Crew pt.2 - Apr 2015	2	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drainage Crew pt.1 - Jun 2015	4	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Drainage Crew pt.2 - Jun 2015	2	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Drainage Crew pt.1 - Apr 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
	MT/yr															
Off-Road	0.0276	0.3217	0.1261	2.6000e-004	0.0142	0.0142	0.0142	0.0132	0.0132	0.0132	0.0000	24.3919	24.3919	6.0100e-003	0.0000	24.5182
Total	0.0276	0.3217	0.1261	2.6000e-004	0.0142	0.0142	0.0142	0.0132	0.0132	0.0132	0.0000	24.3919	24.3919	6.0100e-003	0.0000	24.5182

3.4 Drainage Crew pt.1 - Jun 2015 - 2015

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0276	0.3217	0.1261	2.6000e-004	0.0142	0.0142	0.0142	0.0132	0.0132	0.0132	0.0000	24.3919	24.3919	6.0100e-003	0.0000	24.5182
Total	0.0276	0.3217	0.1261	2.6000e-004	0.0142	0.0142	0.0142	0.0132	0.0132	0.0132	0.0000	24.3919	24.3919	6.0100e-003	0.0000	24.5182

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9600e-003	1.1500e-003	0.0120	2.0000e-005	1.9300e-003	2.0000e-005	1.9500e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.8738	1.8738	1.1000e-004	0.0000	1.8760
Total	3.9600e-003	1.1500e-003	0.0120	2.0000e-005	1.9300e-003	2.0000e-005	1.9500e-003	5.1000e-004	2.0000e-005	5.3000e-004	0.0000	1.8738	1.8738	1.1000e-004	0.0000	1.8760

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	4.4200e-003	0.0753	0.1450	2.6000e-004	4.1000e-004	4.1000e-004	4.1000e-004	4.1000e-004	4.1000e-004	4.1000e-004	0.0000	24.3629	24.3629	6.0100e-003	0.0000	24.4891
Total	4.4200e-003	0.0753	0.1450	2.6000e-004	4.1000e-004	4.1000e-004	4.1000e-004	4.1000e-004	4.1000e-004	4.1000e-004	0.0000	24.3629	24.3629	6.0100e-003	0.0000	24.4891

LAX West Aircraft Maintenance Area Project – Electrical Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher".

"Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	1,110.00	86.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	89.00	60.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	LoadFactor	0.20	0.50

tblOffRoadEquipment	OffRoadEquipment	UnitAmount	1.00	0.00																		
tblOffRoadEquipment	OffRoadEquipment	UnitAmount	3.00	1.00																		
tblOffRoadEquipment	OffRoadEquipment	UnitAmount	1.00	0.00																		
tblOffRoadEquipment	OffRoadEquipment	UnitAmount	3.00	1.00																		
tblOffRoadEquipment	OffRoadEquipment	UnitAmount	1.00	0.00																		
tblOffRoadEquipment	OffRoadEquipment	UsageHours	7.00	8.00																		
tblProjectCharacteristics	CO2IntensityFactor		1227.89	1104																		
tblProjectCharacteristics	OperationalYear		2014	2018																		
tblTripsAndVMT	VendorTripNumber		20.00	0.00																		
tblTripsAndVMT	WorkerTripNumber		53.00	8.00																		

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0385	0.2787	0.2051	2.7000e-004	3.7700e-003	0.0225	0.0263	1.0000e-003	0.0207	0.0217	0.0000	25.1370	25.1370	6.6200e-003	0.0000	25.2759
Total	0.0385	0.2787	0.2051	2.7000e-004	3.7700e-003	0.0225	0.0263	1.0000e-003	0.0207	0.0217	0.0000	25.1370	25.1370	6.6200e-003	0.0000	25.2759

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0130	0.1204	0.1935	2.7000e-004	3.7700e-003	3.8800e-003	7.6600e-003	1.0000e-003	2.6100e-003	3.6100e-003	0.0000	25.1114	25.1114	6.6100e-003	0.0000	25.2502
Total	0.0130	0.1204	0.1935	2.7000e-004	3.7700e-003	3.8800e-003	7.6600e-003	1.0000e-003	2.6100e-003	3.6100e-003	0.0000	25.1114	25.1114	6.6100e-003	0.0000	25.2502

Percent Reduction	66.1554	56.8205	5.6273	0.0000	0.0000	82.7785	70.8856	0.0000	87.4096	83.3870	0.0000	0.1016	0.1016	0.1511	0.0000	0.1017
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3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Electrical Crew 2015	Building Construction	1/1/2015	4/30/2015	5	86	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Electrical Crew 2015	Cranes	0	7.00	226	0.29
Electrical Crew 2015	Forklifts	1	8.00	60	0.50
Electrical Crew 2015	Generator Sets	0	8.00	84	0.74
Electrical Crew 2015	Welders	0	8.00	46	0.45
Electrical Crew 2015	Tractors/Loaders/Backhoes	1	8.00	83	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Electrical Crew 2015	2	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	IHHT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Electrical Crew 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0307	0.2765	0.1817	2.3000e-004	0.0225	0.0225	0.0225	0.0207	0.0207	0.0207	0.0000	21.4745	21.4745	6.4100e-003	0.0000	21.6092
Total	0.0307	0.2765	0.1817	2.3000e-004	0.0225	0.0225	0.0225	0.0207	0.0207	0.0207	0.0000	21.4745	21.4745	6.4100e-003	0.0000	21.6092

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7300e-003	2.2500e-003	0.0234	5.0000e-005	3.7700e-003	3.0000e-005	3.8100e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.6624	3.6624	2.1000e-004	0.0000	3.6668
Total	7.7300e-003	2.2500e-003	0.0234	5.0000e-005	3.7700e-003	3.0000e-005	3.8100e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.6624	3.6624	2.1000e-004	0.0000	3.6668

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Off-Road	5.2900e-003	0.1181	0.1702	2.2000e-004	3.8500e-003	3.8500e-003	3.8500e-003	2.5800e-003	2.5800e-003	2.5800e-003	0.0000	21.4490	21.4490	6.4000e-003	0.0000	21.5834
Total	5.2900e-003	0.1181	0.1702	2.2000e-004	3.8500e-003	3.8500e-003	3.8500e-003	2.5800e-003	2.5800e-003	2.5800e-003	0.0000	21.4490	21.4490	6.4000e-003	0.0000	21.5834

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7300e-003	2.2500e-003	0.0234	5.0000e-005	3.7700e-003	3.0000e-005	3.8100e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.6624	3.6624	2.1000e-004	0.0000	3.6668
Total	7.7300e-003	2.2500e-003	0.0234	5.0000e-005	3.7700e-003	3.0000e-005	3.8100e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.6624	3.6624	2.1000e-004	0.0000	3.6668

LAX West Aircraft Maintenance Area Project - Fence Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tbiConstEquipMitigation	Tier	No Change	Tier 4 Interim
tbiConstructionPhase	NumDays	40.00	20.00
tbiConstructionPhase	NumDays	40.00	22.00
tbiConstructionPhase	NumDays	40.00	45.00
tbiConstructionPhase	PhaseEndDate	2/27/2015	2/28/2015
tbiConstructionPhase	PhaseEndDate	3/31/2015	4/30/2015
tbiConstructionPhase	PhaseEndDate	7/2/2015	7/31/2015

tblConstructionPhase	PhaseStartDate	3/1/2015	4/1/2015
tblConstructionPhase	PhaseStartDate	5/1/2015	6/1/2015
tblLandscapingEquipment	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	LoadFactor	0.40	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
2015	0.0253	0.2351	0.0915	1.7000e-004	0.1329	0.0116	0.1445	0.0725	0.0106	0.0831	0.0000	15.5343	15.5343	4.1900e-003	0.0000	15.6223
Total	0.0253	0.2351	0.0915	1.7000e-004	0.1329	0.0116	0.1445	0.0725	0.0106	0.0831	0.0000	15.5343	15.5343	4.1900e-003	0.0000	15.6223

Mitigated Construction

tons/yr											MT/yr					
Year	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2015	6.2500e-003	0.0389	0.0879	1.7000e-004	0.0530	2.5000e-004	0.0532	0.0286	2.5000e-004	0.0288	0.0000	15.5180	15.5180	4.1800e-003	0.0000	15.6059
Total	6.2500e-003	0.0389	0.0879	1.7000e-004	0.0530	2.5000e-004	0.0532	0.0286	2.5000e-004	0.0288	0.0000	15.5180	15.5180	4.1800e-003	0.0000	15.6059

ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
75.2475	83.4553	3.9550	0.0000	60.1249	97.8374	63.1430	60.5655	97.6482	65.3115	0.0000	0.1048	0.1048	0.2387	0.0000	0.1048

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fence Crew Feb	Site Preparation	2/1/2015	2/28/2015	5	20	
2	Fence Crew Apr	Site Preparation	4/1/2015	4/30/2015	5	22	
3	Fence Crew June-July	Site Preparation	6/1/2015	7/31/2015	5	45	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fence Crew Feb	Rubber Tired Dozers	1	4.00	200	0.38
Fence Crew Feb	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Fence Crew Apr	Rubber Tired Dozers	1	4.00	200	0.38
Fence Crew Apr	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Fence Crew June-July	Rubber Tired Dozers	1	4.00	200	0.38
Fence Crew June-July	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fence Crew Feb	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fence Crew Apr	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fence Crew June-July	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Fence Crew Feb - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0301	0.0000	0.0301	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9100e-003	0.0538	0.0183	3.0000e-005	2.6500e-003	2.6500e-003	2.6500e-003	2.4400e-003	2.4400e-003	2.4400e-003	0.0000	3.1452	3.1452	9.4000e-004	0.0000	3.1650
Total	4.9100e-003	0.0538	0.0183	3.0000e-005	0.0301	2.6500e-003	0.0328	0.0166	2.4400e-003	0.0190	0.0000	3.1452	3.1452	9.4000e-004	0.0000	3.1650

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-004	2.6000e-004	2.7200e-003	1.0000e-005	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4259	0.4259	2.0000e-005	0.0000	0.4264
Total	9.0000e-004	2.6000e-004	2.7200e-003	1.0000e-005	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4259	0.4259	2.0000e-005	0.0000	0.4264

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0117	0.0000	0.0117	6.4500e-003	0.0000	6.4500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4000e-004	8.6800e-003	0.0175	3.0000e-005	5.0000e-005	5.0000e-005	5.0000e-005	5.0000e-005	5.0000e-005	5.0000e-005	0.0000	3.1415	3.1415	9.4000e-004	0.0000	3.1612

Total	5.4000e-004	8.6800e-003	0.0175	3.0000e-005	0.0117	5.0000e-005	0.0118	6.4500e-003	5.0000e-005	6.5000e-003	0.0000	3.1415	3.1415	9.4000e-004	0.0000	3.1612
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Mitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-004	2.6000e-004	2.7200e-003	1.0000e-005	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4259	0.4259	2.0000e-005	0.0000	0.4264
Total	9.0000e-004	2.6000e-004	2.7200e-003	1.0000e-005	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4259	0.4259	2.0000e-005	0.0000	0.4264

3.3 Fence Crew Apr - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.0331	0.0000	0.0331	0.0182	0.0000	0.0182	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4000e-003	0.0592	0.0202	4.0000e-005	2.9200e-003	0.0000	2.9200e-003	2.6800e-003	0.0000	2.6800e-003	0.0000	3.4598	3.4598	1.0300e-003	0.0000	3.4815
Total	5.4000e-003	0.0592	0.0202	4.0000e-005	0.0331	2.9200e-003	0.0360	0.0182	2.6800e-003	0.0209	0.0000	3.4598	3.4598	1.0300e-003	0.0000	3.4815

Unmitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	2.9000e-004	2.9900e-003	1.0000e-005	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4685	0.4685	3.0000e-005	0.0000	0.4690
Total	9.9000e-004	2.9000e-004	2.9900e-003	1.0000e-005	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4685	0.4685	3.0000e-005	0.0000	0.4690

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Fugitive Dust					0.0129	0.0000	0.0129	7.1000e-003	0.0000	7.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9000e-004	9.5500e-003	0.0192	4.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	0.0000	3.4557	3.4557	1.0300e-003	0.0000	3.4773
Total	5.9000e-004	9.5500e-003	0.0192	4.0000e-005	0.0129	6.0000e-005	0.0130	7.1000e-003	6.0000e-005	7.1600e-003	0.0000	3.4557	3.4557	1.0300e-003	0.0000	3.4773

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.9000e-004	2.9000e-004	2.9900e-003	1.0000e-005	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4685	0.4685	3.0000e-005	0.0000	0.4690
Total	9.9000e-004	2.9000e-004	2.9900e-003	1.0000e-005	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4685	0.4685	3.0000e-005	0.0000	0.4690

3.4 Fence Crew June-July - 2015

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Fugitive Dust					0.0678	0.0000	0.0678	0.0372	0.0000	0.0372	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0110	0.1210	0.0412	7.0000e-005	5.9700e-003	5.9700e-003	5.9700e-003	5.4900e-003	5.4900e-003	5.4900e-003	0.0000	7.0768	7.0768	2.1100e-003	0.0000	7.1212
Total	0.0110	0.1210	0.0412	7.0000e-005	0.0678	5.9700e-003	0.0737	0.0372	5.4900e-003	0.0427	0.0000	7.0768	7.0768	2.1100e-003	0.0000	7.1212

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0200e-003	5.9000e-004	6.1200e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9582	0.9582	5.0000e-005	0.0000	0.9593
Total	2.0200e-003	5.9000e-004	6.1200e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9582	0.9582	5.0000e-005	0.0000	0.9593

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.0264	0.0000	0.0264	0.0145	0.0000	0.0145	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2100e-003	0.0195	0.0394	7.0000e-005	1.2000e-004	1.2000e-004	1.2000e-004	1.2000e-004	1.2000e-004	1.2000e-004	0.0000	7.0684	7.0684	2.1100e-003	0.0000	7.1127
Total	1.2100e-003	0.0195	0.0394	7.0000e-005	0.0264	1.2000e-004	0.0265	0.0145	1.2000e-004	0.0146	0.0000	7.0684	7.0684	2.1100e-003	0.0000	7.1127

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0200e-003	5.9000e-004	6.1200e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9582	0.9582	5.0000e-005	0.0000	0.9593
Total	2.0200e-003	5.9000e-004	6.1200e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9582	0.9582	5.0000e-005	0.0000	0.9593

LAX West Aircraft Maintenance Area Project - Finish Saw/Sealing Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Truck.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Truck.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Truck.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	1,110.00	66.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	85.00
tblOffRoadEquipment	HorsePower	89.00	200.00
tblOffRoadEquipment	LoadFactor	0.29	0.48
tblOffRoadEquipment	LoadFactor	0.20	0.38

1	Finish Saw & Sealing Crew - May-Jul 2015	15/1/2015	17/31/2015	5	661
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OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Finish Saw & Sealing Crew - May-Jul 2015	Cranes	1	8.00	85	0.48
Finish Saw & Sealing Crew - May-Jul 2015	Forklifts	1	8.00	200	0.38
Finish Saw & Sealing Crew - May-Jul 2015	Generator Sets	0	8.00	84	0.74
Finish Saw & Sealing Crew - May-Jul 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Finish Saw & Sealing Crew - May-Jul 2015	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Finish Saw & Sealing Crew - May-Jul 2015	2	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Finish Saw & Sealing Crew - May-Jul 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	CH4	N2O	CO2e
Off-Road	0.0538	0.5351	0.2188	3.3000e-004	0.0309	0.0309	0.0309	0.0284	0.0284	0.0284	31.5380	9.4200e-003	0.0000	31.7357
Total	0.0538	0.5351	0.2188	3.3000e-004	0.0309	0.0309	0.0309	0.0284	0.0284	0.0284	31.5380	9.4200e-003	0.0000	31.7357

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.5134	3.5134	2.0000e-004	0.0000	3.5176
Total	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.5134	3.5134	2.0000e-004	0.0000	3.5176
MT/yr																

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	6.1400e-003	0.1139	0.2026	3.3000e-004	1.6800e-003	1.6800e-003	1.6800e-003	1.6800e-003	1.6800e-003	1.6800e-003	0.0000	31.5005	31.5005	9.4000e-003	0.0000	31.6979
Total	6.1400e-003	0.1139	0.2026	3.3000e-004	1.6800e-003	1.6800e-003	1.6800e-003	1.6800e-003	1.6800e-003	1.6800e-003	0.0000	31.5005	31.5005	9.4000e-003	0.0000	31.6979
MT/yr																

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.5134	3.5134	2.0000e-004	0.0000	3.5176
Total	7.4200e-003	2.1600e-003	0.0224	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.5134	3.5134	2.0000e-004	0.0000	3.5176
MT/yr																

LAX West Aircraft Maintenance Area Project - Fuel Line/UG Utilities Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Truck/Tractor; Backhoe.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Architectural Coating -

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Excavator; "Forklift" = Loader; "Generator" = Truck/Tractor; Backhoe.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Dump Truck; "Forklift" = Roller; "Generator" = Air Compressor; Welder.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	247500	187500
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	NumDays	230.00	42.00
tblConstEquipMitigation	NumDays	230.00	42.00
tblConstEquipMitigation	PhaseEndDate	2/27/2015	2/28/2015
tblConstEquipMitigation	PhaseEndDate	4/28/2015	2/28/2015
tblConstEquipMitigation	PhaseStartDate	3/1/2015	1/1/2015
tblOffRoadEquipment	HorsePower	226.00	247.00
tblOffRoadEquipment	HorsePower	89.00	235.00
tblOffRoadEquipment	HorsePower	84.00	400.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	HorsePower	226.00	350.00
tblOffRoadEquipment	HorsePower	89.00	232.00
tblOffRoadEquipment	HorsePower	84.00	85.00
tblOffRoadEquipment	HorsePower	46.00	30.00
tblOffRoadEquipment	LoadFactor	0.29	0.38
tblOffRoadEquipment	LoadFactor	0.20	0.36
tblOffRoadEquipment	LoadFactor	0.74	0.38
tblOffRoadEquipment	LoadFactor	0.29	0.38
tblOffRoadEquipment	LoadFactor	0.20	0.38
tblOffRoadEquipment	LoadFactor	0.74	0.48
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	69.00	36.00
tblTripsAndVMT	WorkerTripNumber	69.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.2259	2.3619	1.2501	2.2400e-003	8.2900e-003	0.1030	0.1113	2.2000e-003	0.0963	0.0985	0.0000	213.4169	213.4169	0.0451	0.0000	214.3642
Total	0.2259	2.3619	1.2501	2.2400e-003	8.2900e-003	0.1030	0.1113	2.2000e-003	0.0963	0.0985	0.0000	213.4169	213.4169	0.0451	0.0000	214.3642

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0682	0.6226	1.2188	2.2300e-003	8.2900e-003	8.9700e-003	0.0173	2.2000e-003	8.9600e-003	0.0112	0.0000	213.1726	213.1726	0.0451	0.0000	214.1188
Total	0.0682	0.6226	1.2188	2.2300e-003	8.2900e-003	8.9700e-003	0.0173	2.2000e-003	8.9600e-003	0.0112	0.0000	213.1726	213.1726	0.0451	0.0000	214.1188

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	69.7910	73.6399	2.5015	0.4464	0.0000	91.2870	84.4764	0.0000	90.6986	88.6634	0.0000	0.1145	0.1145	0.1108	0.0000	0.1145

3.0 Construction Detail

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fuel Line/UG Utilities Pt. 1 - Jan- Feb 2015	Building Construction	1/1/2015	2/28/2015	5	42	
2	Fuel Line/UG Utilities Pt. 2 - Jan- Feb 2015	Building Construction	1/1/2015	2/28/2015	5	42	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fuel Line/UG Utilities Pt. 2 - Jan-Feb 2015	Cranes	3	8.00	350	0.38
Fuel Line/UG Utilities Pt. 2 - Jan-Feb 2015	Forklifts	1	8.00	232	0.38
Fuel Line/UG Utilities Pt. 2 - Jan-Feb 2015	Generator Sets	1	8.00	85	0.48
Fuel Line/UG Utilities Pt. 2 - Jan-Feb 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0170	4.9500e-003	0.0514	1.0000e-004	8.2900e-003	7.0000e-005	8.3700e-003	2.2000e-003	7.0000e-005	2.2700e-003	0.0000	8.0489	8.0489	4.5000e-004	0.0000	8.0584
Total	0.0170	4.9500e-003	0.0514	1.0000e-004	8.2900e-003	7.0000e-005	8.3700e-003	2.2000e-003	7.0000e-005	2.2700e-003	0.0000	8.0489	8.0489	4.5000e-004	0.0000	8.0584

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0180	0.2979	0.5875	1.0900e-003	2.3100e-003	2.3100e-003	2.3100e-003	2.3100e-003	2.3100e-003	2.3100e-003	0.0000	108.5701	108.5701	0.0175	0.0000	108.9366
Total	0.0180	0.2979	0.5875	1.0900e-003	2.3100e-003	2.3100e-003	2.3100e-003	2.3100e-003	2.3100e-003	2.3100e-003	0.0000	108.5701	108.5701	0.0175	0.0000	108.9366

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0170	4.9500e-003	0.0514	1.0000e-004	8.2900e-003	7.0000e-005	8.3700e-003	2.2000e-003	7.0000e-005	2.2700e-003	0.0000	8.0489	8.0489	4.5000e-004	0.0000	8.0584
Total	0.0170	4.9500e-003	0.0514	1.0000e-004	8.2900e-003	7.0000e-005	8.3700e-003	2.2000e-003	7.0000e-005	2.2700e-003	0.0000	8.0489	8.0489	4.5000e-004	0.0000	8.0584

3.3 Fuel Line/UG Utilities Pt. 2 - Jan-Feb 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.1156	1.2469	0.7917	1.0400e-003	0.0567	0.0567	0.0567	0.0529	0.0529	0.0529	0.0000	96.6686	96.6686	0.0272	0.0000	97.2395
Total	0.1156	1.2469	0.7917	1.0400e-003	0.0567	0.0567	0.0567	0.0529	0.0529	0.0529	0.0000	96.6686	96.6686	0.0272	0.0000	97.2395
MT/yr																

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MT/yr																

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0332	0.3198	0.5800	1.0400e-003	6.5800e-003	6.5800e-003	6.5800e-003	6.5800e-003	6.5800e-003	6.5800e-003	0.0000	96.5536	96.5536	0.0272	0.0000	97.1238
Total	0.0332	0.3198	0.5800	1.0400e-003	6.5800e-003	6.5800e-003	6.5800e-003	6.5800e-003	6.5800e-003	6.5800e-003	0.0000	96.5536	96.5536	0.0272	0.0000	97.1238
MT/yr																

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MT/yr																

LAX West Aircraft Maintenance Area Project - Installation Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	1,110.00	110.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	125.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104

tblProjectCharacteristics	Operational Year	2014	2018
tblTripsAndVMT	Vendor Trip Number	20.00	0.00
tblTripsAndVMT	Worker Trip Number	53.00	16.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.1080	0.9446	0.5016	6.7000e-004	9.6500e-003	0.0508	0.0605	2.5600e-003	0.0468	0.0493	0.0000	61.9778	61.9778	0.0162	0.0000	62.3188
Total	0.1080	0.9446	0.5016	6.7000e-004	9.6500e-003	0.0508	0.0605	2.5600e-003	0.0468	0.0493	0.0000	61.9778	61.9778	0.0162	0.0000	62.3188

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0322	0.2479	0.4765	6.7000e-004	9.9000e-003	0.04	0.0106	2.5600e-003	9.8000e-004	3.5400e-003	0.0000	61.9152	61.9152	0.0162	0.0000	62.2558
Total	0.0322	0.2479	0.4765	6.7000e-004	9.9000e-003	0.04	0.0106	2.5600e-003	9.8000e-004	3.5400e-003	0.0000	61.9152	61.9152	0.0162	0.0000	62.2558

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	70.2047	73.7537	5.0056	0.0000	0.0000	98.0527	82.4132	0.0000	97.9046	92.8253	0.0000	0.1010	0.1010	0.1232	0.0000	0.1010

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	3/1/2015	7/31/2015	5	110	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	3	8.00	125	0.31

Building Construction	Forklifts	8.00	89	0.20
Building Construction	Generator Sets	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	7.00	97	0.37
Building Construction	Welders	8.00	46	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	3	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Installation Crew - Mar-Jul 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0882	0.9388	0.4418	5.5000e-004	0.0508	0.0508	0.0508	0.0467	0.0467	0.0934	0.0000	52.6088	52.6088	0.0157	0.0000	52.9386
Total	0.0882	0.9388	0.4418	5.5000e-004	0.0508	0.0508	0.0508	0.0467	0.0467	0.0934	0.0000	52.6088	52.6088	0.0157	0.0000	52.9386

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0198	5.7600e-003	0.0598	1.2000e-004	9.6500e-003	9.0000e-005	9.7400e-003	2.5600e-003	8.0000e-005	2.6400e-003	0.0000	9.3690	9.3690	5.3000e-004	0.0000	9.3802
Total	0.0198	5.7600e-003	0.0598	1.2000e-004	9.6500e-003	9.0000e-005	9.7400e-003	2.5600e-003	8.0000e-005	2.6400e-003	0.0000	9.3690	9.3690	5.3000e-004	0.0000	9.3802

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.0124	0.2422	0.4167	5.5000e-004	9.0000e-004	9.0000e-004	9.0000e-004	9.0000e-004	9.0000e-004	9.0000e-004	0.0000	52.5462	52.5462	0.0157	0.0000	52.8756
Total	0.0124	0.2422	0.4167	5.5000e-004	9.0000e-004	9.0000e-004	9.0000e-004	9.0000e-004	9.0000e-004	9.0000e-004	0.0000	52.5462	52.5462	0.0157	0.0000	52.8756
	MT/yr															

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0198	5.7600e-003	0.0598	1.2000e-004	9.6500e-003	9.0000e-005	9.7400e-003	2.5600e-003	8.0000e-005	2.6400e-003	0.0000	9.3690	9.3690	5.3000e-004	0.0000	9.3802
Total	0.0198	5.7600e-003	0.0598	1.2000e-004	9.6500e-003	9.0000e-005	9.7400e-003	2.5600e-003	8.0000e-005	2.6400e-003	0.0000	9.3690	9.3690	5.3000e-004	0.0000	9.3802
	MT/yr															

LAX West Aircraft Maintenance Area Project - Interior Concrete Flooring 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Concrete Pump; "Forklift" = Concrete Mixer.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Concrete Pump; "Forklift" = Concrete Mixer.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	1,110.00	42.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	350.00
tblOffRoadEquipment	HorsePower	89.00	350.00
tblOffRoadEquipment	LoadFactor	0.29	0.74
tblOffRoadEquipment	LoadFactor	0.20	0.56
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

1	Interior Concrete Flooring - Feb-Mar 2015	Building Construction	2/11/2015	3/31/2015	5	42
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OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Interior Concrete Flooring - Feb-Mar 2015	Cranes	1	8.00	350	0.74
Interior Concrete Flooring - Feb-Mar 2015	Forklifts	1	8.00	350	0.56
Interior Concrete Flooring - Feb-Mar 2015	Generator Sets	0	8.00	84	0.74
Interior Concrete Flooring - Feb-Mar 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Interior Concrete Flooring - Feb-Mar 2015	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Interior Concrete Flooring - Feb-Mar 2015	2	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Interior Concrete Flooring - Feb-Mar 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0785	0.9746	0.6338	8.2000e-004	0.0415	0.0415	0.0382	0.0382	0.0000	0.0382	78.2760	78.2760	0.0234	0.0000	0.0000	78.7668
Total	0.0785	0.9746	0.6338	8.2000e-004	0.0415	0.0415	0.0382	0.0382	0.0000	0.0382	78.2760	78.2760	0.0234	0.0000	0.0000	78.7668

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0189	5.5000e-003	0.0571	1.1000e-004	9.2200e-003	8.0000e-005	9.3000e-003	2.4500e-003	8.0000e-005	2.5200e-003	0.0000	8.9432	8.9432	5.1000e-004	0.0000	8.9538
Total	0.0189	5.5000e-003	0.0571	1.1000e-004	9.2200e-003	8.0000e-005	9.3000e-003	2.4500e-003	8.0000e-005	2.5200e-003	0.0000	8.9432	8.9432	5.1000e-004	0.0000	8.9538
MT/yr																

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0135	0.2171	0.4376	8.2000e-004	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	0.0000	78.1829	78.1829	0.0233	0.0000	78.6731
Total	0.0135	0.2171	0.4376	8.2000e-004	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	1.3500e-003	0.0000	78.1829	78.1829	0.0233	0.0000	78.6731
MT/yr																

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0189	5.5000e-003	0.0571	1.1000e-004	9.2200e-003	8.0000e-005	9.3000e-003	2.4500e-003	8.0000e-005	2.5200e-003	0.0000	8.9432	8.9432	5.1000e-004	0.0000	8.9538
Total	0.0189	5.5000e-003	0.0571	1.1000e-004	9.2200e-003	8.0000e-005	9.3000e-003	2.4500e-003	8.0000e-005	2.5200e-003	0.0000	8.9432	8.9432	5.1000e-004	0.0000	8.9538
MT/yr																

LAX West Aircraft Maintenance Area Project - Interior Finishes Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1,110.00	110.00
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018

ibiTripsAndVMT	VendorTripNumber	20.00	0.00
ibiTripsAndVMT	WorkerTripNumber	53.00	30.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.1312	0.2848	0.4335	4.6000e-004	0.0181	0.0273	0.0454	4.8100e-003	0.0251	0.0299	0.0000	40.5322	40.5322	7.8500e-003	0.0000	40.6971
Total	0.1312	0.2848	0.4335	4.6000e-004	0.0181	0.0273	0.0454	4.8100e-003	0.0251	0.0299	0.0000	40.5322	40.5322	7.8500e-003	0.0000	40.6971

Mitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.1311	0.2845	0.4331	4.6000e-004	0.0181	0.0272	0.0453	4.8100e-003	0.0250	0.0299	0.0000	40.5049	40.5049	7.8400e-003	0.0000	40.6696
Total	0.1311	0.2845	0.4331	4.6000e-004	0.0181	0.0272	0.0453	4.8100e-003	0.0250	0.0299	0.0000	40.5049	40.5049	7.8400e-003	0.0000	40.6696

Percent Reduction	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	0.0838	0.1159	0.0877	0.0000	0.0000	0.1101	0.0662	0.0000	0.1197	0.1004	0.0000	0.0674	0.0674	0.1274	0.0000	0.0675

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Interior Finishes Crew - Mar-Jul 2015	Building Construction	3/1/2015	7/31/2015	5	110	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Interior Finishes Crew - Mar-Jul 2015	Cranes	3	8.00	50	0.31

Interior Finishes Crew - Mar-Jul 2015	Forklifts	30	0.00	14.70	6.90	20.00	LD_Mix	46	8.00	89	0.20
Interior Finishes Crew - Mar-Jul 2015	Generator Sets	0	0.00	0	8.00	84		0	8.00	84	0.74
Interior Finishes Crew - Mar-Jul 2015	Tractors/Loaders/Backhoes	0	0.00	7.00	97	0.37		0	7.00	97	0.37
Interior Finishes Crew - Mar-Jul 2015	Welders	0	0.00	8.00	46	0.45		0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Interior Finishes Crew - Mar-Jul 2015	3	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer
Water Exposed Area
Clean Paved Roads

3.2 Interior Finishes Crew - Mar-Jul 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0941	0.2740	0.3214	2.4000e-004	0.0271	0.0271	0.0271	0.0249	0.0249	0.0249	0.0000	22.9653	22.9653	6.8600e-003	0.0000	23.1093
Total	0.0941	0.2740	0.3214	2.4000e-004	0.0271	0.0271	0.0271	0.0249	0.0249	0.0249	0.0000	22.9653	22.9653	6.8600e-003	0.0000	23.1093
MT/yr																

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0371	0.0108	0.1121	2.2000e-004	0.0181	1.6000e-004	0.0183	4.8100e-003	1.5000e-004	4.9600e-003	0.0000	17.5670	17.5670	9.9000e-004	0.0000	17.5678
Total	0.0371	0.0108	0.1121	2.2000e-004	0.0181	1.6000e-004	0.0183	4.8100e-003	1.5000e-004	4.9600e-003	0.0000	17.5670	17.5670	9.9000e-004	0.0000	17.5678

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.0940	0.2737	0.3210	2.4000e-004	0.0271	0.0271	0.0271	0.0249	0.0249	0.0249	0.0000	22.9380	22.9380	6.8500e-003	0.0000	23.0818
Total	0.0940	0.2737	0.3210	2.4000e-004	0.0271	0.0271	0.0271	0.0249	0.0249	0.0249	0.0000	22.9380	22.9380	6.8500e-003	0.0000	23.0818
	MT/yr															

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0371	0.0108	0.1121	2.2000e-004	0.0181	1.6000e-004	0.0183	4.8100e-003	1.5000e-004	4.9600e-003	0.0000	17.5670	17.5670	9.9000e-004	0.0000	17.5878
Total	0.0371	0.0108	0.1121	2.2000e-004	0.0181	1.6000e-004	0.0183	4.8100e-003	1.5000e-004	4.9600e-003	0.0000	17.5670	17.5670	9.9000e-004	0.0000	17.5878
	MT/yr															

LAX West Aircraft Maintenance Area Project - Lighting-Night Shift 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.
 Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.
 Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.
 Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.
 Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1,110.00	22.00
tblConstructionPhase	NumDays	1,110.00	66.00
tblConstructionPhase	PhaseEndDate	1/30/2015	1/31/2015
tblConstructionPhase	PhaseEndDate	5/4/2015	7/31/2015
tblConstructionPhase	PhaseStartDate	2/1/2015	5/1/2015
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	84.00	15.00
tblOffRoadEquipment	HorsePower	84.00	15.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

	tblOffRoadEquipment	OffRoadEquipment	UnitAmount	1.00	0.00
	tblOffRoadEquipment	OffRoadEquipment	UnitAmount	3.00	0.00
	tblOffRoadEquipment	OffRoadEquipment	UnitAmount	1.00	12.00
	tblOffRoadEquipment	OffRoadEquipment	UnitAmount	3.00	0.00
	tblOffRoadEquipment	OffRoadEquipment	UnitAmount	1.00	0.00
	tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104	
	tblProjectCharacteristics	OperationalYear	2014	2018	
	tblTripsAndVMT	VendorTripNumber	20.00	0.00	
	tblTripsAndVMT	VendorTripNumber	20.00	0.00	
	tblTripsAndVMT	WorkerTripNumber	53.00	0.00	
	tblTripsAndVMT	WorkerTripNumber	53.00	0.00	

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr															
2015	0.0772	0.5314	0.3781	8.3000e-004	0.0000	0.0289	0.0289	0.0000	0.0289	0.0289	0.0000	53.2910	53.2910	6.2800e-003	0.0000	53.4229
Total	0.0772	0.5314	0.3781	8.3000e-004	0.0000	0.0289	0.0289	0.0000	0.0289	0.0289	0.0000	53.2910	53.2910	6.2800e-003	0.0000	53.4229

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr															
2015	0.0771	0.5308	0.3777	8.3000e-004	0.0000	0.0289	0.0289	0.0000	0.0289	0.0289	0.0000	53.2276	53.2276	6.2800e-003	0.0000	53.3594
Total	0.0771	0.5308	0.3777	8.3000e-004	0.0000	0.0289	0.0289	0.0000	0.0289	0.0289	0.0000	53.2276	53.2276	6.2800e-003	0.0000	53.3594

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.1295	0.1186	0.1190	0.0000	0.0000	0.1037	0.1037	0.0000	0.1037	0.1037	0.0000	0.1190	0.1190	0.0000	0.0000	0.1190

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Lighting-Night Shift - Jan 2015	Building Construction	1/1/2015	1/31/2015	5	22	
2	Lighting-Night Shift - May-Jul 2015	Building Construction	5/1/2015	7/31/2015	5	66	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Lighting-Night Shift - May-Jul 2015	Cranes	0	7.00	226	0.29
Lighting-Night Shift - May-Jul 2015	Forklifts	0	8.00	89	0.20
Lighting-Night Shift - May-Jul 2015	Generator Sets	12	8.00	15	0.74
Lighting-Night Shift - May-Jul 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lighting-Night Shift - Jan 2015	Cranes	0	7.00	226	0.29
Lighting-Night Shift - Jan 2015	Forklifts	0	8.00	89	0.20
Lighting-Night Shift - Jan 2015	Generator Sets	12	8.00	15	0.74
Lighting-Night Shift - May-Jul 2015	Welders	0	8.00	46	0.45
Lighting-Night Shift - Jan 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lighting-Night Shift - Jan 2015	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Lighting-Night Shift - May-Jul 2015	12	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Lighting-Night Shift - Jan 2015	12	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Lighting-Night Shift - Jan 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0193	0.1329	0.0945	2.1000e-004	7.2400e-003	7.2400e-003	7.2400e-003	7.2400e-003	7.2400e-003	7.2400e-003	0.0000	13.3228	13.3228	1.5700e-003	0.0000	13.3557
Total	0.0193	0.1329	0.0945	2.1000e-004	7.2400e-003	7.2400e-003	7.2400e-003	7.2400e-003	7.2400e-003	7.2400e-003	0.0000	13.3228	13.3228	1.5700e-003	0.0000	13.3557

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Off-Road	0.0193	0.1327	0.0944	2.1000e-004	7.2300e-003	7.2300e-003	7.2300e-003	7.2300e-003	7.2300e-003	7.2300e-003	0.0000	13.3069	13.3069	1.5700e-003	0.0000	13.3398
Total	0.0193	0.1327	0.0944	2.1000e-004	7.2300e-003	7.2300e-003	7.2300e-003	7.2300e-003	7.2300e-003	7.2300e-003	0.0000	13.3069	13.3069	1.5700e-003	0.0000	13.3398

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.3 Lighting-Night Shift - May-Jul 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

LAX West Aircraft Maintenance Area Project - Misc Labor Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Tractor/Loader/Backhoe" = CAT 428 Backhoe

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOffEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	40.00	152.00
tblLandscapEquip	NumberSummerDays	250	365
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0405	0.2282	0.2094	3.1000e-004	8.3400e-003	0.0175	0.0259	2.2100e-003	0.0161	0.0184	0.0000	27.4116	27.4116	6.2300e-003	0.0000	27.5423
Total	0.0405	0.2282	0.2094	3.1000e-004	8.3400e-003	0.0175	0.0259	2.2100e-003	0.0161	0.0184	0.0000	27.4116	27.4116	6.2300e-003	0.0000	27.5423

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0216	0.1037	0.2038	3.1000e-004	8.3400e-003	2.3800e-003	0.0107	2.2100e-003	2.3700e-003	4.5900e-003	0.0000	27.3886	27.3886	6.2200e-003	0.0000	27.5192
Total	0.0216	0.1037	0.2038	3.1000e-004	8.3400e-003	2.3800e-003	0.0107	2.2100e-003	2.3700e-003	4.5900e-003	0.0000	27.3886	27.3886	6.2200e-003	0.0000	27.5192

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		46.6930	54.5733	2.6793	0.0000	0.0000	86.4310	58.5781	0.0000	85.3160	75.0000	0.0000	0.0838	0.0838	0.1605	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Misc Labor Crew	Site Preparation	1/1/2015	7/31/2015	5	152	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Misc Labor Crew	Rubber Tired Dozers	01	8.00	255	0.40
Misc Labor Crew	Tractors/Loaders/Backhoes	1	8.00	83	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Misc Labor Crew	1	10.00	0.00	0.00	14.70	6.90	20.00	ILD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Misc Labor Crew - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0234	0.2232	0.1577	2.0000e-004	0.0175	0.0175	0.0175	0.0161	0.0161	0.0161	0.0000	19.3202	19.3202	5.7700e-003	0.0000	19.4413
Total	0.0234	0.2232	0.1577	2.0000e-004	0.0000	0.0175	0.0175	0.0161	0.0161	0.0161	0.0000	19.3202	19.3202	5.7700e-003	0.0000	19.4413

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0171	4.9700e-003	0.0516	1.0000e-004	8.3400e-003	7.0000e-005	8.4100e-003	2.2100e-003	7.0000e-005	2.2800e-003	0.0000	8.0915	8.0915	4.6000e-004	0.0000	8.1011
Total	0.0171	4.9700e-003	0.0516	1.0000e-004	8.3400e-003	7.0000e-005	8.4100e-003	2.2100e-003	7.0000e-005	2.2800e-003	0.0000	8.0915	8.0915	4.6000e-004	0.0000	8.1011

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5200e-003	0.0987	0.1521	2.0000e-004	2.3000e-003	2.3000e-003	2.3000e-003	2.3000e-003	2.3000e-003	2.3000e-003	0.0000	19.2972	19.2972	5.7600e-003	0.0000	19.4182
Total	4.5200e-003	0.0987	0.1521	2.0000e-004	0.0000	2.3000e-003	2.3000e-003	0.0000	2.3000e-003	2.3000e-003	0.0000	19.2972	19.2972	5.7600e-003	0.0000	19.4182

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0171	4.9700e-003	0.0516	1.0000e-004	8.3400e-003	7.0000e-005	8.4100e-003	2.2100e-003	7.0000e-005	2.2800e-003	0.0000	8.0915	8.0915	4.6000e-004	0.0000	8.1011
Total	0.0171	4.9700e-003	0.0516	1.0000e-004	8.3400e-003	7.0000e-005	8.4100e-003	2.2100e-003	7.0000e-005	2.2800e-003	0.0000	8.0915	8.0915	4.6000e-004	0.0000	8.1011

LAX West Aircraft Maintenance Area Project - PCCP Paving Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller. Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Architectural Coating -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Gomaco GP-4000 Paver; "Forklifts" =

Compressors (Gang Drills); "Generator Sets" = Gomaco TC-400 Cure/Texture Rig; "Tractors/Loaders/Backhoes" = Gomaco RTP-500 Belt Placers

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Tri-axle Dump Truck

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	1,110.00	42.00
tblConstructionPhase	NumDays	1,110.00	42.00
tblConstructionPhase	PhaseEndDate	4/28/2015	2/27/2015
tblConstructionPhase	PhaseStartDate	2/28/2015	1/1/2015
tblLandUse	LandUseSquareFeet	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	450.00
tblOffRoadEquipment	HorsePower	226.00	350.00
tblOffRoadEquipment	HorsePower	89.00	85.00
tblOffRoadEquipment	HorsePower	84.00	70.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	LoadFactor	0.29	0.42
tblOffRoadEquipment	LoadFactor	0.29	0.38
tblOffRoadEquipment	LoadFactor	0.20	0.48
tblOffRoadEquipment	LoadFactor	0.74	0.50
tblOffRoadEquipment	LoadFactor	0.37	0.42
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	53.00	26.00
tblTripsAndVMT	WorkerTripNumber	53.00	48.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.4394	5.0055	3.3838	4.3800e-003	0.0222	0.2125	0.2347	6.0000e-003	0.1959	0.2019	0.0000	412.1817	412.1817	0.1129	0.0000	414.5520
Total	0.4394	5.0055	3.3838	4.3800e-003	0.0222	0.2125	0.2347	6.0000e-003	0.1959	0.2019	0.0000	412.1817	412.1817	0.1129	0.0000	414.5520

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.1166	1.1995	2.3767	4.3700e-003	0.0222	0.0109	0.0331	6.0000e-003	0.0101	0.0161	0.0000	411.7310	411.7310	0.1127	0.0000	414.0985
Total	0.1166	1.1995	2.3767	4.3700e-003	0.0222	0.0109	0.0331	6.0000e-003	0.0101	0.0161	0.0000	411.7310	411.7310	0.1127	0.0000	414.0985

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		73.4643	76.0361	29.7613	0.2283	0.0000	94.8661	85.8859	0.0000	94.8639	92.0444	0.0000	0.1094	0.1094	0.1152	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	PCCP Paving Crew Pt. 1 - Jan- Feb-2015	Building Construction	1/1/2015	2/27/2015	5	42	
2	PCCP Paving Crew Pt. 2 - Jan- Feb-2015	Building Construction	1/1/2015	2/27/2015	5	42	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
PCCP Paving Crew Pt. 1 - Jan-Feb 2015	Cranes	1	8.00	450	0.42
PCCP Paving Crew Pt. 2 - Jan-Feb 2015	Cranes	13	8.00	350	0.38
PCCP Paving Crew Pt. 1 - Jan-Feb 2015	Forklifts	2	8.00	85	0.48
PCCP Paving Crew Pt. 2 - Jan-Feb 2015	Forklifts	0	8.00	89	0.20

PCCP Paving Crew Pt. 1 - Jan-Feb 2015	Generator Sets	1	8.00	70	0.50
PCCP Paving Crew Pt. 2 - Jan-Feb 2015	Generator Sets	0	8.00	84	0.74
PCCP Paving Crew Pt. 1 - Jan-Feb 2015	Tractors/Loaders/Backhoes	2	8.00	200	0.42
PCCP Paving Crew Pt. 2 - Jan-Feb 2015	Tractors/Loaders/Backhoes	0	7.00	97	0.37
PCCP Paving Crew Pt. 1 - Jan-Feb 2015	Welders	0	8.00	46	0.45
PCCP Paving Crew Pt. 2 - Jan-Feb 2015	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
PCCP Paving Crew Pt. 1 - Jan-Feb 2015	9	26.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
PCCP Paving Crew Pt. 2 - Jan-Feb 2015	9	48.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 PCCP Paving Crew Pt. 1 - Jan-Feb 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0852	0.9876	0.5413	8.7000e-004	0.0487	0.0487	0.0487	0.0451	0.0451	0.0451	0.0000	81.9192	81.9192	0.0231	0.0000	82.4052
Total	0.0852	0.9876	0.5413	8.7000e-004	0.0487	0.0487	0.0487	0.0451	0.0451	0.0451	0.0000	81.9192	81.9192	0.0231	0.0000	82.4052

Unmitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5300e-003	0.0430	0.0526	9.0000e-005	2.5800e-003	7.2000e-004	3.3100e-003	7.4000e-004	6.6000e-004	1.4000e-003	0.0000	8.3704	8.3704	7.0000e-005	0.0000	8.3718
Worker	0.0123	3.5700e-003	0.0371	7.0000e-005	5.9900e-003	5.0000e-005	6.0400e-003	1.5900e-003	5.0000e-005	1.6400e-003	0.0000	5.8131	5.8131	3.3000e-004	0.0000	5.8200
Total	0.0198	0.0465	0.0897	1.6000e-004	8.5700e-003	7.7000e-004	9.3500e-003	2.3300e-003	7.1000e-004	3.0400e-003	0.0000	14.1834	14.1834	4.0000e-004	0.0000	14.1917

Mitigated Construction On-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0154	0.2763	0.5030	8.7000e-004	4.2000e-003	0.0000	4.2000e-003	3.4700e-003	0.0000	3.4700e-003	0.0000	81.8218	81.8218	0.0231	0.0000	82.3072
Total	0.0154	0.2763	0.5030	8.7000e-004	4.2000e-003	0.0000	4.2000e-003	3.4700e-003	0.0000	3.4700e-003	0.0000	81.8218	81.8218	0.0231	0.0000	82.3072

Mitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5300e-003	0.0430	0.0526	9.0000e-005	2.5800e-003	7.2000e-004	3.3100e-003	7.4000e-004	6.6000e-004	1.4000e-003	0.0000	8.3704	8.3704	7.0000e-005	0.0000	8.3718
Worker	0.0123	3.5700e-003	0.0371	7.0000e-005	5.9900e-003	5.0000e-005	6.0400e-003	1.5900e-003	5.0000e-005	1.6400e-003	0.0000	5.8131	5.8131	3.3000e-004	0.0000	5.8200
Total	0.0198	0.0465	0.0897	1.6000e-004	8.5700e-003	7.7000e-004	9.3500e-003	2.3300e-003	7.1000e-004	3.0400e-003	0.0000	14.1834	14.1834	4.0000e-004	0.0000	14.1917

3.3 PCCP Paving Crew Pt. 2 - Jan-Feb 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.3042	3.9217	2.6317	3.1200e-003	0.1623	0.1623	0.1623	0.1493	0.1493	0.1493	0.0000	296.9769	296.9769	0.0887	0.0000	298.8388
Total	0.3042	3.9217	2.6317	3.1200e-003	0.1623	0.1623	0.1623	0.1493	0.1493	0.1493	0.0000	296.9769	296.9769	0.0887	0.0000	298.8388

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5300e-003	0.0430	0.0526	9.0000e-005	2.5800e-003	7.2000e-004	3.3100e-003	7.4000e-004	6.6000e-004	1.4000e-003	0.0000	8.3704	8.3704	7.0000e-005	0.0000	8.3718
Worker	0.0227	6.6000e-003	0.0685	1.4000e-004	0.0111	1.0000e-004	0.0112	2.9400e-003	9.0000e-005	3.0300e-003	0.0000	10.7318	10.7318	6.1000e-004	0.0000	10.7446
Total	0.0302	0.0496	0.1211	2.3000e-004	0.0136	8.2000e-004	0.0145	3.6800e-003	7.5000e-004	4.4300e-003	0.0000	19.1022	19.1022	6.8000e-004	0.0000	19.1163

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0512	0.8251	1.6630	3.1100e-003	5.1200e-003	5.1200e-003	5.1200e-003	5.1200e-003	5.1200e-003	5.1200e-003	0.0000	296.6237	296.6237	0.0886	0.0000	298.4833
Total	0.0512	0.8251	1.6630	3.1100e-003	5.1200e-003	5.1200e-003	5.1200e-003	5.1200e-003	5.1200e-003	5.1200e-003	0.0000	296.6237	296.6237	0.0886	0.0000	298.4833

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5300e-003	0.0430	0.0526	9.0000e-005	2.5800e-003	7.2000e-004	3.3100e-003	7.4000e-004	6.6000e-004	1.4000e-003	0.0000	8.3704	8.3704	7.0000e-005	0.0000	8.3718
Worker	0.0227	6.6000e-003	0.0685	1.4000e-004	0.0111	1.0000e-004	0.0112	2.9400e-003	9.0000e-005	3.0300e-003	0.0000	10.7318	10.7318	6.1000e-004	0.0000	10.7446
Total	0.0302	0.0496	0.1211	2.3000e-004	0.0136	8.2000e-004	0.0145	3.6800e-003	7.5000e-004	4.4300e-003	0.0000	19.1022	19.1022	6.8000e-004	0.0000	19.1163

LAX West Aircraft Maintenance Area Project – Saw Crew 2015 South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization Urban Wind Speed (m/s) 2.2 Precipitation Freq (Days) 31

Climate Zone 11 Operational Year 2018

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr) 1104 CH4 Intensity (lb/MW/hr) 0.029 N2O Intensity (lb/MW/hr) 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Cranes" = Water Truck. "Forklifts" = Vacuum Sweeper".

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Cranes" = "Water Truck". "Forklifts" = "Vacuum Sweeper".

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Cranes" = "Water Truck". "Forklifts" = "Vacuum Sweeper".

Table Name	Column Name	Default Value	New Value
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	1,110.00	86.00
tblLandUse	LandUseSquareFoot	2,395,800.00	0.00
tblOffRoadEquipment	HorsePower	226.00	230.00
tblOffRoadEquipment	HorsePower	89.00	99.00

	tbOffRoadEquipment	LoadFactor	0.29	0.31
	tbOffRoadEquipment	LoadFactor	0.20	0.46
	tbOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
	tbOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
	tbOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
	tbOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
	tbOffRoadEquipment	UsageHours	7.00	8.00
	tbProjectCharacteristics	CO2IntensityFactor	1227.89	1104
	tbProjectCharacteristics	OperationalYear	2014	2018
	tbTripsAndVMT	VendorTripNumber	20.00	0.00
	tbTripsAndVMT	WorkerTripNumber	53.00	8.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0690	0.6424	0.3072	4.8000e-004	3.7700e-003	0.0380	0.0418	1.0000e-003	0.0350	0.0360	0.0000	44.8051	44.8051	0.0125	0.0000	45.0674
Total	0.0690	0.6424	0.3072	4.8000e-004	3.7700e-003	0.0380	0.0418	1.0000e-003	0.0350	0.0360	0.0000	44.8051	44.8051	0.0125	0.0000	45.0674

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2015	0.0159	0.1547	0.2914	4.8000e-004	3.7700e-003	2.4000e-003	6.1700e-003	1.0000e-003	2.3900e-003	3.4000e-003	0.0000	44.7562	44.7562	0.0125	0.0000	45.0182
Total	0.0159	0.1547	0.2914	4.8000e-004	3.7700e-003	2.4000e-003	6.1700e-003	1.0000e-003	2.3900e-003	3.4000e-003	0.0000	44.7562	44.7562	0.0125	0.0000	45.0182

3.0 Construction Detail

Construction Phase

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	77.0290	75.9150	5.1304	0.0000	0.0000	93.6842	85.2286	0.0000	93.1636	90.5451	0.0000	0.1092	0.1092	0.0801	0.0000	0.1093

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Saw Crew 2015	Building Construction	1/1/2015	4/30/2015	5	86	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Saw Crew 2015	Generator Sets	01	8.001	841	0.74
Saw Crew 2015	Cranes	1	8.001	230	0.31
Saw Crew 2015	Forklifts	1	8.001	991	0.46
Saw Crew 2015	Tractors/Loaders/Backhoes	01	7.001	971	0.37
Saw Crew 2015	Welders	01	8.001	461	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Saw Crew 2015	2	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Saw Crew 2015 - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0613	0.6401	0.2838	4.3000e-004	0.0380	0.0380	0.0380	0.0349	0.0349	0.0349	0.0000	41.1427	41.1427	0.0123	0.0000	41.4006
Total	0.0613	0.6401	0.2838	4.3000e-004	0.0380	0.0380	0.0380	0.0349	0.0349	0.0349	0.0000	41.1427	41.1427	0.0123	0.0000	41.4006

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7300e-003	2.2500e-003	0.0234	5.0000e-005	3.7700e-003	3.0000e-005	3.8100e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.6624	3.6624	2.1000e-004	0.0000	3.6668
Total	7.7300e-003	2.2500e-003	0.0234	5.0000e-005	3.7700e-003	3.0000e-005	3.8100e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.6624	3.6624	2.1000e-004	0.0000	3.6668

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Off-Road	8.1200e-003	0.1525	0.2681	4.3000e-004	2.3600e-003	2.3600e-003	2.3600e-003	2.3600e-003	2.3600e-003	2.3600e-003	0.0000	41.0938	41.0938	0.0123	0.0000	41.3514
Total	8.1200e-003	0.1525	0.2681	4.3000e-004	2.3600e-003	2.3600e-003	2.3600e-003	2.3600e-003	2.3600e-003	2.3600e-003	0.0000	41.0938	41.0938	0.0123	0.0000	41.3514

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7300e-003	2.2500e-003	0.0234	5.0000e-005	3.7700e-003	3.0000e-005	3.8100e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.6624	3.6624	2.1000e-004	0.0000	3.6668
Total	7.7300e-003	2.2500e-003	0.0234	5.0000e-005	3.7700e-003	3.0000e-005	3.8100e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.6624	3.6624	2.1000e-004	0.0000	3.6668

LAX West Aircraft Maintenance Area Project - Striping Crew 2015

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	125.00	1000sqft	2.87	125,000.00	0
Other Asphalt Surfaces	68.00	Acre	68.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Paint Truck; "Forklift" = Flat Bed Truck.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Paint Truck; "Forklift" = Flat Bed Truck.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Architectural Coating - Mnths 13-14: 50,780 sqft of outdoor painted area (6% of [68 * 2/7 = 19.43 acres]); Mnths 17-19: 61,680.48 sqft of outdoor painted area (6% of [68 * 3/7 = 29.14 acres]). (The 6% factor based on CalEEMod User's Guide, Appendix E, Section 7.)
 Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Paint Truck; "Forklift" = Flat Bed Truck.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	62,500.00	50,780.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	62,500.00	76,170.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	187,500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	187,500.00	0.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	75.00	42.00
tblConstructionPhase	NumDays	75.00	66.00
tblConstructionPhase	NumDays	1,110.00	42.00
tblConstructionPhase	NumDays	1,110.00	66.00
tblConstructionPhase	PhaseEndDate	4/28/2015	2/28/2015
tblConstructionPhase	PhaseEndDate	11/2/2015	7/31/2015
tblConstructionPhase	PhaseEndDate	2/27/2015	2/28/2015
tblConstructionPhase	PhaseEndDate	6/1/2015	7/31/2015
tblConstructionPhase	PhaseStartDate	3/1/2015	1/1/2015
tblConstructionPhase	PhaseStartDate	8/1/2015	5/1/2015
tblConstructionPhase	PhaseStartDate	3/1/2015	5/1/2015
tblLandUse	LandUseSquareFeet	2,962,080.00	0.00
tblOffRoadEquipment	HorsePower	226.00	175.00
tblOffRoadEquipment	HorsePower	226.00	175.00
tblOffRoadEquipment	HorsePower	89.00	200.00
tblOffRoadEquipment	HorsePower	89.00	200.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.31

Year	tons/yr											MT/yr				
2015	0.8166	0.8277	0.3618	5.8000e-004	3.5500e-003	0.0409	0.0444	9.4000e-004	0.0376	0.0386	0.0000	55.0219	55.0219	0.0156	0.0000	55.3493
Total	0.8166	0.8277	0.3618	5.8000e-004	3.5500e-003	0.0409	0.0444	9.4000e-004	0.0376	0.0386	0.0000	55.0219	55.0219	0.0156	0.0000	55.3493

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
2015	0.7517	0.1448	0.3095	5.8000e-004	3.5500e-003	9.2000e-004	4.4700e-003	9.4000e-004	9.1000e-004	1.8600e-003	0.0000	54.9606	54.9606	0.0156	0.0000	55.2876
Total	0.7517	0.1448	0.3095	5.8000e-004	3.5500e-003	9.2000e-004	4.4700e-003	9.4000e-004	9.1000e-004	1.8600e-003	0.0000	54.9606	54.9606	0.0156	0.0000	55.2876

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	7.9481	82.5094	14.4354	0.0000	0.0000	97.7490	89.9392	0.0000	97.5798	95.1751	0.0000	0.1115	0.1115	0.1283	0.0000	0.1115

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Striping Crew - Jan-Feb 2015, bc	Building Construction	1/1/2015	2/28/2015	5	42	
2	Striping Crew - Jan-Feb 2015, ac	Architectural Coating	1/1/2015	2/28/2015	5	42	
3	Striping Crew - May-Jul 2015, bc	Building Construction	5/1/2015	7/31/2015	5	66	
4	Striping Crew - May-Jul 2015, ac	Architectural Coating	5/1/2015	7/31/2015	5	66	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Striping Crew - Jan-Feb 2015, bc	Cranes	1	8.00	175	0.31
Striping Crew - Jan-Feb 2015, bc	Forklifts	1	8.00	200	0.31
Striping Crew - Jan-Feb 2015, bc	Generator Sets	0	8.00	84	0.74
Striping Crew - Jan-Feb 2015, bc	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Striping Crew - Jan-Feb 2015, bc	Welders	0	8.00	46	0.45
Striping Crew - Jan-Feb 2015, ac	Air Compressors	0	6.00	78	0.48
Striping Crew - May-Jul 2015, bc	Cranes	1	8.00	175	0.31
Striping Crew - May-Jul 2015, bc	Forklifts	1	8.00	200	0.31
Striping Crew - May-Jul 2015, bc	Generator Sets	0	8.00	84	0.74
Striping Crew - May-Jul 2015, bc	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Striping Crew - May-Jul 2015, bc	Welders	0	8.00	46	0.45
Striping Crew - May-Jul 2015, ac	Air Compressors	0	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Striping Crew - Jan-Feb 2015, bc	2	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Striping Crew - Jan-Feb 2015, ac	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Striping Crew - May-Jul 2015, bc	2	6.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Striping Crew - May-Jul 2015, ac	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

3.2 Striping Crew - Jan-Feb 2015, bc - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Off-Road	0.0287	0.3211	0.1321	2.1000e-004	0.0159	0.0146	0.0159	0.0146	0.0146	0.0146	0.0000	20.0559	20.0559	5.9900e-003	0.0000	20.1817
Total	0.0287	0.3211	0.1321	2.1000e-004	0.0159	0.0146	0.0159	0.0146	0.0146	0.0146	0.0000	20.0559	20.0559	5.9900e-003	0.0000	20.1817

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8300e-003	8.2000e-004	8.5600e-003	2.0000e-005	1.3800e-003	1.0000e-005	1.3900e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.3415	1.3415	8.0000e-005	0.0000	1.3431
Total	2.8300e-003	8.2000e-004	8.5600e-003	2.0000e-005	1.3800e-003	1.0000e-005	1.3900e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.3415	1.3415	8.0000e-005	0.0000	1.3431

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MT/yr																

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Archit. Coating	0.2942					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.2942	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MT/yr																

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																

Category	tons/yr										MT/yr												
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.4 Striping Crew - May-Jul 2015, bc - 2015 Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Off-Road	0.0451	0.5045	0.2076	3.3000e-004	0.0250	0.0250	0.0250	0.0230	0.0230	0.0230	0.0000	31.5165	31.5165	9.4100e-003	0.0000	0.0000	31.7141
Total	0.0451	0.5045	0.2076	3.3000e-004	0.0250	0.0250	0.0250	0.0230	0.0230	0.0230	0.0000	31.5165	31.5165	9.4100e-003	0.0000	0.0000	31.7141

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4500e-003	1.3000e-003	0.0135	3.0000e-005	2.1700e-003	2.0000e-005	2.1900e-003	5.8000e-004	2.0000e-005	5.9000e-004	0.0000	2.1080	2.1080	1.2000e-004	0.0000	2.1105
Total	4.4500e-003	1.3000e-003	0.0135	3.0000e-005	2.1700e-003	2.0000e-005	2.1900e-003	5.8000e-004	2.0000e-005	5.9000e-004	0.0000	2.1080	2.1080	1.2000e-004	0.0000	2.1105

Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- Criteria Pollutant and GHGs – CalEEMod Off-Road/On-Site, Worker Commute, Vendor Truck Delivery Emissions (Tons per Year)
 - Years 3-5 (2016-2018)

LAX West Aircraft Maintenance Area Project - ACP Paving Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller.

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Architectural Coating -

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Paver; "Paving Equipment" = Rubber Tire Loader; Roller; Tractor/Loader/Backhoe.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Paver" = Flat Bed Truck; "Paving Equipment" = Dump

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	18.00	44.00
tblConstructionPhase	NumDays	18.00	44.00

tblConstructionPhase	PhaseEndDate	4/3/2018	1/31/2018
tblConstructionPhase	PhaseStartDate	2/1/2018	12/1/2017
tblOffRoadEquipment	HorsePower	125.00	174.00
tblOffRoadEquipment	HorsePower	125.00	200.00
tblOffRoadEquipment	HorsePower	130.00	99.00
tblOffRoadEquipment	HorsePower	130.00	350.00
tblOffRoadEquipment	HorsePower	80.00	145.00
tblOffRoadEquipment	HorsePower	97.00	90.00
tblOffRoadEquipment	LoadFactor	0.42	0.31
tblOffRoadEquipment	LoadFactor	0.36	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	13.00	44.00
tblTripsAndVMT	WorkerTripNumber	35.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2017	0.0281	0.2154	0.1788	3.0000e-004	5.0700e-003	0.0117	0.0168	1.3500e-003	0.0108	0.0121	0.0000	27.0190	7.1200e-003	0.0000	0.0000	27.1685
2018	0.0268	0.1990	0.1906	3.3000e-004	5.5500e-003	0.0105	0.0161	1.4700e-003	9.6700e-003	0.0111	0.0000	29.0173	7.7700e-003	0.0000	0.0000	29.1806
Total	0.0549	0.4143	0.3694	6.3000e-004	0.0106	0.0222	0.0328	2.8200e-003	0.0205	0.0233	0.0000	56.0363	0.0149	0.0000	0.0000	56.3490

Mitigated Construction

Year	tons/yr										Mt/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.0144	0.1097	0.2056	3.0000e-004	5.0700e-003	1.0500e-003	6.1200e-003	1.3500e-003	1.0500e-003	2.3900e-003	0.0000	26.9923	26.9923	7.1100e-003	0.0000	27.1416
2018	0.0151	0.1198	0.2226	3.3000e-004	5.5500e-003	1.1500e-003	6.7000e-003	1.4700e-003	1.1500e-003	2.6200e-003	0.0000	28.9885	28.9885	7.7700e-003	0.0000	29.1516
Total	0.0294	0.2295	0.4282	6.3000e-004	0.0106	2.2000e-003	0.0128	2.8200e-003	2.2000e-003	5.0100e-003	0.0000	55.9808	55.9808	0.0149	0.0000	56.2932

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
46.4117	44.6131	-15.9114	0.0000	0.0000	90.1035	60.9622	0.0000	89.2421	78.4609	0.0000	0.0991	0.0991	0.0672	0.0000	0.0991

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Paving	12/1/2017	1/31/2018	5	44	
2	ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Paving	12/1/2017	1/31/2018	5	44	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Pavers	1	8.00	174	0.42
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Paving Equipment	1	8.00	99	0.36
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Rollers	2	8.00	145	0.38
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Pavers	1	2.00	200	0.31
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Paving Equipment	13	8.00	350	0.31
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	Rollers	0	6.00	80	0.38
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	Cement and Mortar Mixers	0	8.00	9	0.56

Worker	9.0000e-003	2.4600e-003	0.0256	6.0000e-005	5.0700e-003	4.0000e-005	5.1100e-003	1.3500e-003	4.0000e-005	1.3800e-003	0.0000	4.5665	4.5665	2.4000e-004	0.0000	4.5714
Total	9.0000e-003	2.4600e-003	0.0256	6.0000e-005	5.0700e-003	4.0000e-005	5.1100e-003	1.3500e-003	4.0000e-005	1.3800e-003	0.0000	4.5665	4.5665	2.4000e-004	0.0000	4.5714

Mitigated Construction On-Site

Category	tons/yr															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	5.1300e-003	0.1035	0.1726	2.3000e-004	9.9000e-004	9.9000e-004	9.9000e-004	9.9000e-004	9.9000e-004	9.9000e-004	0.0000	21.1266	21.1266	6.4700e-003	0.0000	21.2625
Paving	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.1300e-003	0.1035	0.1726	2.3000e-004	9.9000e-004	9.9000e-004	9.9000e-004	9.9000e-004	9.9000e-004	9.9000e-004	0.0000	21.1266	21.1266	6.4700e-003	0.0000	21.2625

Mitigated Construction Off-Site

Category	tons/yr															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-003	2.4600e-003	0.0256	6.0000e-005	5.0700e-003	4.0000e-005	5.1100e-003	1.3500e-003	4.0000e-005	1.3800e-003	0.0000	4.5665	4.5665	2.4000e-004	0.0000	4.5714
Total	9.0000e-003	2.4600e-003	0.0256	6.0000e-005	5.0700e-003	4.0000e-005	5.1100e-003	1.3500e-003	4.0000e-005	1.3800e-003	0.0000	4.5665	4.5665	2.4000e-004	0.0000	4.5714

3.2 ACP Paving Crew pt.1 - Dec 2017-Jan 2018 - 2018

Unmitigated Construction On-Site

Category	tons/yr															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0170	0.1856	0.1620	2.5000e-004	0.0102	0.0102	0.0102	9.3600e-003	9.3600e-003	9.3600e-003	0.0000	22.8008	22.8008	7.1000e-003	0.0000	22.9498
Paving	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0170	0.1856	0.1620	2.5000e-004	0.0102	0.0102	0.0102	9.3600e-003	9.3600e-003	9.3600e-003	0.0000	22.8008	22.8008	7.1000e-003	0.0000	22.9498

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.1800e-003	2.4500e-003	0.0254	7.0000e-005	5.5500e-003	4.0000e-005	5.6000e-003	1.4700e-003	4.0000e-005	1.5200e-003	0.0000	4.8147	4.8147	2.4000e-004	0.0000	4.8197
Total	9.1800e-003	2.4500e-003	0.0254	7.0000e-005	5.5500e-003	4.0000e-005	5.6000e-003	1.4700e-003	4.0000e-005	1.5200e-003	0.0000	4.8147	4.8147	2.4000e-004	0.0000	4.8197

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Off-Road	5.6200e-003	0.1134	0.1891	2.5000e-004	1.0800e-003	1.0800e-003	1.0800e-003	1.0800e-003	1.0800e-003	1.0800e-003	0.0000	22.7736	22.7736	7.0900e-003	0.0000	22.9225
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.6200e-003	0.1134	0.1891	2.5000e-004	1.0800e-003	1.0800e-003	1.0800e-003	1.0800e-003	1.0800e-003	1.0800e-003	0.0000	22.7736	22.7736	7.0900e-003	0.0000	22.9225

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.1800e-003	2.4500e-003	0.0254	7.0000e-005	5.5500e-003	4.0000e-005	5.6000e-003	1.4700e-003	4.0000e-005	1.5200e-003	0.0000	4.8147	4.8147	2.4000e-004	0.0000	4.8197
Total	9.1800e-003	2.4500e-003	0.0254	7.0000e-005	5.5500e-003	4.0000e-005	5.6000e-003	1.4700e-003	4.0000e-005	1.5200e-003	0.0000	4.8147	4.8147	2.4000e-004	0.0000	4.8197

3.3 ACP Paving Crew pt.2 - Dec 2017-Jan 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.3 ACP Paving Crew pt.2 - Dec 2017-Jan 2018 - 2018

Unmitigated Construction On-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	6.2000e-004	0.0109	3.2500e-003	2.0000e-005	2.9000e-004	2.9000e-004	2.9000e-004	2.7000e-004	2.7000e-004	2.7000e-004	0.0000	1.4019	1.4019	4.4000e-004	0.0000	1.4111
Paving	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.2000e-004	0.0109	3.2500e-003	2.0000e-005	2.9000e-004	2.9000e-004	2.9000e-004	2.7000e-004	2.7000e-004	2.7000e-004	0.0000	1.4019	1.4019	4.4000e-004	0.0000	1.4111

Unmitigated Construction Off-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	2.5000e-004	4.0500e-003	8.1600e-003	2.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	0.0000	1.4002	1.4002	4.4000e-004	0.0000	1.4094
Paving	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.5000e-004	4.0500e-003	8.1600e-003	2.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	3.0000e-005	0.0000	1.4002	1.4002	4.4000e-004	0.0000	1.4094

LAX West Aircraft Maintenance Area Project - Admin Support Crew 2016-2018 South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Off-Highway Truck"; "Tractors/Loaders/Backhoes" = "Vacuum Sweeper"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	390.00
tblConstructionPhase	PhaseEndDate	3/30/2018	3/31/2018
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	97.00	170.00
tblOffRoadEquipment	LoadFactor	0.40	0.38

tblOffRoadEquipment	LoadFactor	0.37	0.46
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	24.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.0668	0.5549	0.3184	5.5000e-004	1.1833	0.0273	1.2106	0.6479	0.0251	0.6730	0.0000	49.7766	49.7766	0.0127	0.0000	50.0422
2017	0.2509	2.0701	1.2345	2.1900e-003	1.2101	0.1014	1.3115	0.6550	0.0933	0.7483	0.0000	195.1302	195.1302	0.0504	0.0000	196.1891
2018	0.0575	0.4649	0.2952	5.5000e-004	1.1833	0.0226	1.2058	0.6479	0.0208	0.6686	0.0000	47.8316	47.8316	0.0126	0.0000	48.0957
Total	0.3752	3.0899	1.8481	3.2900e-003	3.5767	0.1513	3.7280	1.9508	0.1392	2.0900	0.0000	292.7384	292.7384	0.0756	0.0000	294.3270

Mitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.0257	0.1622	0.3332	5.5000e-004	0.4669	8.7000e-004	0.4678	0.2541	8.6000e-004	0.2550	0.0000	49.7284	49.7284	0.0126	0.0000	49.9938
2017	0.0979	0.6450	1.3124	2.1900e-003	0.4938	3.4300e-003	0.4972	0.2613	3.3800e-003	0.2647	0.0000	194.9408	194.9408	0.0504	0.0000	195.9984
2018	0.0234	0.1604	0.3237	5.5000e-004	0.4669	8.5000e-004	0.4678	0.2541	8.4000e-004	0.2550	0.0000	47.7850	47.7850	0.0126	0.0000	48.0488
Total	0.1470	0.9676	1.9693	3.2900e-003	1.4277	5.1500e-003	1.4328	0.7696	5.0800e-003	0.7746	0.0000	292.4542	292.4542	0.0756	0.0000	294.0409

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	60.8267	68.6855	-6.5564	60.0832	96.5962	61.5650	60.5521	96.3503	62.9362	0.0000	0.0971	0.0971	0.0925	0.0000	0.0972

3.0 Construction Detail Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Administrative Support Crew	Site Preparation	10/1/2016	3/31/2018	5	390	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Administrative Support Crew	Rubber Tired Dozers	1	8.00	200	0.38
Administrative Support Crew	Tractors/Loaders/Backhoes	1	8.00	170	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Administrative Support Crew	2	24.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Administrative Support Crew - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Fugitive Dust					1.1743	0.0000	1.1743	0.6455	0.0000	0.6455	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0495	0.5445	0.2630	4.3000e-004	0.0272	0.0272	0.0272	0.0250	0.0250	0.0250	0.0000	40.4780	40.4780	0.0122	0.0000	40.7344
Total	0.0495	0.5445	0.2630	4.3000e-004	1.1743	0.0272	1.2015	0.6455	0.0250	0.6705	0.0000	40.4780	40.4780	0.0122	0.0000	40.7344

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0100e-003	5.8700e-003	7.5600e-003	1.0000e-005	4.0000e-004	9.0000e-005	4.9000e-004	1.1000e-004	9.0000e-005	2.0000e-004	0.0000	1.2811	1.2811	1.0000e-005	0.0000	1.2813
Worker	0.0163	4.6100e-003	0.0479	1.1000e-004	8.5600e-003	7.0000e-005	8.6300e-003	2.2700e-003	7.0000e-005	2.3400e-003	0.0000	8.0174	8.0174	4.3000e-004	0.0000	8.0265
Total	0.0174	0.0105	0.0554	1.2000e-004	8.9600e-003	1.6000e-004	9.1200e-003	2.3800e-003	1.6000e-004	2.5400e-003	0.0000	9.2985	9.2985	4.4000e-004	0.0000	9.3078

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.4580	0.0000	0.4580	0.2517	0.0000	0.2517	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3800e-003	0.1518	0.2778	4.3000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	0.0000	40.4299	40.4299	0.0122	0.0000	40.6860
Total	8.3800e-003	0.1518	0.2778	4.3000e-004	0.4580	7.0000e-004	0.4587	0.2517	7.0000e-004	0.2524	0.0000	40.4299	40.4299	0.0122	0.0000	40.6860

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0100e-003	5.8700e-003	7.5600e-003	1.0000e-005	4.0000e-004	9.0000e-005	4.9000e-004	1.1000e-004	9.0000e-005	2.0000e-004	0.0000	1.2811	1.2811	1.0000e-005	0.0000	1.2813
Worker	0.0163	4.6100e-003	0.0479	1.1000e-004	8.5600e-003	7.0000e-005	8.6300e-003	2.2700e-003	7.0000e-005	2.3400e-003	0.0000	8.0174	8.0174	4.3000e-004	0.0000	8.0265
Total	0.0174	0.0105	0.0554	1.2000e-004	8.9600e-003	1.6000e-004	9.1200e-003	2.3800e-003	1.6000e-004	2.5400e-003	0.0000	9.2985	9.2985	4.4000e-004	0.0000	9.3078

3.2 Administrative Support Crew - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Fugitive Dust					1.1743	0.0000	1.1743	0.6455	0.0000	0.6455	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1865	2.0322	1.0332	1.7200e-003	0.1008	0.1008	0.1008	0.0927	0.0927	0.0927	0.0000	159.2504	159.2504	0.0488	0.0000	160.2750
Total	0.1865	2.0322	1.0332	1.7200e-003	1.1743	0.1008	1.2751	0.6455	0.0927	0.7382	0.0000	159.2504	159.2504	0.0488	0.0000	160.2750

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6400e-003	0.0214	0.0287	6.0000e-005	1.6000e-003	3.3000e-004	1.9300e-003	4.6000e-004	3.0000e-004	7.6000e-004	0.0000	5.0415	5.0415	4.0000e-005	0.0000	5.0422
Worker	0.0608	0.0166	0.1727	4.2000e-004	0.0342	2.8000e-004	0.0345	9.0900e-003	2.6000e-004	9.3500e-003	0.0000	30.8384	30.8384	1.5900e-003	0.0000	30.8719
Total	0.0644	0.0380	0.2013	4.8000e-004	0.0358	6.1000e-004	0.0364	9.5500e-003	5.6000e-004	0.0101	0.0000	35.8799	35.8799	1.6300e-003	0.0000	35.9141

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Fugitive Dust					0.4580	0.0000	0.4580	0.2517	0.0000	0.2517	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.6070	1.1111	1.7100e-003	0.4580	2.8200e-003	2.8200e-003	2.8200e-003	2.8200e-003	2.8200e-003	0.0000	159.0609	159.0609	0.0487	0.0000	160.0844
Total	0.0335	0.6070	1.1111	1.7100e-003	0.4580	2.8200e-003	0.4608	0.2517	2.8200e-003	0.2546	0.0000	159.0609	159.0609	0.0487	0.0000	160.0844

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6400e-003	0.0214	0.0287	6.0000e-005	1.6000e-003	3.3000e-004	1.9300e-003	4.6000e-004	3.0000e-004	7.6000e-004	0.0000	5.0415	5.0415	4.0000e-005	0.0000	5.0422
Worker	0.0608	0.0166	0.1727	4.2000e-004	0.0342	2.8000e-004	0.0345	9.0900e-003	2.6000e-004	9.3500e-003	0.0000	30.8384	30.8384	1.5900e-003	0.0000	30.8719
Total	0.0644	0.0380	0.2013	4.8000e-004	0.0358	6.1000e-004	0.0364	9.5500e-003	5.6000e-004	0.0101	0.0000	35.8799	35.8799	1.6300e-003	0.0000	35.9141

3.2 Administrative Support Crew - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Fugitive Dust					1.1743	0.0000	1.1743	0.6455	0.0000	0.6455	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0425	0.4562	0.2492	4.3000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	39.1706	39.1706	0.0122	0.0000	39.4267
Total	0.0425	0.4562	0.2492	4.3000e-004	1.1743	0.0224	1.1967	0.6455	0.0206	0.6661	0.0000	39.1706	39.1706	0.0122	0.0000	39.4267

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3000e-004	4.9000e-003	6.8700e-003	1.0000e-005	4.0000e-004	8.0000e-005	4.8000e-004	1.1000e-004	7.0000e-005	1.9000e-004	0.0000	1.2392	1.2392	1.0000e-005	0.0000	1.2394
Worker	0.0142	3.7700e-003	0.0391	1.1000e-004	8.5600e-003	7.0000e-005	8.6300e-003	2.2700e-003	6.0000e-005	2.3400e-003	0.0000	7.4218	7.4218	3.7000e-004	0.0000	7.4296
Total	0.0150	8.6700e-003	0.0460	1.2000e-004	8.9600e-003	1.5000e-004	9.1100e-003	2.3800e-003	1.3000e-004	2.5300e-003	0.0000	8.6610	8.6610	3.8000e-004	0.0000	8.6690

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.4580	0.0000	0.4580	0.2517	0.0000	0.2517	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3800e-003	0.1518	0.2778	4.3000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	0.0000	39.1240	39.1240	0.0122	0.0000	39.3798
Total	8.3800e-003	0.1518	0.2778	4.3000e-004	0.4580	7.0000e-004	0.4587	0.2517	7.0000e-004	0.2524	0.0000	39.1240	39.1240	0.0122	0.0000	39.3798

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3000e-004	4.9000e-003	6.8700e-003	1.0000e-005	4.0000e-004	8.0000e-005	4.8000e-004	1.1000e-004	7.0000e-005	1.9000e-004	0.0000	1.2392	1.2392	1.0000e-005	0.0000	1.2394
Worker	0.0142	3.7700e-003	0.0391	1.1000e-004	8.5600e-003	7.0000e-005	8.6300e-003	2.2700e-003	6.0000e-005	2.3400e-003	0.0000	7.4218	7.4218	3.7000e-004	0.0000	7.4296
Total	0.0150	8.6700e-003	0.0460	1.2000e-004	8.9600e-003	1.5000e-004	9.1100e-003	2.3800e-003	1.3000e-004	2.5300e-003	0.0000	8.6610	8.6610	3.8000e-004	0.0000	8.6690

LAX West Aircraft Maintenance Area Project - Batch Plant Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozer" = CAT 988 Loader
 Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	65.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	255.00	475.00
tblOffRoadEquipment	LoadFactor	0.40	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104

tb ProjectCharacteristics	Operational Year	2014	2018
tb TripsAndVMT	Worker Trip Number	5.00	12.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.1431	1.5138	1.1665	1.0200e-003	0.3957	0.0704	0.4661	0.2163	0.0647	0.2810	0.0000	95.2959	95.2959	0.0278	0.0000	95.8787
Total	0.1431	1.5138	1.1665	1.0200e-003	0.3957	0.0704	0.4661	0.2163	0.0647	0.2810	0.0000	95.2959	95.2959	0.0278	0.0000	95.8787

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.0238	0.2549	0.5330	1.0200e-003	0.1569	1.6000e-003	0.1585	0.0851	1.6000e-003	0.0867	0.0000	95.1873	95.1873	0.0277	0.0000	95.7694
Total	0.0238	0.2549	0.5330	1.0200e-003	0.1569	1.6000e-003	0.1585	0.0851	1.6000e-003	0.0867	0.0000	95.1873	95.1873	0.0277	0.0000	95.7694

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		83.3473	83.1622	54.3061	0.0000	60.3396	97.7263	65.9844	60.6796	97.5286	69.1681	0.0000	0.1140	0.1140	0.1081	0.0000

3.0 Construction Phase

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Batch Plant Crew - Oct-Dec 2016	Site Preparation	10/1/2016	12/31/2016	5	65	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Batch Plant Crew - Oct-Dec 2016	Rubber Tired Dozers	2	8.00	475	0.36
Batch Plant Crew - Oct-Dec 2016	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Batch Plant Crew - Oct-Dec 2016	2	12.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Batch Plant Crew - Oct-Dec 2016 - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
					tons/yr						MT/yr					
Fugitive Dust					0.3914	0.0000	0.3914	0.2152	0.0000	0.2152	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1349	1.5115	1.1426	9.7000e-004		0.0703	0.0703	0.0647	0.0647	0.0647	0.0000	91.2872	91.2872	0.0275	0.0000	91.8655
Total	0.1349	1.5115	1.1426	9.7000e-004	0.3914	0.0703	0.4618	0.2152	0.0647	0.2799	0.0000	91.2872	91.2872	0.0275	0.0000	91.8655

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
					tons/yr						MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1700e-003	2.3000e-003	0.0239	5.0000e-005	4.2800e-003	4.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	4.0087	4.0087	2.2000e-004	0.0000	4.0132
Total	8.1700e-003	2.3000e-003	0.0239	5.0000e-005	4.2800e-003	4.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	4.0087	4.0087	2.2000e-004	0.0000	4.0132

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust					0.1527	0.0000	0.1527	0.0839	0.0000	0.0839	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.2526	0.5091	9.7000e-004	1.5700e-003	1.5700e-003	1.5700e-003	1.5700e-003	1.5700e-003	1.5700e-003	0.0000	91.1786	91.1786	0.0275	0.0000	91.7562
Total	0.0157	0.2526	0.5091	9.7000e-004	0.1527	1.5700e-003	0.1542	0.0839	1.5700e-003	0.0855	0.0000	91.1786	91.1786	0.0275	0.0000	91.7562

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1700e-003	2.3000e-003	0.0239	5.0000e-005	4.2800e-003	4.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	4.0087	4.0087	2.2000e-004	0.0000	4.0132
Total	8.1700e-003	2.3000e-003	0.0239	5.0000e-005	4.2800e-003	4.0000e-005	4.3200e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	4.0087	4.0087	2.2000e-004	0.0000	4.0132

LAX West Aircraft Maintenance Area Project - Building Systems Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift; "Forklift" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	129.00
tblOffRoadEquipment	HorsePower	226.00	125.00
tblOffRoadEquipment	HorsePower	89.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104

tbProjectCharacteristics	OperationalYear	2014	2018
tbTripsAndVMT	VendorTripNumber	27.00	0.00
tbTripsAndVMT	WorkerTripNumber	69.00	28.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.1040	0.4149	0.4132	5.0000e-004	0.0132	0.0307	0.0439	3.5100e-003	0.0282	0.0317	0.0000	43.0048	43.0048	0.0102	0.0000	43.2179
2018	0.0446	0.1883	0.1916	2.5000e-004	6.6000e-003	0.0131	0.0197	1.7500e-003	0.0120	0.0138	0.0000	21.0330	21.0330	5.0500e-003	0.0000	21.1390
Total	0.1486	0.6033	0.6049	7.5000e-004	0.0198	0.0438	0.0636	5.2600e-003	0.0403	0.0455	0.0000	64.0378	64.0378	0.0152	0.0000	64.3569

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.0867	0.2615	0.4103	5.0000e-004	0.0132	0.0192	0.0324	3.5100e-003	0.0177	0.0212	0.0000	42.9678	42.9678	0.0101	0.0000	43.1806
2018	0.0371	0.1234	0.1919	2.5000e-004	6.6000e-003	8.0400e-003	0.0146	1.7500e-003	7.4000e-003	9.1600e-003	0.0000	21.0147	21.0147	5.0400e-003	0.0000	21.1207
Total	0.1237	0.3849	0.6022	7.5000e-004	0.0198	0.0273	0.0471	5.2600e-003	0.0251	0.0304	0.0000	63.9826	63.9826	0.0152	0.0000	64.3013

Percent Reduction	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	16.7183	36.1917	0.4414	0.0000	0.0000	37.7285	25.9714	0.0000	37.6801	33.3040	0.0000	0.0862	0.0862	0.1974	0.0000	0.0863

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Systems Crew - Sep 2017-Feb 2018	Building Construction	9/1/2017	2/28/2018	5	129	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Systems Crew - Sep 2017-Feb 2018	Cranes	1	8.00	125	0.31
Building Systems Crew - Sep 2017-Feb 2018	Forklifts	3	8.00	50	0.31
Building Systems Crew - Sep 2017-Feb 2018	Generator Sets	0	8.00	84	0.74
Building Systems Crew - Sep 2017-Feb 2018	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Systems Crew - Sep 2017-Feb 2018	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Systems Crew - Sep 2017-Feb	4	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Building Systems Crew - Sep 2017-Feb 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.0805	0.4085	0.3466	3.3000e-004	0.0306	0.0306	0.0306	0.0281	0.0281	0.0281	0.0000	31.1044	31.1044	9.5300e-003	0.0000	31.3045
Total	0.0805	0.4085	0.3466	3.3000e-004	0.0306	0.0306	0.0306	0.0281	0.0281	0.0281	0.0000	31.1044	31.1044	9.5300e-003	0.0000	31.3045

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0234	6.4200e-003	0.0666	1.6000e-004	0.0132	1.1000e-004	0.0133	3.5100e-003	1.0000e-004	3.6100e-003	0.0000	11.9005	11.9005	6.2000e-004	0.0000	11.9134
Total	0.0234	6.4200e-003	0.0666	1.6000e-004	0.0132	1.1000e-004	0.0133	3.5100e-003	1.0000e-004	3.6100e-003	0.0000	11.9005	11.9005	6.2000e-004	0.0000	11.9134

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Off-Road	0.0632	0.2551	0.3436	3.3000e-004		0.0191	0.0191		0.0176	0.0176	0.0000	31.0674	31.0674	9.5200e-003	0.0000	31.2673
Total	0.0632	0.2551	0.3436	3.3000e-004		0.0191	0.0191		0.0176	0.0176	0.0000	31.0674	31.0674	9.5200e-003	0.0000	31.2673

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0234	6.4200e-003	0.0666	1.6000e-004	0.0132	1.1000e-004	0.0133	3.5100e-003	1.0000e-004	3.6100e-003	0.0000	11.9005	11.9005	6.2000e-004	0.0000	11.9134
Total	0.0234	6.4200e-003	0.0666	1.6000e-004	0.0132	1.1000e-004	0.0133	3.5100e-003	1.0000e-004	3.6100e-003	0.0000	11.9005	11.9005	6.2000e-004	0.0000	11.9134

3.2 Building Systems Crew - Sep 2017-Feb 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
	tons/yr										MT/yr						
Off-Road	0.0337	0.1854	0.1615	1.7000e-004	0.0130	0.0130	0.0130	0.0120	0.0120	0.0120	0.0000	15.3048	15.3048	4.7600e-003	0.0000	0.0000	15.4049
Total	0.0337	0.1854	0.1615	1.7000e-004	0.0130	0.0130	0.0130	0.0120	0.0120	0.0120	0.0000	15.3048	15.3048	4.7600e-003	0.0000	0.0000	15.4049

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0109	2.9100e-003	0.0302	8.0000e-005	6.6000e-003	5.0000e-005	6.6600e-003	1.7500e-003	5.0000e-005	1.8000e-003	0.0000	5.7281	5.7281	2.9000e-004	0.0000	5.7341
Total	0.0109	2.9100e-003	0.0302	8.0000e-005	6.6000e-003	5.0000e-005	6.6600e-003	1.7500e-003	5.0000e-005	1.8000e-003	0.0000	5.7281	5.7281	2.9000e-004	0.0000	5.7341

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0262	0.1205	0.1618	1.7000e-004	7.9800e-003	7.9800e-003	7.9800e-003	7.3500e-003	7.3500e-003	7.3500e-003	0.0000	15.2866	15.2866	4.7600e-003	0.0000	15.3865
Total	0.0262	0.1205	0.1618	1.7000e-004	7.9800e-003	7.9800e-003	7.9800e-003	7.3500e-003	7.3500e-003	7.3500e-003	0.0000	15.2866	15.2866	4.7600e-003	0.0000	15.3865

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0109	2.9100e-003	0.0302	8.0000e-005	6.6000e-003	5.0000e-005	6.6600e-003	1.7500e-003	5.0000e-005	1.8000e-003	0.0000	5.7281	5.7281	2.9000e-004	0.0000	5.7341
Total	0.0109	2.9100e-003	0.0302	8.0000e-005	6.6000e-003	5.0000e-005	6.6600e-003	1.7500e-003	5.0000e-005	1.8000e-003	0.0000	5.7281	5.7281	2.9000e-004	0.0000	5.7341

LAX West Aircraft Maintenance Area Project – Electrical Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher".

"Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Forklifts" = "Ditch Witch RT 55 Trencher". "Tractors/Loaders/Backhoes" = "CAT 428 Backhoe".

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	44.00
tblOffRoadEquipment	HorsePower	89.00	60.00
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	LoadFactor	0.20	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	Vendor TripNumber	27.00	0.00
tblTripsAndVMT	Worker TripNumber	69.00	8.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	8.2100e-003	0.0601	0.0483	7.0000e-005	9.2000e-004	4.7300e-003	5.6500e-003	2.4000e-004	4.3500e-003	4.6000e-003	0.0000	5.9329	5.9329	1.6100e-003	0.0000	5.9666
2018	7.7400e-003	0.0568	0.0511	7.0000e-005	1.0100e-003	4.2800e-003	5.2900e-003	2.7000e-004	3.9300e-003	4.2000e-003	0.0000	6.3716	6.3716	1.7500e-003	0.0000	6.4084
Total	0.0160	0.1170	0.0993	1.4000e-004	1.9300e-003	9.0100e-003	0.0109	5.1000e-004	8.2800e-003	8.8000e-003	0.0000	12.3044	12.3044	3.3600e-003	0.0000	12.3750

Mitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	2.9300e-003	0.0293	0.0462	7.0000e-005	9.2000e-004	9.5000e-003	1.8700e-003	2.4000e-004	6.4000e-004	8.8000e-004	0.0000	5.9268	5.9268	1.6000e-003	0.0000	5.9605
2018	3.0800e-003	0.0320	0.0501	7.0000e-005	1.0100e-003	1.0400e-003	2.0500e-003	2.7000e-004	7.0000e-004	9.6000e-004	0.0000	6.3650	6.3650	1.7500e-003	0.0000	6.4018
Total	6.0100e-003	0.0613	0.0963	1.4000e-004	1.9300e-003	1.9900e-003	3.9200e-003	5.1000e-004	1.3400e-003	1.8400e-003	0.0000	12.2918	12.2918	3.3500e-003	0.0000	12.3623

Percent Reduction	62.3197	47.5804	3.0401	0.0000	0.0000	77.9134	64.1682	0.0000	83.8164	79.0909	0.0000	0.1025	0.1025	0.2976	0.0000	0.1025
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3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Electrical Crew – Dec 2017–Jan 2018	Building Construction	12/1/2017	1/31/2018	5	44	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Electrical Crew – Dec 2017–Jan 2018	Cranes	0	7.00	226	0.29
Electrical Crew – Dec 2017–Jan 2018	Forklifts	1	8.00	60	0.50
Electrical Crew – Dec 2017–Jan 2018	Generator Sets	0	8.00	84	0.74
Electrical Crew – Dec 2017–Jan 2018	Welders	0	8.00	46	0.45
Electrical Crew – Dec 2017–Jan 2018	Tractors/Loaders/Backhoes	1	8.00	83	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Electrical Crew – Dec 2017–Jan 2018	2	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Electrical Crew – Dec 2017–Jan 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Off-Road	6.5800e-003	0.0597	0.0436	5.0000e-005	4.7200e-003	4.7200e-003	4.7200e-003	4.3500e-003	4.3500e-003	4.3500e-003	0.0000	5.1026	5.1026	1.5600e-003	0.0000	5.1354
Total	6.5800e-003	0.0597	0.0436	5.0000e-005	4.7200e-003	4.7200e-003	4.7200e-003	4.3500e-003	4.3500e-003	4.3500e-003	0.0000	5.1026	5.1026	1.5600e-003	0.0000	5.1354

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	4.5000e-004	4.6500e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.6303	0.8303	4.0000e-005	0.0000	0.8312
Total	1.6400e-003	4.5000e-004	4.6500e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.6303	0.8303	4.0000e-005	0.0000	0.8312

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Off-Road	1.2900e-003	0.0288	0.0416	5.0000e-005	9.4000e-004	9.4000e-004	9.4000e-004	6.3000e-004	6.3000e-004	6.3000e-004	0.0000	5.0965	5.0965	1.5600e-003	0.0000	5.1293
Total	1.2900e-003	0.0288	0.0416	5.0000e-005	9.4000e-004	9.4000e-004	9.4000e-004	6.3000e-004	6.3000e-004	6.3000e-004	0.0000	5.0965	5.0965	1.5600e-003	0.0000	5.1293

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	4.5000e-004	4.6500e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.6303	0.8303	4.0000e-005	0.0000	0.8312
Total	1.6400e-003	4.5000e-004	4.6500e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.6303	0.8303	4.0000e-005	0.0000	0.8312

3.2 Electrical Crew – Dec 2017-Jan 2018 - 2018

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	6.0700e-003	0.0564	0.0465	6.0000e-005	4.2700e-003	4.2700e-003	4.2700e-003	3.9300e-003	3.9300e-003	3.9300e-003	0.0000	5.4962	5.4962	1.7100e-003	0.0000	5.5321
Total	6.0700e-003	0.0564	0.0465	6.0000e-005	4.2700e-003	4.2700e-003	4.2700e-003	3.9300e-003	3.9300e-003	3.9300e-003	0.0000	5.4962	5.4962	1.7100e-003	0.0000	5.5321

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6700e-003	4.4000e-004	4.6100e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8754	0.8754	4.0000e-005	0.0000	0.8763
Total	1.6700e-003	4.4000e-004	4.6100e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8754	0.8754	4.0000e-005	0.0000	0.8763

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	1.4100e-003	0.0316	0.0455	6.0000e-005	1.0300e-003	1.0300e-003	1.0300e-003	6.9000e-004	6.9000e-004	6.9000e-004	0.0000	5.4896	5.4896	1.7100e-003	0.0000	5.5255
Total	1.4100e-003	0.0316	0.0455	6.0000e-005	1.0300e-003	1.0300e-003	1.0300e-003	6.9000e-004	6.9000e-004	6.9000e-004	0.0000	5.4896	5.4896	1.7100e-003	0.0000	5.5255

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6700e-003	4.4000e-004	4.6100e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8754	0.8754	4.0000e-005	0.0000	0.8763
Total	1.6700e-003	4.4000e-004	4.6100e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8754	0.8754	4.0000e-005	0.0000	0.8763

LAX West Aircraft Maintenance Area Project - Fence Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Rubber Tired Dozers" = "Flat Bed Truck"

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	21.00
tblConstructionPhase	NumDays	5.00	22.00
tblConstructionPhase	PhaseEndDate	11/30/2016	3/30/2018
tblConstructionPhase	PhaseStartDate	11/1/2016	3/1/2018
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	HorsePower	255.00	200.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fence Crew - 10/2016	Site Preparation	10/1/2016	10/31/2016	5	21	
2	Fence Crew - 03/2018	Site Preparation	3/1/2018	3/30/2018	5	22	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fence Crew - 10/2016	Rubber Tired Dozers	1	8.00	200	0.40
Fence Crew - 10/2016	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Fence Crew - 03/2018	Rubber Tired Dozers	1	4.00	200	0.40
Fence Crew - 03/2018	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fence Crew - 10/2016	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHTD
Fence Crew - 03/2018	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHTD

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Fence Crew - 10/2016 - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
MT/yr																
Fugitive Dust					0.0632	0.0000	0.0632	0.0348	0.0000	0.0348	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0109	0.1185	0.0404	7.0000e-005	5.8600e-003	5.8600e-003	5.8600e-003	5.3900e-003	5.3900e-003	5.3900e-003	0.0000	6.8472	6.8472	2.0700e-003	0.0000	6.8905
Total	0.0109	0.1185	0.0404	7.0000e-005	0.0632	5.8600e-003	0.0691	0.0348	5.3900e-003	0.0402	0.0000	6.8472	6.8472	2.0700e-003	0.0000	6.8905

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.8000e-004	2.5000e-004	2.5800e-003	1.0000e-005	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4317	0.4317	2.0000e-005	0.0000	0.4322
Total	8.8000e-004	2.5000e-004	2.5800e-003	1.0000e-005	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4317	0.4317	2.0000e-005	0.0000	0.4322

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Fugitive Dust					0.0247	0.0000	0.0247	0.0136	0.0000	0.0136	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1800e-003	0.0191	0.0385	7.0000e-005	1.2000e-004	1.2000e-004	1.2000e-004	1.2000e-004	1.2000e-004	1.2000e-004	0.0000	6.8390	6.8390	2.0600e-003	0.0000	6.8823
Total	1.1800e-003	0.0191	0.0385	7.0000e-005	0.0247	1.2000e-004	0.0248	0.0136	1.2000e-004	0.0137	0.0000	6.8390	6.8390	2.0600e-003	0.0000	6.8823

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.8000e-004	2.5000e-004	2.5800e-003	1.0000e-005	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4317	0.4317	2.0000e-005	0.0000	0.4322
Total	8.8000e-004	2.5000e-004	2.5800e-003	1.0000e-005	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.4317	0.4317	2.0000e-005	0.0000	0.4322

3.3 Fence Crew - 03/2018 - 2018

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.0331	0.0000	0.0331	0.0182	0.0000	0.0182	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1900e-003	0.0559	0.0195	4.0000e-005	2.7200e-003	2.7200e-003	2.7200e-003	2.5000e-003	2.5000e-003	2.5000e-003	0.0000	3.4752	3.4752	1.0800e-003	0.0000	3.4979
Total	5.1900e-003	0.0559	0.0195	4.0000e-005	0.0331	2.7200e-003	0.0358	0.0182	2.5000e-003	0.0207	0.0000	3.4752	3.4752	1.0800e-003	0.0000	3.4979

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	2.1000e-004	2.2000e-003	1.0000e-005	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4187	0.4187	2.0000e-005	0.0000	0.4191
Total	8.0000e-004	2.1000e-004	2.2000e-003	1.0000e-005	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4187	0.4187	2.0000e-005	0.0000	0.4191

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.0129	0.0000	0.0129	7.1000e-005	0.0000	7.1000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2000e-004	0.0100	0.0202	4.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	0.0000	3.4711	3.4711	1.0800e-003	0.0000	3.4937
Total	6.2000e-004	0.0100	0.0202	4.0000e-005	0.0129	6.0000e-005	0.0130	7.1000e-005	6.0000e-005	7.1600e-005	0.0000	3.4711	3.4711	1.0800e-003	0.0000	3.4937

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	2.1000e-004	2.2000e-003	1.0000e-005	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4187	0.4187	2.0000e-005	0.0000	0.4191
Total	8.0000e-004	2.1000e-004	2.2000e-003	1.0000e-005	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4187	0.4187	2.0000e-005	0.0000	0.4191

LAX West Aircraft Maintenance Area Project - Foundation Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Grading -

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Air Compressor; "Forklift" = Skiploader; "Generator" = Dump & Mix Trucks; Backhoe; "Welder" = Lift.

Table Name	Column Name	Default Value	New Value
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tbiConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tbiConstEquipMitigation	Tier	No Change	Tier 4 Interim
tbiConstEquipMitigation	Tier	No Change	Tier 4 Interim
tbiConstEquipMitigation	Tier	No Change	Tier 4 Interim
tbiConstEquipMitigation	Tier	No Change	Tier 4 Interim

		Tier	No Change	Tier 4 Interim
tblConsEquipMitigation				
tblConstructionPhase	NumDays		230.00	65.00
tblConstructionPhase	PhaseEndDate		12/30/2016	12/31/2016
tblOffRoadEquipment	HorsePower		226.00	170.00
tblOffRoadEquipment	HorsePower		89.00	84.00
tblOffRoadEquipment	HorsePower		84.00	350.00
tblOffRoadEquipment	HorsePower		97.00	83.00
tblOffRoadEquipment	HorsePower		46.00	125.00
tblOffRoadEquipment	LoadFactor		0.29	0.48
tblOffRoadEquipment	LoadFactor		0.20	0.37
tblOffRoadEquipment	LoadFactor		0.74	0.38
tblOffRoadEquipment	LoadFactor		0.45	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount		3.00	1.00
tblOffRoadEquipment	UsageHours		7.00	8.00
tblOffRoadEquipment	UsageHours		7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor		1227.89	1104
tblProjectCharacteristics	OperationalYear		2014	2018
tblTripsAndVMT	VendorTripNumber		27.00	0.00
tblTripsAndVMT	WorkerTripNumber		69.00	28.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MIT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.1599	1.5427	0.7731	2.1800e-003	9.9800e-003	0.0665	0.0765	2.6500e-003	0.0636	0.0663	0.0000	215.9518	215.9518	0.0186	0.0000	216.3428
Total	0.1599	1.5427	0.7731	2.1800e-003	9.9800e-003	0.0665	0.0765	2.6500e-003	0.0636	0.0663	0.0000	215.9518	215.9518	0.0186	0.0000	216.3428

Mitigated Construction

Year	tons/yr											MIT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.0549	0.6313	1.2336	2.1800e-003	9.9800e-003	5.0500e-003	0.0150	2.6500e-003	5.0500e-003	7.7000e-003	0.0000	215.7060	215.7060	0.0186	0.0000	216.0966
Total	0.0549	0.6313	1.2336	2.1800e-003	9.9800e-003	5.0500e-003	0.0150	2.6500e-003	5.0500e-003	7.7000e-003	0.0000	215.7060	215.7060	0.0186	0.0000	216.0966

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
	65.6575	59.0774	-59.5587	0.0000	0.0000	92.4060	80.3347	0.0000	92.0585	88.3774	0.0000	0.1138	0.1138	0.1074	0.0000	0.1138

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Foundation Crew - Oct-Dec 2016	Building Construction	10/1/2016	12/31/2016	5	65	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Foundation Crew - Oct-Dec 2016	Cranes	1	8.00	170	0.48
Foundation Crew - Oct-Dec 2016	Forklifts	1	8.00	84	0.37
Foundation Crew - Oct-Dec 2016	Generator Sets	4	8.00	350	0.38
Foundation Crew - Oct-Dec 2016	Tractors/Loaders/Backhoes	1	8.00	83	0.37
Foundation Crew - Oct-Dec 2016	Welders	1	8.00	125	0.31

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Foundation Crew - Oct-Dec 2016	8	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Clean Paved Roads

3.2 Foundation Crew - Oct-Dec 2016 - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.1408	1.5374	0.7173	2.0600e-003	0.0664	0.0664	0.0664	0.0635	0.0635	0.0635	0.0000	206.5981	206.5981	0.0181	0.0000	206.9786
Total	0.1408	1.5374	0.7173	2.0600e-003	0.0664	0.0664	0.0664	0.0635	0.0635	0.0635	0.0000	206.5981	206.5981	0.0181	0.0000	206.9786

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0191	5.3700e-003	0.0558	1.2000e-004	9.9800e-003	9.0000e-005	0.0101	2.6500e-003	8.0000e-005	2.7300e-003	0.0000	9.3537	9.3537	5.0000e-004	0.0000	9.3642
Total	0.0191	5.3700e-003	0.0558	1.2000e-004	9.9800e-003	9.0000e-005	0.0101	2.6500e-003	8.0000e-005	2.7300e-003	0.0000	9.3537	9.3537	5.0000e-004	0.0000	9.3642

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.0358	0.6260	1.1777	2.0600e-003	4.9700e-003	4.9700e-003	4.9700e-003	4.9700e-003	4.9700e-003	4.9700e-003	0.0000	206.3523	206.3523	0.0181	0.0000	206.7324
Total	0.0358	0.6260	1.1777	2.0600e-003	4.9700e-003	4.9700e-003	4.9700e-003	4.9700e-003	4.9700e-003	4.9700e-003	0.0000	206.3523	206.3523	0.0181	0.0000	206.7324

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0191	5.3700e-003	0.0558	1.2000e-004	9.9800e-003	9.0000e-005	0.0101	2.6500e-003	8.0000e-005	2.7300e-003	0.0000	9.3537	9.3537	5.0000e-004	0.0000	9.3642
Total	0.0191	5.3700e-003	0.0558	1.2000e-004	9.9800e-003	9.0000e-005	0.0101	2.6500e-003	8.0000e-005	2.7300e-003	0.0000	9.3537	9.3537	5.0000e-004	0.0000	9.3642

LAX West Aircraft Maintenance Area Project - Installation Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	129.00
tblOffRoadEquipment	HorsePower	226.00	125.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018

tbITripsAndVMT	Vendor Trip Number	27.00	0.00
tbITripsAndVMT	Worker Trip Number	69.00	16.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

Year	tons/yr													MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
2017	0.0748	0.6526	0.3720	5.2000e-004	7.5500e-003	0.0351	0.0427	2.0000e-003	0.0323	0.0343	0.0000	46.8777	46.8777	0.0126	0.0000	47.1429		
2018	0.0336	0.2907	0.1788	2.6000e-004	3.7700e-003	0.0155	0.0193	1.0000e-003	0.0143	0.0153	0.0000	22.9901	22.9901	6.3000e-003	0.0000	23.1224		
Total	0.1084	0.9433	0.5508	7.8000e-004	0.0113	0.0506	0.0619	3.0000e-003	0.0466	0.0496	0.0000	69.8678	69.8678	0.0189	0.0000	70.2654		

Mitigated Construction

Year	tons/yr													MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
2017	0.0231	0.1930	0.3639	5.2000e-004	7.5500e-003	0.0404	8.3100e-003	2.0000e-003	7.6000e-004	2.7700e-003	0.0000	46.8300	46.8300	0.0126	0.0000	47.0950		
2018	0.0111	0.0963	0.1801	2.6000e-004	3.7700e-003	0.0404	4.1600e-003	1.0000e-003	3.8000e-004	1.3800e-003	0.0000	22.9666	22.9666	6.2900e-003	0.0000	23.0988		
Total	0.0342	0.2893	0.5440	7.8000e-004	0.0113	0.0125	0.0125	3.0000e-003	1.1400e-003	4.1500e-003	0.0000	69.7967	69.7967	0.0189	0.0000	70.1938		

Percent Reduction	tons/yr													MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
68.4750	69.3277	1.2309	0.0000	0.0000	97.7277	79.8644	0.0000	97.5515	91.6263	0.0000	0.1018	0.1018	0.1018	0.1057	0.0000	0.1019		

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Installation Crew - Sep 2017 - Feb 2018	Building Construction	9/1/2017	2/28/2018	5	129	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Installation Crew - Sep 2017 - Feb 2018	Cranes	3	8.00	125	0.31
Installation Crew - Sep 2017 - Feb 2018	Forklifts	0	8.00	89	0.20
Installation Crew - Sep 2017 - Feb 2018	Generator Sets	0	8.00	84	0.74
Installation Crew - Sep 2017 - Feb 2018	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Installation Crew - Sep 2017 - Feb 2018	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Installation Crew - Sep 2017 - Feb 2018	3	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction
 Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Installation Crew - Sep 2017 - Feb 2018 - 2017
Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bioc-CO2	NBl6-CO2	Total CO2	CH4	N2O	CO2e
M/yr																
Off-Road	0.0614	0.6489	0.3339	4.3000e-004	0.0350	0.0322	0.0350	0.0322	0.0322	0.0322	0.0000	40.0774	40.0774	0.0123	0.0000	40.3353
Total	0.0614	0.6489	0.3339	4.3000e-004	0.0350	0.0322	0.0350	0.0322	0.0322	0.0322	0.0000	40.0774	40.0774	0.0123	0.0000	40.3353

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0134	3.6700e-003	0.0381	9.0000e-005	7.5500e-003	6.0000e-005	7.6100e-003	2.0000e-003	6.0000e-005	2.0600e-003	0.0000	6.8003	6.8003	3.5000e-004	0.0000	6.8076
Total	0.0134	3.6700e-003	0.0381	9.0000e-005	7.5500e-003	6.0000e-005	7.6100e-003	2.0000e-003	6.0000e-005	2.0600e-003	0.0000	6.8003	6.8003	3.5000e-004	0.0000	6.8076

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	9.6900e-003	0.1893	0.3258	4.3000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	0.0000	40.0297	40.0297	0.0123	0.0000	40.2873
Total	9.6900e-003	0.1893	0.3258	4.3000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	7.0000e-004	0.0000	40.0297	40.0297	0.0123	0.0000	40.2873

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0134	3.6700e-003	0.0381	9.0000e-005	7.5500e-003	6.0000e-005	7.6100e-003	2.0000e-003	6.0000e-005	2.0600e-003	0.0000	6.8003	6.8003	3.5000e-004	0.0000	6.8076
Total	0.0134	3.6700e-003	0.0381	9.0000e-005	7.5500e-003	6.0000e-005	7.6100e-003	2.0000e-003	6.0000e-005	2.0600e-003	0.0000	6.8003	6.8003	3.5000e-004	0.0000	6.8076

3.2 Installation Crew - Sep 2017 - Feb 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0274	0.2891	0.1616	2.2000e-004	0.0155	0.0155	0.0155	0.0142	0.0142	0.0142	0.0000	19.7169	19.7169	6.1400e-003	0.0000	19.8458
Total	0.0274	0.2891	0.1616	2.2000e-004	0.0155	0.0155	0.0155	0.0142	0.0142	0.0142	0.0000	19.7169	19.7169	6.1400e-003	0.0000	19.8458

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2400e-003	1.6600e-003	0.0172	5.0000e-005	3.7700e-003	3.0000e-005	3.8000e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.2732	3.2732	1.6000e-004	0.0000	3.2767
Total	6.2400e-003	1.6600e-003	0.0172	5.0000e-005	3.7700e-003	3.0000e-005	3.8000e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.2732	3.2732	1.6000e-004	0.0000	3.2767

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Off-Road	4.8400e-003	0.0947	0.1629	2.2000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	0.0000	19.6934	19.6934	6.1300e-003	0.0000	19.8222
Total	4.8400e-003	0.0947	0.1629	2.2000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	3.5000e-004	0.0000	19.6934	19.6934	6.1300e-003	0.0000	19.8222

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2400e-003	1.6600e-003	0.0172	5.0000e-005	3.7700e-003	3.0000e-005	3.8000e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.2732	3.2732	1.6000e-004	0.0000	3.2767
Total	6.2400e-003	1.6600e-003	0.0172	5.0000e-005	3.7700e-003	3.0000e-005	3.8000e-003	1.0000e-003	3.0000e-005	1.0300e-003	0.0000	3.2732	3.2732	1.6000e-004	0.0000	3.2767

LAX West Aircraft Maintenance Area Project - Interior Finishes Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Utility Company	Los Angeles Department of Water & Power	Operational Year	2018
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	64.00
tblOffRoadEquipment	HorsePower	226.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	69.00	30.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.0248	0.0546	0.0812	9.0000e-005	3.4600e-003	5.3700e-003	8.8200e-003	9.2000e-004	4.9400e-003	5.8500e-003	0.0000	7.3850	7.3850	1.4700e-003	0.0000	7.4158
2018	0.0482	0.1090	0.1601	1.8000e-004	7.0800e-003	0.0111	0.0181	1.8800e-003	0.0102	0.0121	0.0000	14.7451	14.7451	2.9900e-003	0.0000	14.8078
Total	0.0731	0.1636	0.2413	2.7000e-004	0.0105	0.0164	0.0270	2.8000e-003	0.0151	0.0179	0.0000	22.1300	22.1300	4.4600e-003	0.0000	22.2236

Mitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.0248	0.0545	0.0812	9.0000e-005	3.4600e-003	5.3600e-003	8.8200e-003	9.2000e-004	4.9300e-003	5.8500e-003	0.0000	7.3799	7.3799	1.4700e-003	0.0000	7.4107
2018	0.0482	0.1089	0.1600	1.8000e-004	7.0800e-003	0.0111	0.0181	1.8800e-003	0.0102	0.0120	0.0000	14.7349	14.7349	2.9800e-003	0.0000	14.7975
Total	0.0730	0.1634	0.2411	2.7000e-004	0.0105	0.0164	0.0269	2.8000e-003	0.0151	0.0179	0.0000	22.1147	22.1147	4.4500e-003	0.0000	22.2082

Percent Reduction	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	0.0821	0.1100	0.0912	0.0000	0.0000	0.1217	0.0742	0.0000	0.1324	0.0559	0.0000	0.0692	0.0692	0.2242	0.0000	0.0694

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Interior Finishes Crew - Dec 2017-Feb 2018	Building Construction	12/1/2017	2/28/2018	5	64	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Interior Finishes Crew - Dec 2017-Feb 2018	Cranes	3	8.00	50	0.31
Interior Finishes Crew - Dec 2017-Feb 2018	Forklifts	0	8.00	89	0.20
Interior Finishes Crew - Dec 2017-Feb 2018	Generator Sets	0	8.00	84	0.74
Interior Finishes Crew - Dec 2017-Feb 2018	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Interior Finishes Crew - Dec 2017-Feb 2018	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Interior Finishes Crew - Dec 2017-Feb 2018	3	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer
Water Exposed Area
Clean Paved Roads

3.2 Interior Finishes Crew - Dec 2017-Feb 2018 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0187	0.0529	0.0638	5.0000e-005	5.3400e-003	5.3400e-003	5.3400e-003	4.9100e-003	4.9100e-003	4.9100e-003	0.0000	4.2715	4.2715	1.3100e-003	0.0000	4.2989
Total	0.0187	0.0529	0.0638	5.0000e-005	5.3400e-003	5.3400e-003	5.3400e-003	4.9100e-003	4.9100e-003	4.9100e-003	0.0000	4.2715	4.2715	1.3100e-003	0.0000	4.2989

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1300e-003	1.6800e-003	0.0174	4.0000e-005	3.4600e-003	3.0000e-005	3.4800e-003	9.2000e-004	3.0000e-005	9.4000e-004	0.0000	3.1135	3.1135	1.6000e-004	0.0000	3.1169
Total	6.1300e-003	1.6800e-003	0.0174	4.0000e-005	3.4600e-003	3.0000e-005	3.4800e-003	9.2000e-004	3.0000e-005	9.4000e-004	0.0000	3.1135	3.1135	1.6000e-004	0.0000	3.1169
MT/yr																

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0187	0.0529	0.0637	5.0000e-005	5.3300e-003	5.3300e-003	5.3300e-003	4.9000e-003	4.9000e-003	4.9000e-003	0.0000	4.2664	4.2664	1.3100e-003	0.0000	4.2938
Total	0.0187	0.0529	0.0637	5.0000e-005	5.3300e-003	5.3300e-003	5.3300e-003	4.9000e-003	4.9000e-003	4.9000e-003	0.0000	4.2664	4.2664	1.3100e-003	0.0000	4.2938
MT/yr																

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1300e-003	1.6800e-003	0.0174	4.0000e-005	3.4600e-003	3.0000e-005	3.4800e-003	9.2000e-004	3.0000e-005	9.4000e-004	0.0000	3.1135	3.1135	1.6000e-004	0.0000	3.1169
Total	6.1300e-003	1.6800e-003	0.0174	4.0000e-005	3.4600e-003	3.0000e-005	3.4800e-003	9.2000e-004	3.0000e-005	9.4000e-004	0.0000	3.1135	3.1135	1.6000e-004	0.0000	3.1169
MT/yr																

3.2 Interior Finishes Crew - Dec 2017-Feb 2018 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0365	0.1059	0.1278	9.0000e-005	0.0110	0.0110	0.0110	0.0101	0.0101	0.0101	0.0000	8.6078	8.6078	2.6800e-003	0.0000	8.6641
Total	0.0365	0.1059	0.1278	9.0000e-005	0.0110	0.0110	0.0110	0.0101	0.0101	0.0101	0.0000	8.6078	8.6078	2.6800e-003	0.0000	8.6641
MT/yr																

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0117	3.1200e-003	0.0323	9.0000e-005	7.0800e-003	6.0000e-005	7.1300e-003	1.8800e-003	5.0000e-005	1.9300e-003	0.0000	6.1373	6.1373	3.1000e-004	0.0000	6.1437
Total	0.0117	3.1200e-003	0.0323	9.0000e-005	7.0800e-003	6.0000e-005	7.1300e-003	1.8800e-003	5.0000e-005	1.9300e-003	0.0000	6.1373	6.1373	3.1000e-004	0.0000	6.1437
MT/yr																

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0365	0.1057	0.1276	9.0000e-005	0.0110	0.0110	0.0110	0.0101	0.0101	0.0101	0.0000	8.5976	8.5976	2.6800e-003	0.0000	8.6538
Total	0.0365	0.1057	0.1276	9.0000e-005	0.0110	0.0110	0.0110	0.0101	0.0101	0.0101	0.0000	8.5976	8.5976	2.6800e-003	0.0000	8.6538
MT/yr																

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0117	3.1200e-003	0.0323	9.0000e-005	7.0800e-003	6.0000e-005	7.1300e-003	1.8800e-003	5.0000e-005	1.9300e-003	0.0000	6.1373	6.1373	3.1000e-004	0.0000	6.1437
Total	0.0117	3.1200e-003	0.0323	9.0000e-005	7.0800e-003	6.0000e-005	7.1300e-003	1.8800e-003	5.0000e-005	1.9300e-003	0.0000	6.1373	6.1373	3.1000e-004	0.0000	6.1437
MT/yr																

LAX West Aircraft Maintenance Area Project - Interior Rough Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year	2018		
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Lift

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Crane" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	65.00
tblOffRoadEquipment	HorsePower	226.00	50.00
tblOffRoadEquipment	LoadFactor	0.29	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	69.00	30.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.0962	0.2236	0.3172	3.2000e-004	0.0107	0.0221	0.0328	2.8400e-003	0.0204	0.0232	0.0000	27.2652	27.2652	5.9000e-003	0.0000	27.3891
Total	0.0962	0.2236	0.3172	3.2000e-004	0.0107	0.0221	0.0328	2.8400e-003	0.0204	0.0232	0.0000	27.2652	27.2652	5.9000e-003	0.0000	27.3891

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.0961	0.2233	0.3169	3.2000e-004	0.0107	0.0221	0.0328	2.8400e-003	0.0203	0.0232	0.0000	27.2443	27.2443	5.8900e-003	0.0000	27.3680
Total	0.0961	0.2233	0.3169	3.2000e-004	0.0107	0.0221	0.0328	2.8400e-003	0.0203	0.0232	0.0000	27.2443	27.2443	5.8900e-003	0.0000	27.3680

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		0.0936	0.1163	0.0977	0.0000	0.0000	0.1356	0.0610	0.0000	0.1474	0.1294	0.0000	0.0769	0.0769	0.1695	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Interior Rough Crew - Sep-Nov 2017	Building Construction	9/1/2017	11/30/2017	5	65	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Interior Rough Crew - Sep-Nov 2017	Cranes	4	8.00	50	0.31
Interior Rough Crew - Sep-Nov 2017	Forklifts	0	8.00	89	0.20

Interior Rough Crew - Sep-Nov 2017	Generator Sets	0	8.00	84	0.74
Interior Rough Crew - Sep-Nov 2017	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Interior Rough Crew - Sep-Nov 2017	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Interior Rough Crew - Sep-Nov 2017	4	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer
Water Exposed Area
Clean Paved Roads

3.2 Interior Rough Crew - Sep-Nov 2017 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.0772	0.2184	0.2633	1.9000e-004	0.0220	0.0220	0.0220	0.0203	0.0203	0.0203	0.0000	17.6282	17.6282	5.4000e-003	0.0000	17.7417
Total	0.0772	0.2184	0.2633	1.9000e-004	0.0220	0.0220	0.0220	0.0203	0.0203	0.0203	0.0000	17.6282	17.6282	5.4000e-003	0.0000	17.7417

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0190	5.2000e-003	0.0540	1.3000e-004	0.0107	9.0000e-005	0.0108	2.8400e-003	8.0000e-005	2.9200e-003	0.0000	9.6370	9.6370	5.0000e-004	0.0000	9.6475
Total	0.0190	5.2000e-003	0.0540	1.3000e-004	0.0107	9.0000e-005	0.0108	2.8400e-003	8.0000e-005	2.9200e-003	0.0000	9.6370	9.6370	5.0000e-004	0.0000	9.6475

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Off-Road	0.0771	0.2181	0.2630	1.9000e-004	0.0220	0.0220	0.0220	0.0202	0.0202	0.0202	0.0000	17.6073	17.6073	5.3900e-003	0.0000	17.7206
Total	0.0771	0.2181	0.2630	1.9000e-004	0.0220	0.0220	0.0220	0.0202	0.0202	0.0202	0.0000	17.6073	17.6073	5.3900e-003	0.0000	17.7206

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0190	5.2000e-003	0.0540	1.3000e-004	0.0107	9.0000e-005	0.0108	2.8400e-003	8.0000e-005	2.9200e-003	0.0000	9.6370	9.6370	5.0000e-004	0.0000	9.6475
Total	0.0190	5.2000e-003	0.0540	1.3000e-004	0.0107	9.0000e-005	0.0108	2.8400e-003	8.0000e-005	2.9200e-003	0.0000	9.6370	9.6370	5.0000e-004	0.0000	9.6475

LAX West Aircraft Maintenance Area Project - Misc Labor Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11	Operational Year			2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011)

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix

Off-road Equipment - See Construction Assumptions

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix (Fuel truck added to vendor trips)

Grading - Refer to Construction Model Inputs worksheet provided in this appendix

Construction Off-road Equipment Mitigation - Tier 4 Engines; Apply Water/Soil Stabilizer to Exposed Areas and Unpaved Roads 3 times daily (61% reduction in PM10 and PM2.5)

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. "Tractor/Loader/Backhoe" = CAT 428 Backhoe

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	390.00
tblConstructionPhase	PhaseEndDate	3/30/2018	3/31/2018
tblLandscapeEquipment	NumberSummerDays	250	365
tblOffRoadEquipment	HorsePower	97.00	83.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	WorkerTripNumber	3.00	10.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	0.0163	0.0924	0.0870	1.3000e-004	3.5700e-003	7.0000e-003	0.0106	9.5000e-004	6.4400e-003	7.3900e-003	0.0000	11.5064	11.5064	2.6400e-003	0.0000	11.5619
2017	0.0606	0.3455	0.3382	5.2000e-004	0.0143	0.0256	0.0398	3.7900e-003	0.0235	0.0273	0.0000	44.9663	44.9663	0.0105	0.0000	45.1869
2018	0.0133	0.0747	0.0813	1.3000e-004	3.5700e-003	5.2100e-003	8.7700e-003	9.5000e-004	4.7900e-003	5.7400e-003	0.0000	10.9832	10.9832	2.6100e-003	0.0000	11.0380
Total	0.0901	0.5127	0.5065	7.8000e-004	0.0214	0.0378	0.0592	5.6900e-003	0.0348	0.0405	0.0000	67.4558	67.4558	0.0158	0.0000	67.7868

Mitigated Construction

Year	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2016	8.7400e-003	0.0441	0.0850	1.3000e-004	3.5700e-003	1.0100e-003	4.5800e-003	9.5000e-004	1.0100e-003	1.9600e-003	0.0000	11.4967	11.4967	2.6400e-003	0.0000	11.5521
2017	0.0331	0.1757	0.3322	5.2000e-004	0.0143	4.0600e-003	0.0183	3.7900e-003	4.0500e-003	7.8300e-003	0.0000	44.9281	44.9281	0.0105	0.0000	45.1484
2018	7.8300e-003	0.0438	0.0813	1.3000e-004	3.5700e-003	1.0100e-003	4.5800e-003	9.5000e-004	1.0100e-003	1.9600e-003	0.0000	10.9738	10.9738	2.6100e-003	0.0000	11.0286
Total	0.0496	0.2636	0.4985	7.8000e-004	0.0214	6.0800e-003	0.0275	5.6900e-003	6.0700e-003	0.0118	0.0000	67.3985	67.3985	0.0157	0.0000	67.7291

Percent Reduction	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	44.9462	48.5800	1.5873	0.0000	0.0000	83.9111	53.5654	0.0000	82.5374	70.9518	0.0000	0.0849	0.0849	0.0635	0.0000	0.0851

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Misc Labor Crew	Site Preparation	10/1/2016	3/31/2018	5	390	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Misc Labor Crew	Rubber Tired Dozers	0	8.00	255	0.40
Misc Labor Crew	Tractors/Loaders/Backhoes	1	8.00	83	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Misc Labor Crew	1	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Misc Labor Crew - 2016

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4700e-003	0.0905	0.0671	9.0000e-005	6.9700e-003	6.9700e-003	6.9700e-003	6.4100e-003	6.4100e-003	6.4100e-003	0.0000	8.1658	8.1658	2.4600e-003	0.0000	8.2175
Total	9.4700e-003	0.0905	0.0671	9.0000e-005	6.9700e-003	6.9700e-003	6.9700e-003	6.4100e-003	6.4100e-003	6.4100e-003	0.0000	8.1658	8.1658	2.4600e-003	0.0000	8.2175

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8100e-003	1.9200e-003	0.0199	4.0000e-005	3.5700e-003	3.0000e-005	3.6000e-003	9.5000e-004	3.0000e-005	9.7000e-004	0.0000	3.3406	3.3406	1.8000e-004	0.0000	3.3444
Total	6.8100e-003	1.9200e-003	0.0199	4.0000e-005	3.5700e-003	3.0000e-005	3.6000e-003	9.5000e-004	3.0000e-005	9.7000e-004	0.0000	3.3406	3.3406	1.8000e-004	0.0000	3.3444

Mitigated Construction On-Site

Category	tons/yr										MT/yr					CO2e	
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O		CO2e
Fugitive Dust Off-Road	1.9300e-003	0.0422	0.0651	9.0000e-005	0.0000	9.8000e-004	9.8000e-004	0.0000	9.8000e-004	9.8000e-004	0.0000	8.1561	8.1561	0.0000	0.0000	0.0000	8.2077
Total	1.9300e-003	0.0422	0.0651	9.0000e-005	0.0000	9.8000e-004	9.8000e-004	0.0000	9.8000e-004	9.8000e-004	0.0000	8.1561	8.1561	0.0000	0.0000	0.0000	8.2077

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					CO2e	
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O		CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8100e-003	1.9200e-003	0.0199	4.0000e-005	3.5700e-003	3.0000e-005	3.6000e-003	9.5000e-004	3.0000e-005	9.7000e-004	0.0000	3.3406	3.3406	1.8000e-004	0.0000	0.0000	3.3444
Total	6.8100e-003	1.9200e-003	0.0199	4.0000e-005	3.5700e-003	3.0000e-005	3.6000e-003	9.5000e-004	3.0000e-005	9.7000e-004	0.0000	3.3406	3.3406	1.8000e-004	0.0000	0.0000	3.3444

3.2 Misc Labor Crew - 2017

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					CO2e	
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O		CO2e
Fugitive Dust Off-Road	0.0352	0.3386	0.2663	3.5000e-004	0.0000	0.0255	0.0255	0.0000	0.0234	0.0234	0.0000	32.1170	32.1170	0.0000	0.0000	0.0000	32.3236
Total	0.0352	0.3386	0.2663	3.5000e-004	0.0000	0.0255	0.0255	0.0000	0.0234	0.0234	0.0000	32.1170	32.1170	0.0000	0.0000	0.0000	32.3236

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					CO2e	
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O		CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0253	6.9300e-003	0.0719	1.8000e-004	0.0143	1.2000e-004	0.0144	3.7900e-003	1.1000e-004	3.9000e-003	0.0000	12.8493	12.8493	6.6000e-004	0.0000	0.0000	12.8633
Total	0.0253	6.9300e-003	0.0719	1.8000e-004	0.0143	1.2000e-004	0.0144	3.7900e-003	1.1000e-004	3.9000e-003	0.0000	12.8493	12.8493	6.6000e-004	0.0000	0.0000	12.8633

Mitigated Construction On-Site

Category	tons/yr										MT/yr					CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7400e-003	0.1688	0.2602	3.5000e-004	3.9400e-003	3.9400e-003	3.9400e-003	3.9400e-003	3.9400e-003	3.9400e-003	0.0000	32.0787	32.0787	9.8300e-003	0.0000	32.2852
Total	7.7400e-003	0.1688	0.2602	3.5000e-004	0.0000	3.9400e-003	3.9400e-003	0.0000	3.9400e-003	3.9400e-003	0.0000	32.0787	32.0787	9.8300e-003	0.0000	32.2852

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0253	6.9300e-003	0.0719	1.8000e-004	0.0143	1.2000e-004	0.0144	3.7900e-003	1.1000e-004	3.9000e-003	0.0000	12.8493	12.8493	6.6000e-004	0.0000	12.8633
Total	0.0253	6.9300e-003	0.0719	1.8000e-004	0.0143	1.2000e-004	0.0144	3.7900e-003	1.1000e-004	3.9000e-003	0.0000	12.8493	12.8493	6.6000e-004	0.0000	12.8633

3.2 Misc Labor Crew - 2018

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					CO2e
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4000e-003	0.0731	0.0650	9.0000e-005	5.1800e-003	5.1800e-003	5.1800e-003	4.7700e-003	4.7700e-003	4.7700e-003	0.0000	7.8908	7.8908	2.4600e-003	0.0000	7.9424
Total	7.4000e-003	0.0731	0.0650	9.0000e-005	0.0000	5.1800e-003	5.1800e-003	0.0000	4.7700e-003	4.7700e-003	0.0000	7.8908	7.8908	2.4600e-003	0.0000	7.9424

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-003	1.5700e-003	0.0163	4.0000e-005	3.5700e-003	3.0000e-005	3.5900e-003	9.5000e-004	3.0000e-005	9.7000e-004	0.0000	3.0924	3.0924	1.5000e-004	0.0000	3.0957
Total	5.9000e-003	1.5700e-003	0.0163	4.0000e-005	3.5700e-003	3.0000e-005	3.5900e-003	9.5000e-004	3.0000e-005	9.7000e-004	0.0000	3.0924	3.0924	1.5000e-004	0.0000	3.0957

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9300e-003	0.0422	0.0651	9.0000e-005	9.8000e-004	9.8000e-004	9.8000e-004	9.8000e-004	9.8000e-004	9.8000e-004	0.0000	7.8814	7.8814	2.4500e-003	0.0000	7.9329
Total	1.9300e-003	0.0422	0.0651	9.0000e-005	9.8000e-004	9.8000e-004	9.8000e-004	9.8000e-004	9.8000e-004	9.8000e-004	0.0000	7.8814	7.8814	2.4500e-003	0.0000	7.9329

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-003	1.5700e-003	0.0163	4.0000e-005	3.5700e-003	3.0000e-005	3.5900e-003	9.5000e-004	3.0000e-005	9.7000e-004	0.0000	3.0924	3.0924	1.5000e-004	0.0000	3.0957
Total	5.9000e-003	1.5700e-003	0.0163	4.0000e-005	3.5700e-003	3.0000e-005	3.5900e-003	9.5000e-004	3.0000e-005	9.7000e-004	0.0000	3.0924	3.0924	1.5000e-004	0.0000	3.0957

LAX West Aircraft Maintenance Area Project - Structural Steel Crew 2016-2018

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	165.00	1000sqft	3.79	165,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW/hr)	1104	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor: LADWP, 2011 Integrated Resource Plan, Appendix C, Table C-1, Historical LADWP Power Generation CO2 Emissions, Year 2010 (December 2011).

Land Use - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Phase - Refer to Construction Model Inputs worksheet provided in this appendix.

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Trips and VMT - Refer to Construction Model Inputs worksheet provided in this appendix.

Construction Off-road Equipment Mitigation - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Off-road Equipment - Refer to Construction Model Inputs worksheet provided in this appendix. Crane; "Forklift" = Lift; "Generator" = Platform (Lift).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	174.00
tblOffRoadEquipment	HorsePower	226.00	332.00
tblOffRoadEquipment	HorsePower	89.00	125.00
tblOffRoadEquipment	HorsePower	84.00	50.00
tblOffRoadEquipment	LoadFactor	0.20	0.31
tblOffRoadEquipment	LoadFactor	0.74	0.31
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1104
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	27.00	0.00
tblTripsAndVMT	WorkerTripNumber	69.00	22.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.1764	1.3170	1.0394	1.6000e-003	0.0210	0.0626	0.0836	5.5800e-003	0.0587	0.0642	0.0000	137.1232	137.1232	0.0336	0.0000	137.8290
Total	0.1764	1.3170	1.0394	1.6000e-003	0.0210	0.0626	0.0836	5.5800e-003	0.0587	0.0642	0.0000	137.1232	137.1232	0.0336	0.0000	137.8290

Mitigated Construction

Year	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
2017	0.1039	0.5431	0.9132	1.6000e-003	0.0210	0.0154	0.0364	5.5800e-003	0.0154	0.0209	0.0000	136.9826	136.9826	0.0336	0.0000	137.6876
Total	0.1039	0.5431	0.9132	1.6000e-003	0.0210	0.0154	0.0364	5.5800e-003	0.0154	0.0209	0.0000	136.9826	136.9826	0.0336	0.0000	137.6876

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
		41.1018	58.7651	12.1398	0.0000	0.0000	75.4355	56.4796	0.0000	73.8278	67.4140	0.0000	0.1025	0.1025	0.1190	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Structural Steel Crew - Jan-Aug 2017	Building Construction	1/1/2017	8/31/2017	5	174	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Structural Steel Crew - Jan-Aug 2017	Cranes	1	8.00	332	0.29
Structural Steel Crew - Jan-Aug 2017	Forklifts	1	8.00	125	0.31
Structural Steel Crew - Jan-Aug 2017	Generator Sets	2	8.00	50	0.31
Structural Steel Crew - Jan-Aug 2017	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Structural Steel Crew - Jan-Aug 2017	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Structural Steel Crew - Jan-Aug 2017	4	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment
 Use Soil Stabilizer
 Water Exposed Area
 Clean Paved Roads

3.2 Structural Steel Crew - Jan-Aug 2017 - 2017

Unmitigated Construction On-Site

Acres of Grading: 0

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.1392	1.3068	0.9335	1.3400e-003	0.0624	0.0624	0.0624	0.0585	0.0585	0.0585	0.0000	118.2051	118.2051	0.0326	0.0000	118.8903
Total	0.1392	1.3068	0.9335	1.3400e-003	0.0624	0.0624	0.0624	0.0585	0.0585	0.0585	0.0000	118.2051	118.2051	0.0326	0.0000	118.8903

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0373	0.0102	0.1059	2.6000e-004	0.0210	1.7000e-004	0.0212	5.5800e-003	1.6000e-004	5.7400e-003	0.0000	18.9182	18.9182	9.8000e-004	0.0000	18.9387
Total	0.0373	0.0102	0.1059	2.6000e-004	0.0210	1.7000e-004	0.0212	5.5800e-003	1.6000e-004	5.7400e-003	0.0000	18.9182	18.9182	9.8000e-004	0.0000	18.9387

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Off-Road	0.0667	0.5329	0.8073	1.3400e-003		0.0152	0.0152		0.0152	0.0152	0.0000	118.0645	118.0645	0.0326	0.0000	118.7489
Total	0.0667	0.5329	0.8073	1.3400e-003		0.0152	0.0152		0.0152	0.0152	0.0000	118.0645	118.0645	0.0326	0.0000	118.7489

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0373	0.0102	0.1059	2.6000e-004	0.0210	1.7000e-004	0.0212	5.5800e-003	1.6000e-004	5.7400e-003	0.0000	18.9182	18.9182	9.8000e-004	0.0000	18.9387
Total	0.0373	0.0102	0.1059	2.6000e-004	0.0210	1.7000e-004	0.0212	5.5800e-003	1.6000e-004	5.7400e-003	0.0000	18.9182	18.9182	9.8000e-004	0.0000	18.9387

Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- CalEEMod Mitigation Reports
 - Year 1 (2014)

LAX West Aircraft Maintenance Area Project - ACP Paving Crew 2014 South Coast AQMD Air District, Mitigation Report

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
ACP Paving Crew pt.1 - Jul-Dec 2014	0.45	0.56	-0.06	0.00	0.94	0.93	0.00	0.00	0.00	0.00	0.00	0.00
ACP Paving Crew pt.2 - Jul-Dec 2014	0.67	0.55	0.21	0.00	0.94	0.91	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Pavers	Diesel	Tier 3	2	2	Level 3	0.00
Paving Equipment	Diesel	Tier 3	3	3	Level 3	0.00
Rollers	Diesel	Tier 3	14	14	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Unmitigated tons/yr					CO2e
							Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	
Pavers	6.8500E-002	7.2176E-001	4.0724E-001	6.0000E-004	4.2610E-002	3.9200E-002	1.0.0000E+000	5.7477E+001	5.7477E+001	1.6990E-002	0.0000E+000	5.7834E+001
Paving Equipment	6.1750E-002	6.1478E-001	3.4306E-001	4.9000E-004	4.3160E-002	3.9710E-002	1.0.0000E+000	4.7457E+001	4.7457E+001	1.4020E-002	0.0000E+000	4.7751E+001
Rollers	6.4390E-001	8.8131E+000	5.6403E+000	8.4000E-003	3.4494E-001	3.1735E-001	1.0.0000E+000	8.0764E+002	8.0764E+002	2.3867E-001	0.0000E+000	8.1266E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Mitigated tons/yr					CO2e
							Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	
Pavers	1.4720E-002	3.0034E-001	4.5376E-001	6.0000E-004	2.3300E-003	2.3300E-003	0.0000E+000	5.7409E+001	5.7409E+001	1.6970E-002	0.0000E+000	5.7765E+001
Paving Equipment	1.2110E-002	2.6888E-001	3.5349E-001	4.9000E-004	2.2300E-003	2.2900E-003	0.0000E+000	4.7400E+001	4.7400E+001	1.4010E-002	0.0000E+000	4.7694E+001
Rollers	2.0448E-001	3.9532E+000	4.5008E+000	8.3900E-003	2.2720E-002	2.8630E-002	0.0000E+000	8.0668E+002	8.0668E+002	2.3838E-001	0.0000E+000	8.1169E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												

LAX West Aircraft Maintenance Area Project - Admin Support Crew 2014

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Administrative Support Crew	0.561	0.631	-0.051	0.001	0.951	0.941	0.001	0.001	0.001	0.001	0.001	0.001

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	Tier 3	1	1	Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	1	1	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Rubber Tired Dozers	1.26800E-001	1.40149E+000	4.76760E-001	8.60000E-004	6.90000E-002	6.34800E-002	0.00000E+000	8.29320E+001	8.29320E+001	2.45100E-002	0.00000E+000	8.34467E+001
Tractors/Loaders/Backhoes	7.53900E-002	8.80250E-001	5.77340E-001	8.60000E-004	4.42700E-002	4.07300E-002	0.00000E+000	8.31062E+001	8.31062E+001	2.45600E-002	0.00000E+000	8.36220E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Rubber Tired Dozers	2.10700E-002	4.07370E-001	4.56530E-001	8.60000E-004	2.32000E-003	2.95000E-003	0.00000E+000	8.28334E+001	8.28334E+001	2.44800E-002	0.00000E+000	8.33474E+001
Tractors/Loaders/Backhoes	2.13700E-002	4.13080E-001	6.58800E-001	8.60000E-004	2.99000E-003	2.99000E-003	0.00000E+000	8.30074E+001	8.30074E+001	2.45300E-002	0.00000E+000	8.35225E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	8.33833E-001	7.09331E-001	4.24323E-002	0.00000E+000	9.66377E-001	9.53529E-001	0.00000E+000	1.18955E-003	1.18955E-003	1.22399E-003	0.00000E+000	1.18962E-003
Tractors/Loaders/Backhoes	7.16541E-001	5.30724E-001	-1.41095E-001	0.00000E+000	9.32460E-001	9.26590E-001	0.00000E+000	1.18955E-003	1.18955E-003	1.22160E-003	0.00000E+000	1.18962E-003

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input	
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00
Yes	Clean Paved Road	% PM Reduction	0.00		

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Administrative Support Crew	Fugitive Dust	0.79	0.43	0.31	0.17	0.61	0.61
Administrative Support Crew	Roads	0.04	0.01	0.04	0.01	0.00	0.00

	Mitigated tons/yr				Mitigated mt/yr							
Excavators	1.83600E+002	3.54900E+001	3.97730E+001	7.50000E+004	2.02000E+003	2.57000E+003	7.17915E+001	7.17915E+001	2.12200E+002	0.00000E+000	0.00000E+000	7.22370E+001
Graders	1.76200E+002	3.40570E+001	3.81670E+001	7.20000E+004	1.94000E+003	2.47000E+003	6.95592E+001	6.95592E+001	2.05600E+002	0.00000E+000	0.00000E+000	6.99909E+001
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoss	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Excavators	5.92543E-001	4.70204E-001	9.29979E-001	0.00000E+000	9.04941E-001	8.68542E-001	0.00000E+000	1.18953E-003	1.18953E-003	9.41620E-004	0.00000E+000	1.18966E-003
Graders	6.92442E-001	5.96294E-001	7.75705E-001	0.00000E+000	9.28781E-001	9.01437E-001	0.00000E+000	1.18966E-003	1.18966E-003	9.71817E-004	0.00000E+000	1.18960E-003
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoss	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction
Yes	Water Exposed Area	PM10 Reduction	61.00	Frequency (per day)
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)
Yes	Clean Paved Road	% PM Reduction	0.00	

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Backfill Crew - Apr-Dec 2014	Fugitive Dust	0.04	0.00	0.01	0.00	0.61	0.61
Backfill Crew - Apr-Dec 2014	Roads	0.01	0.00	0.01	0.00	0.00	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	8.30534E-001	7.12437E-001	5.78748E-001	0.00000E+000	9.64939E-001	9.51425E-001	0.00000E+000	1.18962E-003	1.18962E-003	1.21633E-003	0.00000E+000	1.18958E-003
Tractors/Loaders/Bac khoses	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00	61.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	0.00
Yes	Clean Paved Road	% PM Reduction	0.00	0.00

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Batch Plant Crew - Jul-Dec 2014	Fugitive Dust	0.79	0.44	0.37	0.17	0.61	0.61
Batch Plant Crew - Jul-Dec 2014	Roads	0.01	0.00	0.01	0.00	0.00	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Mitigated mt/yr												
Cranes	2.70000E+003	5.22600E+002	8.33500E+002	1.10000E+004	3.80000E+004	3.80000E+004	0.00000E+000	1.06166E+001	1.06166E+001	3.14000E+003	0.00000E+000	1.06824E+001
Forklifts	5.71300E+002	1.62360E+001	1.97890E+001	1.50000E+004	1.77400E+002	1.63200E+002	0.00000E+000	1.41034E+001	1.41034E+001	4.17000E+003	0.00000E+000	1.41909E+001
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Cranes	8.49078E-001	7.26445E-001	6.01037E-002	0.00000E+000	9.63143E-001	9.59916E-001	0.00000E+000	1.18918E-003	1.18918E-003	0.00000E+000	0.00000E+000	1.18932E-003
Forklifts	1.22378E-003	1.16887E-003	1.16091E-003	0.00000E+000	1.12613E-003	1.22399E-003	0.00000E+000	1.18979E-003	1.18979E-003	0.00000E+000	0.00000E+000	1.18949E-003
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00	61.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	0.00
		Frequency (per day)	3.00	3.00
		Vehicle Speed (mph)	0.00	0.00

LAX West Aircraft Maintenance Area Project - Clear and Grub Crew 2014 South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Clean and Grub Crew - Jan 2014	0.76	0.69	0.51	0.00	0.96	0.95	0.00	0.00	0.00	0.00	0.00	0.00
Percent Reduction												

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	Tier 3	4	4	Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	1	1	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Rubber Tired Dozers	7.63100E-002	8.69500E-001	6.65190E-001	5.30000E-004	4.05400E-002	3.73000E-002	0.00000E+000	5.13595E+001	5.13595E+001	1.51800E-002	0.00000E+000	5.16782E+001
Tractors/Loaders/B	5.80000E-003	8.72500E-002	2.43800E-002	9.00000E-005	2.81000E-003	2.59000E-003	0.00000E+000	8.28483E+000	8.28483E+000	2.45000E-003	0.00000E+000	8.33625E+000
ackhoes												

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Rubber Tired Dozers	1.29300E-002	2.50040E-001	2.80210E-001	5.30000E-004	1.42000E-003	1.81000E-003	0.00000E+000	5.12984E-001	5.12984E-001	1.51600E-002	0.00000E+000	5.16167E+001
Tractors/Loaders/Bac	2.12000E-003	4.10800E-002	4.60400E-002	9.00000E-005	2.30000E-004	3.00000E-004	0.00000E+000	8.27498E-000	8.27498E-000	2.45000E-003	0.00000E+000	8.32633E+000
kboes												

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												

LAX West Aircraft Maintenance Area Project – Crusher Crew 2014

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Crusher Crew 2014												
	0.74	0.63	0.38	0.00	0.95	0.93	0.00	0.00	0.00	0.00	0.00	0.00
Percent Reduction												
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated				Total Number of Equipment				DPF	Oxidation Catalyst
			Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
Rubber Tired Dozers	Diesel	No Change	0	0	0	0	0	0	0	No Change	0	0.00
Cranes	Diesel	Tier 3	2	2	2	2	2	2	2	Level 3	2	0.00
Forklifts	Diesel	Tier 3	1	1	1	1	1	1	1	Level 3	1	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	0	0	0	0	0	0	No Change	0	0.00
Generator Sets	Diesel	No Change	0	0	0	0	0	0	0	No Change	0	0.00
Welders	Diesel	No Change	0	0	0	0	0	0	0	No Change	0	0.00

Equipment Type	Unmitigated tons/yr											Total CO2	CH4	N2O	CO2e
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O				
Unmitigated tons/yr															
Cranes	2.99400E-002	3.88340E-001	2.58950E-001	3.00000E-004	1.60900E-002	1.48100E-002	2.90524E+001	2.90524E+001	2.90524E+001	8.59000E-003	0.00000E+000	2.92327E+001	0.00000E+000	0.00000E+000	2.92327E+001
Forklifts	3.35100E-002	3.93260E-001	2.63210E-001	3.00000E-004	1.79000E-002	1.64600E-002	2.91103E+001	2.91103E+001	2.91103E+001	8.60000E-003	0.00000E+000	2.92909E+001	0.00000E+000	0.00000E+000	2.92909E+001
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	Mitigated tons/yr											Total CO2	CH4	N2O	CO2e
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O				
Mitigated tons/yr															
Cranes	7.43000E-003	1.43650E-001	1.60990E-001	3.00000E-004	8.20000E-004	1.04000E-003	2.90178E+001	2.90178E+001	2.90178E+001	8.58000E-003	0.00000E+000	2.91979E+001	0.00000E+000	0.00000E+000	2.91979E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Cranes	1.44600E-002	2.79500E-001	3.13230E-001	5.90000E-004	1.59000E-003	2.02000E-003	0.00000E+000	5.64946E+001	5.64946E+001	1.66900E-002	0.00000E+000	5.68452E+001
Forklifts	3.93000E-003	7.60700E-002	8.52500E-002	1.60000E-004	4.30000E-004	5.50000E-004	0.00000E+000	1.54081E+001	1.54081E+001	4.55000E-003	0.00000E+000	1.55037E+001
Generator Sets	2.56000E-003	4.95400E-002	7.90100E-002	1.30000E-004	3.60000E-004	3.60000E-004	0.00000E+000	1.10092E+001	1.10092E+001	8.30000E-004	0.00000E+000	1.10267E+001
Tractors/Loaders/Backhoes/Welders	1.44400E-003	2.78700E-002	3.12400E-002	6.00000E-005	1.60000E-004	2.00000E-004	0.00000E+000	5.61490E+000	5.61490E+000	1.66000E-003	0.00000E+000	5.64974E+000
	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Cranes	7.76576E-001	6.56507E-001	3.05461E-001	0.00000E+000	9.54545E-001	9.37228E-001	0.00000E+000	1.18967E-003	1.18967E-003	1.19689E-003	0.00000E+000	1.18971E-003
Forklifts	8.05253E-001	6.81516E-001	-3.83678E-002	0.00000E+000	9.60295E-001	9.44835E-001	0.00000E+000	1.18951E-003	1.18951E-003	2.19298E-003	0.00000E+000	1.18926E-003
Generator Sets	7.53609E-001	4.92418E-001	-2.54924E-001	0.00000E+000	9.20530E-001	9.20530E-001	0.00000E+000	1.18941E-003	1.18941E-003	0.00000E+000	0.00000E+000	1.19024E-003
Tractors/Loaders/Backhoes/Welders	6.33588E-001	5.29223E-001	-8.87613E-001	0.00000E+000	9.16230E-001	8.86364E-001	0.00000E+000	1.19005E-003	1.19005E-003	0.00000E+000	0.00000E+000	1.18979E-003
	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)
			61.00	Frequency (per day)
			0.00	3.00

LAX West Aircraft Maintenance Area Project – Electrical Crew 2014

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Electrical Crew 2014	0.65	0.55	0.06	0.00	0.95	0.95	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Cranes	Diesel	No Change	0	0	No Change	0.00
Forklifts	Diesel	Tier 3	1	1	Level 3	0.00
Generator Sets	Diesel	No Change	0	0	No Change	0.00
Welders	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	1	1	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	3.21600E-002	2.77200E-001	1.65120E-001	2.00000E-004	2.32200E-002	2.13600E-002	0.00000E+000	1.89498E+001	1.89498E+001	5.60000E-003	0.00000E+000	1.90674E+001
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	2.41200E-002	2.31240E-001	1.58580E-001	2.00000E-004	1.81700E-002	1.67100E-002	0.00000E+000	1.96597E+001	1.96597E+001	5.81000E-003	0.00000E+000	1.97817E+001
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Unmitigated mt/yr												
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	3.21600E-002	2.77200E-001	1.65120E-001	2.00000E-004	2.32200E-002	2.13600E-002	0.00000E+000	1.89498E+001	1.89498E+001	5.60000E-003	0.00000E+000	1.90674E+001
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	2.41200E-002	2.31240E-001	1.58580E-001	2.00000E-004	1.81700E-002	1.67100E-002	0.00000E+000	1.96597E+001	1.96597E+001	5.81000E-003	0.00000E+000	1.97817E+001
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Mitigated tons/yr												
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	4.85000E-003	1.10770E-001	1.49590E-001	2.00000E-004	1.16000E-003	9.70000E-004	0.00000E+000	1.89272E+001	1.89272E+001	5.59000E-003	0.00000E+000	1.90447E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated mt/yr												
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	4.85000E-003	1.10770E-001	1.49590E-001	2.00000E-004	1.16000E-003	9.70000E-004	0.00000E+000	1.89272E+001	1.89272E+001	5.59000E-003	0.00000E+000	1.90447E+001

	Mitigated tons/yr										Mitigated mt/yr											
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	
Graders	9.74000E-003	1.85340E-001	2.11070E-001	4.00000E-004	1.07000E-003	1.36000E-003	3.84674E+001	3.84674E+001	3.84674E+001	3.84674E+001	1.13700E-002	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	2.10300E-002	4.06610E-001	4.55690E-001	8.60000E-004	2.31000E-003	2.94000E-003	8.26802E+001	8.26802E+001	8.26802E+001	8.26802E+001	2.44300E-002	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	1.19210E-001	2.30469E+000	2.58284E+000	4.84000E-003	1.31100E-002	1.66900E-002	4.66245E+002	4.66245E+002	4.66245E+002	4.66245E+002	1.37780E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoss	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	Percent Reduction										
													Exhaust PM10	Exhaust PM2.5	Total CO2								
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	
Graders	6.92551E-001	5.96296E-001	7.75787E-001	0.00000E+000	9.28951E-001	9.01876E-001	0.00000E+000	1.18972E-003	1.18972E-003	8.78735E-004	0.00000E+000	1.18961E-003	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	8.33847E-001	7.09336E-001	4.24267E-002	0.00000E+000	9.66459E-001	9.53598E-001	0.00000E+000	1.18956E-003	1.18956E-003	1.22649E-003	0.00000E+000	1.18954E-003	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	7.49638E-001	6.28230E-001	3.33827E-001	2.06186E-003	9.47573E-001	9.27451E-001	0.00000E+000	1.18959E-003	1.18959E-003	1.15992E-003	0.00000E+000	1.18960E-003	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoss	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day)	3.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00		
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Excavation Crew - Feb-Jun 2014	Fugitive Dust	0.68	0.36	0.27	0.14	0.61	0.61
Excavation Crew - Feb-Jun 2014	Roads	0.02	0.00	0.02	0.00	0.00	0.00

LAX West Aircraft Maintenance Area Project - Fence Crew 2014

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO ₂	Exhaust PM10	Exhaust PM2.5	Bio- CO ₂	NBio- CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e
Percent Reduction												
Fence Crew	0.76	0.71	0.04	0.00	0.97	0.95	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	Tier 3	1	1	Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO ₂	Exhaust PM10	Exhaust PM2.5	Bio- CO ₂	NBio- CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e
Unmitigated tons/yr												
Rubber Tired Dozers	1.11700E+002	1.23500E+001	4.20100E+002	8.00000E+005	6.08000E+003	5.59000E+003	0.00000E+000	7.30819E+000	7.30819E+000	2.16000E+003	0.00000E+000	1.735354E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO ₂	Exhaust PM10	Exhaust PM2.5	Bio- CO ₂	NBio- CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e
Mitigated tons/yr												
Rubber Tired Dozers	1.86000E+003	3.59000E+002	4.02300E+002	8.00000E+005	2.00000E+004	2.60000E+004	0.00000E+000	7.29949E+000	7.29949E+000	2.16000E+003	0.00000E+000	7.34479E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO ₂	Exhaust PM10	Exhaust PM2.5	Bio- CO ₂	NBio- CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e
Percent Reduction												
Rubber Tired Dozers	8.33483E-001	7.09312E-001	4.23709E-002	0.00000E+000	9.67105E-001	9.53488E-001	0.00000E+000	1.19045E-003	1.19045E-003	0.00000E+000	0.00000E+000	1.18990E-003
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

LAX West Aircraft Maintenance Area Project - Finish Saw/Sealing Crew 2014

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Finish Saw & Sealing Crew - Aug 2014	0.75	0.70	0.10	0.00	0.96	0.96	0.00	0.00	0.00	0.00	0.00	0.00
Percent Reduction												
	0.75	0.70	0.10	0.00	0.96	0.96	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Cranes	Diesel	Tier 3	1	1	1 Level 3	0.00
Forklifts	Diesel	Tier 3	1	1	1 Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	0	No Change	0.00
Generator Sets	Diesel	No Change	0	0	No Change	0.00
Welders	Diesel	No Change	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Cranes	9.41000E-003	7.78400E-002	3.72000E-002	4.00000E-005	5.78000E-003	5.32000E-003	0.00000E+000	3.52336E+000	3.52336E+000	1.04000E-003	0.00000E+000	3.54522E+000
Forklifts	8.65000E-003	1.02410E-001	3.52000E-002	7.00000E-005	4.65000E-003	4.27000E-003	0.00000E+000	6.61419E+000	6.61419E+000	1.95000E-003	0.00000E+000	6.65523E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Unmitigated mt/yr												
Cranes	9.41000E-003	7.78400E-002	3.72000E-002	4.00000E-005	5.78000E-003	5.32000E-003	0.00000E+000	3.52336E+000	3.52336E+000	1.04000E-003	0.00000E+000	3.54522E+000
Forklifts	8.65000E-003	1.02410E-001	3.52000E-002	7.00000E-005	4.65000E-003	4.27000E-003	0.00000E+000	6.61419E+000	6.61419E+000	1.95000E-003	0.00000E+000	6.65523E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Cranes	9.10000E-004	2.06800E-002	2.79200E-002	4.00000E-005	1.80000E-004	1.80000E-004	0.00000E+000	3.51917E+000	3.51917E+000	1.04000E-003	0.00000E+000	3.54101E+000
Forklifts	1.69000E-003	3.26100E-002	3.65500E-002	7.00000E-005	1.90000E-004	2.40000E-004	0.00000E+000	6.60632E+000	6.60632E+000	1.95000E-003	0.00000E+000	6.64732E+000
Mitigated mt/yr												
Cranes	9.10000E-004	2.06800E-002	2.79200E-002	4.00000E-005	1.80000E-004	1.80000E-004	0.00000E+000	3.51917E+000	3.51917E+000	1.04000E-003	0.00000E+000	3.54101E+000
Forklifts	1.69000E-003	3.26100E-002	3.65500E-002	7.00000E-005	1.90000E-004	2.40000E-004	0.00000E+000	6.60632E+000	6.60632E+000	1.95000E-003	0.00000E+000	6.64732E+000

LAX West Aircraft Maintenance Area Project - Foundation Crew 2014

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Foundation Crew - Jul-Aug 2014	0.6%	0.4%	-0.5%	0.0%	0.9%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Cranes	Diesel	Tier 3	1	1	1 Level 3	0.00
Forklifts	Diesel	Tier 3	1	1	1 Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	1	1	1 Level 3	0.00
Generator Sets	Diesel	Tier 3	4	4	4 Level 3	0.00
Welders	Diesel	Tier 3	1	1	1 Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Cranes	2.51200E-002	2.68190E-001	1.24490E-001	1.50000E-004	1.44700E-002	1.33100E-002	0.00000E+000	1.49220E+001	1.49220E+001	4.41000E-003	0.00000E+000	1.50146E+001
Forklifts	9.58000E-003	8.25900E-002	4.91900E-002	6.00000E-005	6.92000E-003	6.37000E-003	0.00000E+000	5.64580E+000	5.64580E+000	1.67000E-003	0.00000E+000	5.68083E+000
Generator Sets	5.75900E-002	7.43740E-001	2.38830E-001	1.03000E-003	2.14700E-002	2.14700E-002	0.00000E+000	1.06422E+002	1.06422E+002	4.68000E-003	0.00000E+000	1.06520E+002
Tractors/Loaders/Backhoes/Welders	6.94000E-003	6.65000E-002	4.56100E-002	6.00000E-005	5.22000E-003	4.81000E-003	0.00000E+000	5.65377E+000	5.65377E+000	1.67000E-003	0.00000E+000	5.68886E+000
	8.74000E-003	7.31000E-002	4.72300E-002	9.00000E-005	3.83000E-003	3.83000E-003	0.00000E+000	7.75160E+000	7.75160E+000	7.10000E-004	0.00000E+000	7.776649E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Cranes	3.79000E-003	7.33700E-002	1.17010E-001	1.50000E-004	5.30000E-004	5.30000E-004	0.00000E+000	1.49043E+001	1.49043E+001	4.40000E-003	0.00000E+000	1.49968E+001
Forklifts	1.45000E-003	3.30000E-002	4.45700E-002	6.00000E-005	2.90000E-004	2.90000E-004	0.00000E+000	5.63908E+000	5.63908E+000	1.67000E-003	0.00000E+000	5.67408E+000
Generator Sets	2.47400E-002	4.78330E-001	5.36060E-001	1.03000E-003	2.72000E-003	3.46000E-003	0.00000E+000	1.06295E+002	1.06295E+002	4.68000E-003	0.00000E+000	1.06394E+002
Tractors/Loaders/Backhoes	1.43000E-003	3.26100E-002	4.40400E-002	6.00000E-005	2.90000E-004	2.90000E-004	0.00000E+000	5.64704E+000	5.64704E+000	1.67000E-003	0.00000E+000	5.68209E+000

Welders	1.8000E-003	3.4840E-002	5.5570E-002	9.0000E-005	2.5000E-004	0.0000E+000	7.74238E+000	7.74238E+000	7.1000E-004	0.0000E+000	7.75725E+000
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Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Cranes	8.49124E-001	7.26425E-001	6.00851E-002	0.0000E+000	9.53372E-001	9.60180E-001	0.0000E+000	1.18952E-003	1.18952E-003	2.2675E-003	0.0000E+000	1.18951E-003
Forklifts	8.48643E-001	6.00436E-001	9.39215E-002	0.0000E+000	9.58092E-001	9.54474E-001	0.0000E+000	1.19027E-003	1.19027E-003	0.0000E+000	0.0000E+000	1.18821E-003
Generator Sets	5.70412E-001	3.56859E-001	-1.24453E+000	0.0000E+000	8.73312E-001	8.38845E-001	0.0000E+000	1.18960E-003	1.18960E-003	0.0000E+000	0.0000E+000	1.18963E-003
Tractors/Loaders/Bac	7.93948E-001	5.09624E-001	3.44223E-002	0.0000E+000	9.44444E-001	9.39709E-001	0.0000E+000	1.19036E-003	1.19036E-003	0.0000E+000	0.0000E+000	1.19005E-003
Knobs Welders	7.94050E-001	5.23393E-001	-1.76583E-001	0.0000E+000	9.34726E-001	9.34726E-001	0.0000E+000	1.18943E-003	1.18943E-003	0.0000E+000	0.0000E+000	1.18973E-003

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction	61.00			
No	Replace Ground Cover of Area	PM10 Reduction	0.00	PM2.5 Reduction	0.00			
Yes	Disturbed Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day)	3.00	
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00			
Yes	Clean Paved Road	% PM Reduction	0.00					

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Foundation Crew - Jul-Aug 2014	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Foundation Crew - Jul-Aug 2014	Roads	0.01	0.00	0.01	0.00	0.00	0.00

LAX West Aircraft Maintenance Area Project - Fuel Line/UG Utilities Crew 2014

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014	0.621	0.571	-0.341	0.001	0.941	0.921	0.001	0.001	0.001	0.001	0.001	0.001
Fuel Line/UG Utilities Pt. 2 - Jun-Dec 2014	0.651	0.601	0.281	0.001	0.871	0.851	0.001	0.001	0.001	0.001	0.001	0.001

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Cranes	Diesel	Tier 3	4	4	Level 3	0.00
Forklifts	Diesel	Tier 3	3	3	Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	1	1	Level 3	0.00
Generator Sets	Diesel	Tier 3	3	3	Level 3	0.00
Welders	Diesel	Tier 3	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Cranes	3.43620E-001	4.36767E+000	2.59395E+000	3.24000E-003	1.85370E-001	1.70540E-001	0.00000E+000	3.11758E+002	3.11758E+002	9.21300E-002	0.00000E+000	3.13693E+002
Forklifts	2.13430E-001	2.52654E+000	8.68490E-001	1.69000E-003	1.14610E-001	1.05440E-001	0.00000E+000	1.63183E+002	1.63183E+002	4.82200E-002	0.00000E+000	1.64196E+002
Generator Sets	1.54130E-001	1.76116E+000	6.68990E-001	2.38000E-003	6.38500E-002	6.38500E-002	0.00000E+000	2.39842E+002	2.39842E+002	1.25500E-002	0.00000E+000	2.40106E+002
Tractors/Loaders/Backhoes	2.41200E-002	2.31240E-001	1.58580E-001	2.00000E-004	1.81700E-002	1.67100E-002	0.00000E+000	1.96597E+001	1.96597E+001	5.81000E-003	0.00000E+000	1.97817E+001
Welders	6.92200E-002	1.93370E-001	2.09430E-001	2.60000E-004	1.72300E-002	1.72300E-002	0.00000E+000	1.87812E+001	1.87812E+001	5.65000E-003	0.00000E+000	1.88999E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Cranes	7.97000E-002	1.54092E+000	1.72689E+000	3.23000E-003	8.77000E-003	1.11600E-002	0.00000E+000	3.11387E+002	3.11387E+002	9.20200E-002	0.00000E+000	3.13320E+002
Forklifts	4.16200E-002	8.04630E-001	9.01740E-001	1.69000E-003	4.58000E-003	5.83000E-003	0.00000E+000	1.62989E+002	1.62989E+002	4.81700E-002	0.00000E+000	1.64001E+002
Generator Sets	5.57600E-002	1.10111E+000	1.26860E+000	2.38000E-003	6.73000E-003	8.20000E-003	0.00000E+000	2.39557E+002	2.39557E+002	1.25300E-002	0.00000E+000	2.39820E+002

LAX West Aircraft Maintenance Area Project - Grading Crew 2014 South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Grading Crew Pt. 1 - Feb-Nov 2014	0.74	0.63	0.28	0.00	0.95	0.93	0.00	0.00	0.00	0.00	0.00	0.00
Grading Crew Pt. 2 - Feb-Nov 2014	0.72	0.62	0.26	0.00	0.94	0.92	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Excavators	Diesel	Tier 3	3	3	Level 3	0.00
Graders	Diesel	Tier 3	2	2	Level 3	0.00
Rubber Tired Dozers	Diesel	Tier 3	1	1	Level 3	0.00
Scrapers	Diesel	Tier 3	9	9	Level 3	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Excavators	1.46370E+001	1.39688E+000	1.00465E+000	2.04000E-003	8.00300E-002	7.36300E-002	0.00000E+000	1.96010E+002	1.96010E+002	5.79200E-002	0.00000E+000	1.97226E+002
Graders	1.37860E-001	2.03020E+000	5.17260E-001	1.74000E-003	6.55000E-002	6.03100E-002	0.00000E+000	1.67598E+002	1.67598E+002	4.95300E-002	0.00000E+000	1.68638E+002

Rubber Tired Dozers	2.12400E+001	2.42000E+000	1.85140E+000	1.48000E+000	1.12840E+001	1.03810E+001	1.42947E+002	4.22400E+002	1.42947E+002	0.00000E+000	0.00000E+000	0.00000E+000	1.43834E+002
Scrapers	1.12007E+000	1.45829E+001	9.12045E+000	1.14100E+002	5.88230E+001	5.41170E+001	1.09809E+003	3.24500E+003	1.09809E+003	0.00000E+000	0.00000E+000	0.00000E+000	1.10490E+003
Tractors/Loaders/Bulldozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Excavators	5.00800E-002	9.68270E-001	1.35385E+000	2.04000E-003	6.39000E-003	7.01000E-003	0.00000E+000	1.95777E+002	1.95777E+002	5.78500E-002	0.00000E+000	1.96991E+002
Graders	4.23900E-002	8.19590E-001	9.18510E-001	1.74000E-003	4.66000E-003	5.93000E-003	0.00000E+000	1.67399E+002	1.67399E+002	4.94700E-002	0.00000E+000	1.68437E+002
Rubber Tired Dozers	3.60000E-002	6.95920E-001	7.79910E-001	1.48000E-003	3.96000E-003	5.04000E-003	0.00000E+000	1.42777E+002	1.42777E+002	4.21900E-002	0.00000E+000	1.43663E+002
Scrapers	2.80420E-001	5.42149E+000	6.07581E+000	1.14000E-002	3.08500E-002	3.92600E-002	0.00000E+000	1.09678E+003	1.09678E+003	3.24110E-001	0.00000E+000	1.10359E+003
Tractors/Loaders/Bulldozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Excavators	6.57853E-001	4.89546E-001	3.47584E-001	0.00000E+000	9.20155E-001	9.04794E-001	0.00000E+000	1.18958E-003	1.18958E-003	1.20856E-003	0.00000E+000	1.18960E-003
Graders	6.92514E-001	5.96301E-001	7.75722E-001	0.00000E+000	9.28909E-001	9.01675E-001	0.00000E+000	1.18957E-003	1.18957E-003	1.21139E-003	0.00000E+000	1.18959E-003
Rubber Tired Dozers	8.30508E-001	7.12436E-001	5.78746E-001	0.00000E+000	9.64906E-001	9.51450E-001	0.00000E+000	1.18960E-003	1.18960E-003	1.18371E-003	0.00000E+000	1.18957E-003
Scrapers	7.49641E-001	6.28230E-001	3.33826E-001	8.76424E-004	9.47555E-001	9.27453E-001	0.00000E+000	1.18960E-003	1.18960E-003	1.20185E-003	0.00000E+000	1.18960E-003
Tractors/Loaders/Bulldozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
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Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	1.15321E-003	1.18925E-003	1.17800E-003	0.00000E+000	1.08225E-003	1.08225E-003	0.00000E+000	1.18957E-003	1.18957E-003	2.03046E-003	0.00000E+000	1.18962E-003
Tractors/Loaders/Bac khops	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	PM2.5 Reduction	
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	PM2.5 Reduction	
No	Water Exposed Area	PM10 Reduction	PM2.5 Reduction	Frequency (per day)
No	Unpaved Road Mitigation	Moisture Content %	Vehicle Speed (mph)	
No	Clean Paved Road	% PM Reduction	0.00	

Phase	Unmitigated		Mitigated		Percent Reduction	
	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Building Construction	0.001	0.001	0.001	0.001	0.001	0.001
Building Construction	0.001	0.001	0.001	0.001	0.001	0.001
Fugitive Dust						
Roads						

LAX West Aircraft Maintenance Area Project - Misc Labor Crew 2014

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Miscellaneous Labor Crew												
	0.45	0.50	0.03	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00
Percent Reduction												
	0.00	0.00	0.00	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	1	1	Level 3	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	4.11500E-002	3.94470E-001	2.70520E-001	3.50000E-004	3.09900E-002	2.85100E-002	0.00000E+000	3.35371E+001	3.35371E+001	9.91000E-003	0.00000E+000	3.37453E+001
Unmitigated mt/yr												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	4.11500E-002	3.94470E-001	2.70520E-001	3.50000E-004	3.09900E-002	2.85100E-002	0.00000E+000	3.35371E+001	3.35371E+001	9.91000E-003	0.00000E+000	3.37453E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	8.47000E-003	1.93440E-001	2.61220E-001	3.50000E-004	1.69000E-003	1.69000E-003	0.00000E+000	3.34972E+001	3.34972E+001	9.90000E-003	0.00000E+000	3.37051E+001
Mitigated mt/yr												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	8.47000E-003	1.93440E-001	2.61220E-001	3.50000E-004	1.69000E-003	1.69000E-003	0.00000E+000	3.34972E+001	3.34972E+001	9.90000E-003	0.00000E+000	3.37051E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	7.94168E-001	5.09627E-001	3.43782E-002	0.00000E+000	9.45466E-001	9.40723E-001	0.00000E+000	1.18943E-003	1.18943E-003	1.00908E-003	0.00000E+000	1.18980E-003

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction	61.00	
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00	
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day) 3.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00	
Yes	Clean Paved Road	% PM Reduction	0.00			

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Miscellaneous Labor Crew	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Labor Crew	Roads	0.01	0.00	0.01	0.00	0.00	0.00

PCCP Paving Crew Pt. 1 - Jul-Dec 2015	Roads	0.03	0.01	0.03	0.01	0.00	0.00
PCCP Paving Crew Pt. 2 - Jul-Dec 2015	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
PCCP Paving Crew Pt. 2 - Jul-Dec 2015	Roads	0.04	0.01	0.04	0.01	0.00	0.00

Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e			
Mitigated tons/yr															
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			
Cranes	2.52000E-003	4.87800E-002	5.46600E-002	1.00000E-004	2.80000E-004	3.50000E-004	0.00000E+000	9.90879E+000	9.90879E+000	2.93000E-003	0.00000E+000	9.97028E+000			
Forklifts	2.16000E-003	4.18100E-002	4.68600E-002	9.00000E-005	2.40000E-004	3.00000E-004	0.00000E+000	8.46900E+000	8.46900E+000	2.50000E-003	0.00000E+000	8.52156E+000			
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			

Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	8.49102E-001	7.26416E-001	3.39536E-001	0.00000E+000	9.70894E-001	9.60452E-001	0.00000E+000	1.18945E-003	1.18945E-003	0.00000E+000	0.00000E+000	1.18912E-003
Forklifts	8.05230E-001	6.81520E-001	-3.83337E-002	0.00000E+000	9.59732E-001	9.45255E-001	0.00000E+000	1.18999E-003	1.18999E-003	3.98406E-003	0.00000E+000	1.18968E-003
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00%	PM2.5 Reduction
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00%	PM2.5 Reduction
Yes	Water Exposed Area	PM10 Reduction	61.00%	PM2.5 Reduction
No	Unpaved Road Mitigation	Moisture Content %	0.00%	Vehicle Speed (mph)
No	Clean Paved Road	% PM Reduction	0.00%	Frequency (per day)

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Striping Crew - Aug-Sep 2014, ac	Fugitive Dust	0.001	0.001	0.001	0.001	0.00	0.00
Striping Crew - Aug-Sep 2014, ac	Roads	0.001	0.001	0.001	0.001	0.00	0.00
Striping Crew - Aug-Sep 2014, bc	Fugitive Dust	0.001	0.001	0.001	0.001	0.00	0.00
Striping Crew - Aug-Sep 2014, bc	Roads	0.001	0.001	0.001	0.001	0.00	0.00

Appendix B.1

Construction - Criteria Pollutant and Greenhouse Gas Emissions Calculations

- CalEEMod Mitigation Reports
 - Year 2 (2015)

LAX West Aircraft Maintenance Area Project - ACP Paving Crew 2015

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
ACP Paving Crew pt.1 - Jan-Jul 2015	0.44	0.57	-0.13	0.00	0.94	0.93	0.00	0.00	0.00	0.00	0.00	0.00
ACP Paving Crew pt.2 - Jan-Jul 2015	0.77	0.74	0.19	0.00	0.95	0.95	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Pavers	Diesel	Tier 4 Interim	2	2	No Change	0.00
Rollers	Diesel	Tier 4 Interim	15	15	No Change	0.00
Paving Equipment	Diesel	Tier 4 Interim	2	2	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Pavers	7.74700E-002	8.09060E-001	4.69710E-001	6.90000E-004	4.79900E-002	4.41500E-002	0.00000E+000	6.55362E+001	6.55362E+001	1.95700E-002	0.00000E+000	6.59470E+001
Paving Equipment	3.81200E-002	3.92680E-001	2.11790E-001	3.30000E-004	2.57900E-002	2.37200E-002	0.00000E+000	3.18834E+001	3.18834E+001	9.52000E-003	0.00000E+000	3.20833E+001
Rollers	7.54950E-001	1.01967E+001	6.58011E+000	1.00400E-002	4.00530E-001	3.68480E-001	0.00000E+000	9.55759E+002	9.55759E+002	2.85330E-001	0.00000E+000	9.61751E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Pavers	1.55300E-002	3.14460E-001	5.22510E-001	6.90000E-004	3.21000E-003	3.21000E-003	0.00000E+000	6.54582E+001	6.54582E+001	1.95400E-002	0.00000E+000	6.58686E+001
Paving Equipment	6.91000E-003	1.41290E-001	2.30500E-001	3.30000E-004	2.84000E-003	2.84000E-003	0.00000E+000	3.18455E+001	3.18455E+001	9.51000E-003	0.00000E+000	3.20452E+001
Rollers	1.67300E-001	2.75324E+000	5.45573E+000	1.00300E-002	1.62900E-002	1.62900E-002	0.00000E+000	9.54622E+002	9.54622E+002	2.84990E-001	0.00000E+000	9.60607E+002

LAX West Aircraft Maintenance Area Project - Admin Support Crew 2015

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Administrative Support Crew	0.61	0.72	-0.04	0.00	0.97	0.97	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	Tier 4 Interim	1	1	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Rubber Tired Dozers	7.45700E-002	8.17380E-001	2.78520E-001	5.00000E-004	4.05300E-002	3.71000E-002	0.00000E+000	4.78077E+001	4.78077E+001	1.42700E-002	0.00000E+000	4.81074E+001
Tractors/Loaders/Backhoes	4.37400E-002	5.02060E-001	3.38020E-001	5.00000E-004	2.55600E-002	2.33300E-002	0.00000E+000	4.79085E+001	4.79085E+001	1.43000E-002	0.00000E+000	4.82089E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Rubber Tired Dozers	8.18000E-003	1.31910E-001	2.65870E-001	5.00000E-004	8.20000E-004	8.20000E-004	0.00000E+000	4.77508E+001	4.77508E+001	1.42600E-002	0.00000E+000	4.80502E+001
Tractors/Loaders/Backhoes	1.14100E-002	2.22940E-001	3.83670E-001	5.00000E-004	8.30000E-004	8.30000E-004	0.00000E+000	4.78515E+001	4.78515E+001	1.42900E-002	0.00000E+000	4.81515E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	8.90304E-001	8.38619E-001	4.54186E-002	0.00000E+000	9.79668E-001	9.77898E-001	0.00000E+000	1.18956E-003	1.18956E-003	7.00771E-004	0.00000E+000	1.18942E-003
Tractors/Loaders/Backhoes	7.39140E-001	5.55949E-001	1.35051E-001	0.00000E+000	9.67271E-001	9.64423E-001	0.00000E+000	1.18956E-003	1.18956E-003	6.99301E-004	0.00000E+000	1.18962E-003

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00 PM2.5 Reduction	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00 PM2.5 Reduction	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00 PM2.5 Reduction	61.00 Frequency (per day)
No	Unpaved Road Mitigation	Moisture Content %	0.00 Vehicle Speed (mph)	0.00
Yes	Clean Paved Road	% PM Reduction	0.00	

Phase	Source	Unmitigated		Mitigated		Percent Reduction		
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	
Administrative Support Crew	Fugitive Dust		0.46		0.18	0.10	0.61	0.61
Administrative Support Crew	Roads		0.02		0.01	0.01	0.00	0.00

LAX West Aircraft Maintenance Area Project - Backfill Crew 2015 South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Backfill Crew - Jan-Feb 2015	0.61	0.74	-0.72	0.00	0.95	0.94	0.00	0.00	0.00	0.00	0.00	0.00
Percent Reduction												

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Excavators	Diesel	Tier 4 Interim	1	1	No Change	0.00
Graders	Diesel	Tier 4 Interim	1	1	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	0	No Change	0.00
Scrapers	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Excavators	9.43000E-003	1.36560E-001	4.34800E-002	1.60000E-004	4.34000E-003	4.00000E-003	0.00000E+000	1.51680E+001	1.51680E+001	4.53000E-003	0.00000E+000	1.52631E+001
Graders	1.24100E-002	1.79470E-001	4.59300E-002	1.50000E-004	5.82000E-003	5.35000E-003	0.00000E+000	1.46997E+001	1.46997E+001	4.39000E-003	0.00000E+000	1.47918E+001
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												

LAX West Aircraft Maintenance Area Project - Batch Plant Crew 2015 South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Batch Plant Crew - Jan-Feb 2015	0.83	0.84	0.56	0.02	0.98	0.98	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	Tier 4 Interim	2	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Rubber Tired Dozers	8.96400E-002	1.01302E+000	7.72870E-001	6.30000E-004	4.72600E-002	4.34800E-002	0.00000E+000	5.96562E+001	5.96562E+001	1.78100E-002	0.00000E+000	6.00303E+001
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Rubber Tired Dozers	1.07200E-002	1.63210E-001	3.28950E-001	6.20000E-004	1.01000E-003	1.01000E-003	0.00000E+000	5.95853E+001	5.95853E+001	1.77900E-002	0.00000E+000	5.99588E+001
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	8.87104E-001	8.38888E-001	5.74379E-001	1.58730E-002	9.7629E-001	9.76771E-001	0.00000E+000	1.18965E-003	1.18965E-003	1.12296E-003	0.00000E+000	1.18957E-003
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

LAX West Aircraft Maintenance Area Project - Demolition Crew 2015

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Demolition Crew pt. 1 - Apr 2015	0.76	0.78	0.34	0.00	0.97	0.97	0.00	0.00	0.00	0.00	0.00	0.00
Demolition Crew pt. 2 - Apr 2015	0.66	0.60	-0.97	0.00	0.92	0.92	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Concrete/Industrial Saws	Diesel	Tier 4 Interim	1	1	No Change	0.00
Excavators	Diesel	Tier 4 Interim	10	10	No Change	0.00
Rubber Tired Dozers	Diesel	Tier 4 Interim	2	2	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Concrete/Industrial Saws	7.52000E-003	6.51000E-002	4.87100E-002	9.00000E-005	3.28000E-003	3.28000E-003	0.00000E+000	8.16168E+000	8.16168E+000	6.00000E-004	0.00000E+000	8.17435E+000
Excavators	4.95900E-002	6.93530E-001	2.70210E-001	1.00000E-003	2.24000E-002	2.06100E-002	0.00000E+000	9.48097E+001	9.48097E+001	2.83000E-002	0.00000E+000	9.54035E+001
Rubber Tired Dozers	4.69600E-002	5.30630E-001	4.04840E-001	3.30000E-004	2.47600E-002	2.27800E-002	0.00000E+000	3.12485E+001	3.12485E+001	9.33000E-003	0.00000E+000	3.14444E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Concrete/Industrial Saws	1.74000E-003	3.40000E-002	5.85000E-002	9.00000E-005	1.30000E-004	1.30000E-004	0.00000E+000	8.15197E+000	8.15197E+000	6.00000E-004	0.00000E+000	8.16463E+000
Excavators	1.63700E-002	2.63900E-001	5.31890E-001	1.00000E-003	1.64000E-003	1.64000E-003	0.00000E+000	9.46963E+001	9.46963E+001	2.82700E-002	0.00000E+000	9.52900E+001
Rubber Tired Dozers	5.30000E-003	8.54900E-002	1.72310E-001	3.30000E-004	5.30000E-004	5.30000E-004	0.00000E+000	3.12113E+001	3.12113E+001	9.32000E-003	0.00000E+000	3.14070E+001

LAX West Aircraft Maintenance Area Project – Electrical Crew 2015 South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Electrical Crew 2015	0.66	0.57	0.06	0.04	0.83	0.87	0.00	0.00	0.00	0.00	0.00	0.00
Percent Reduction												

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Cranes	Diesel	No Change	0	0	No Change	0.00
Forklifts	Diesel	Tier 4 Interim	1	1	No Change	0.00
Generator Sets	Diesel	No Change	0	0	No Change	0.00
Welders	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	1.74800E-002	1.50180E-001	9.24500E-002	1.10000E-004	1.26200E-002	1.16100E-002	0.00000E+000	1.05434E+001	1.05434E+001	3.15000E-003	0.00000E+000	1.06095E+001
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	1.32600E-002	1.26280E-001	8.92500E-002	1.10000E-004	9.88000E-003	0.09000E-003	0.00000E+000	1.09311E+001	1.09311E+001	3.26000E-003	0.00000E+000	1.09997E+001
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Unmitigated mty/yr												

LAX West Aircraft Maintenance Area Project - Fuel Line/UG Utilities Crew 2015

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Fuel Line/UG Utilities Pt. 1 - Jan-Feb 2015	0.68	0.73	-0.39	0.00	0.95	0.95	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Line/UG Utilities Pt. 2 - Jan-Feb 2015	0.71	0.74	0.27	0.00	0.88	0.88	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Cranes	Diesel	Tier 4 Interim	4	4	No Change	0.00
Forklifts	Diesel	Tier 4 Interim	3	3	No Change	0.00
Generator Sets	Diesel	Tier 4 Interim	3	3	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1	1	No Change	0.00
Welders	Diesel	No Change	0	2	No Change	0.00

Equipment Type	Unmitigated tons/yr										Unmitigated m/yr					
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e				
Cranes	9.25200E-002	1.16996E+000	6.99560E-001	8.90000E-004	4.95400E-002	4.55800E-002	0.00000E+000	8.46942E+001	8.46942E+001	2.52800E-002	0.00000E+000	8.52252E+001				
Forklifts	5.38300E-002	6.38330E-001	2.21620E-001	4.70000E-004	2.83900E-002	2.61200E-002	0.00000E+000	4.43407E+001	4.43407E+001	1.32400E-002	0.00000E+000	4.46187E+001				
Generator Sets	3.88900E-002	4.35860E-001	1.78300E-001	6.50000E-004	1.58300E-002	1.58300E-002	0.00000E+000	6.58390E+001	6.58390E+001	3.14000E-003	0.00000E+000	6.59051E+001				
Tractors/Loaders/Backhoes	6.48000E-003	6.16700E-002	4.35900E-002	6.00000E-005	4.83000E-003	4.44000E-003	0.00000E+000	5.33846E+000	5.33846E+000	1.59000E-003	0.00000E+000	5.37193E+000				
Welders	1.71500E-002	5.11300E-002	5.56200E-002	7.00000E-005	4.30000E-003	4.30000E-003	0.00000E+000	5.15562E+000	5.15562E+000	1.40000E-003	0.00000E+000	5.18496E+000				

LAX West Aircraft Maintenance Area Project - Misc Labor Crew 2015 South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Misc Labor Crew	0.471	0.551	0.031	0.001	0.861	0.851	0.001	0.001	0.001	0.001	0.001	0.001
Percent Reduction												

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	2.34400E-002	2.23200E-001	1.57740E-001	2.00000E-004	1.74700E-002	1.60700E-002	0.00000E+000	1.93202E+001	1.93202E+001	5.77000E-003	0.00000E+000	1.94413E+001
Unmitigated mt/yr												

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	4.52000E-003	9.86800E-002	1.52130E-001	2.00000E-004	2.30000E-003	2.30000E-003	0.00000E+000	1.92972E+001	1.92972E+001	5.76000E-003	0.00000E+000	1.94182E+001
Mitigated mt/yr												

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	8.07167E-001	5.57885E-001	3.55649E-002	0.00000E+000	8.68346E-001	8.56876E-001	0.00000E+000	1.18995E-003	1.18995E-003	1.73310E-003	0.00000E+000	1.18974E-003
Percent Reduction												

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Cranes	4.32000E+003	6.96700E+002	1.40420E+001	2.60000E+004	4.30000E+004	4.30000E+004	0.00000E+000	2.51080E+001	2.51080E+001	7.50000E+003	0.00000E+000	2.52654E+001
Forklifts	3.79000E+003	8.27900E+002	1.27840E+001	1.70000E+004	1.93000E+003	1.93000E+003	0.00000E+000	1.59858E+001	1.59858E+001	4.77000E+003	0.00000E+000	1.60860E+001
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac- khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Cranes	8.75576E+001	8.30947E+001	2.12588E+002	0.00000E+000	9.77140E+001	9.75199E+001	0.00000E+000	1.18944E+003	1.18944E+003	0.00000E+000	0.00000E+000	1.18954E+003
Forklifts	8.57197E+001	6.36854E+001	9.04945E+002	0.00000E+000	8.99217E+001	8.90466E+001	0.00000E+000	1.18964E+003	1.18964E+003	2.09205E+003	0.00000E+000	1.18968E+003
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac- khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00
Yes	Clean Paved Road	% PM Reduction	0.00		

Phase	Unmitigated		Mitigated		Percent Reduction	
	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Saw Crew 2015	0.001	0.001	0.001	0.001	0.00	0.00
Fugitive Dust	0.001	0.001	0.001	0.001	0.00	0.00
Roads	0.001	0.001	0.001	0.001	0.00	0.00

LAX West Aircraft Maintenance Area Project - Striping Crew 2015

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	Percent Reduction											
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Striping Crew - Jan-Feb 2015, ac	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Striping Crew - Jan-Feb 2015, bc	0.80	0.83	0.14	0.00	0.98	0.98	0.00	0.00	0.00	0.00	0.00	0.00
Striping Crew - May-Jul 2015, ac	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Striping Crew - May-Jul 2015, bc	0.80	0.83	0.14	0.00	0.98	0.98	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Total Number of Equipment				Oxidation Catalyst
			Number Mitigated	Total Number of Equipment	DPF		
Air Compressors	Diesel	No Change	0	0	No Change	0.00	
Cranes	Diesel	Tier 4 Interim	2	2	No Change	0.00	
Forklifts	Diesel	Tier 4 Interim	2	2	No Change	0.00	
Generator Sets	Diesel	No Change	0	0	No Change	0.00	
Tractors/Loaders/Backhoes	Diesel	No Change	0	0	No Change	0.00	
Welders	Diesel	No Change	0	0	No Change	0.00	

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Unmitigated tons/yr							
							Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	4.04100E-002	4.30150E-001	2.02440E-001	2.50000E-004	2.32500E-002	2.13900E-002	2.41044E+001	2.41044E+001	2.41044E+001	7.20000E-003	0.00000E+000	2.42555E+001		
Forklifts	3.33500E-002	3.95430E-001	1.37290E-001	2.90000E-004	1.75800E-002	1.61800E-002	2.74680E+001	2.74680E+001	2.74680E+001	8.20000E-003	0.00000E+000	2.76402E+001		

Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/B ackhoes Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr			Mitigated mt/yr								
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	4.13000E-003	6.65700E-002	1.34180E-001	2.50000E-004	4.10000E-004	4.10000E-004	0.00000E+000	2.40757E+001	2.40757E+001	7.19000E-003	0.00000E+000	2.42267E+001
Forklifts	4.72000E-003	7.60800E-002	1.53340E-001	2.90000E-004	4.70000E-004	4.70000E-004	0.00000E+000	2.74354E+001	2.74354E+001	8.19000E-003	0.00000E+000	2.76074E+001
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Percent Reduction											
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	8.97798E-001	8.45240E-001	3.37186E-001	0.00000E+000	9.82366E-001	9.80832E-001	0.00000E+000	1.18941E-003	1.18941E-003	1.38889E-003	0.00000E+000	1.18942E-003
Forklifts	8.58471E-001	8.07602E-001	1.16906E-001	0.00000E+000	9.73265E-001	9.70952E-001	0.00000E+000	1.18938E-003	1.18938E-003	1.21951E-003	0.00000E+000	1.18957E-003
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)

Appendix B.1

Construction – Criteria Pollutant and Greenhouse Gas Emissions Calculations

- CalEEMod Mitigation Reports
 - Years 3-5 (2016-2018)

LAX West Aircraft Maintenance Area Project - ACP Paving Crew 2016-2018

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	Percent Reduction			
													SO2	CO	NOx	
ACP Paving Crew pt.1 - Dec 2017-Jan 2018	0.46	0.44	-0.14	0.00	0.90	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
ACP Paving Crew pt.2 - Dec 2017-Jan 2018	0.61	0.69	-1.51	0.00	0.91	0.91	0.00	0.00	0.00	0.01	0.00	0.00	0.00			

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Pavers	Diesel	Tier 4 Interim	2	2	No Change	0.00
Paving Equipment	Diesel	Tier 4 Interim	14	14	No Change	0.00
Rollers	Diesel	Tier 4 Interim	2	2	No Change	0.00
Cement and Mortar Mixers	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	Unmitigated tons/yr		
													Unmitigated tons/yr	Unmitigated mt/yr	
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	#####	0.00000E+000
Pavers	1.15000E-002	1.36310E-001	9.27300E-002	1.70000E-004	6.19000E-003	5.69000E-003	0.00000E+000	1.54355E+001	1.54355E+001	4.77000E-003	0.00000E+000	1.55356E+001	0.00000E+000	4.77000E-003	0.00000E+000
Paving Equipment	6.96000E-003	6.52400E-002	5.07700E-002	7.00000E-005	4.76000E-003	4.38000E-003	0.00000E+000	6.22194E+000	6.22194E+000	1.92000E-003	0.00000E+000	6.26231E+000	0.00000E+000	1.92000E-003	0.00000E+000
Rollers	1.23300E-002	1.50160E-001	1.26740E-001	2.10000E-004	6.97000E-003	6.41000E-003	0.00000E+000	1.91574E+001	1.91574E+001	5.92000E-003	0.00000E+000	1.92817E+001	0.00000E+000	5.92000E-003	0.00000E+000
Tractors/Loaders/Backhoes	5.93000E-003	5.77100E-002	4.82500E-002	6.00000E-005	4.22000E-003	3.88000E-003	0.00000E+000	5.84043E+000	5.84043E+000	1.80000E-003	0.00000E+000	5.87832E+000	0.00000E+000	1.80000E-003	0.00000E+000

LAX West Aircraft Maintenance Area Project - Admin Support Crew 2016-2018

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Administrative Support Crew	0.61	0.69	-0.07	0.00	0.97	0.96	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	Tier 4 Interim	1	1	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Rubber Tired Dozers	1.85240E-001	2.00895E+000	6.94440E-001	1.29000E-003	9.84000E-002	9.05300E-002	0.00000E+000	1.19522E+002	1.19522E+002	3.66200E-002	0.00000E+000	1.20291E+002
Tractors/Loaders/Backhoes	9.32700E-002	1.02388E+000	8.50970E-001	1.29000E-003	5.19700E-002	4.78100E-002	0.00000E+000	1.19377E+002	1.19377E+002	3.65800E-002	0.00000E+000	1.20145E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Rubber Tired Dozers	2.09900E-002	3.38460E-001	6.82170E-001	1.28000E-003	2.10000E-003	2.10000E-003	0.00000E+000	1.19379E+002	1.19379E+002	3.65800E-002	0.00000E+000	1.20148E+002
Tractors/Loaders/Backhoes	2.92700E-002	5.72020E-001	9.84410E-001	1.29000E-003	2.13000E-003	2.13000E-003	0.00000E+000	1.19235E+002	1.19235E+002	3.65300E-002	0.00000E+000	1.20003E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	8.66888E-001	8.31524E-001	1.76689E-002	7.75194E-003	9.78659E-001	9.78603E-001	0.00000E+000	1.18958E-003	1.18958E-003	1.09230E-003	0.00000E+000	1.18962E-003
Tractors/Loaders/Backhoes	6.86180E-001	4.41321E-001	-1.56809E-001	0.00000E+000	9.59015E-001	9.55449E-001	0.00000E+000	1.18959E-003	1.18959E-003	1.36687E-003	0.00000E+000	1.18956E-003

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00 PM2.5 Reduction	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00 PM2.5 Reduction	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00 PM2.5 Reduction	61.00 Frequency (per day)
No	Unpaved Road Mitigation	Moisture Content %	0.00 Vehicle Speed (mph)	0.00
Yes	Clean Paved Road	% PM Reduction	0.00	

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Administrative Support Crew	Fugitive Dust	3.52	1.94	1.37	0.76	0.61	0.61
Administrative Support Crew	Roads	0.05	0.01	0.05	0.01	0.00	0.00

LAX West Aircraft Maintenance Area Project - Batch Plant Crew 2016-2018

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Batch Plant Crew Oct - Dec	0.63	0.66	-0.43	0.00	0.94	0.93	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2	2	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	5.71900E-002	7.62930E-001	3.59930E-001	9.80000E-004	2.64000E-002	2.42900E-002	0.00000E+000	9.23532E+001	9.23532E+001	2.78600E-002	0.00000E+000	9.29382E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	1.61000E-002	2.59600E-001	5.23230E-001	9.80000E-004	1.61000E-003	1.61000E-003	0.00000E+000	9.22434E+001	9.22434E+001	2.78200E-002	0.00000E+000	9.28277E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	7.18482E-001	6.59733E-001	4.53699E-001	0.00000E+000	9.33015E-001	9.33718E-001	0.00000E+000	1.18956E-003	1.18956E-003	1.43575E-003	0.00000E+000	1.18961E-003

Equipment Type	Mitigated tons/yr										Mitigated mt/yr				
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e			
Cranes	4.84000E-003	9.46600E-002	1.62910E-001	2.20000E-004	3.50000E-004	3.50000E-004	0.00000E+000	1.99077E+001	1.99077E+001	6.13000E-003	0.00000E+000	2.00365E+001			
Forklifts	8.45300E-002	2.80950E-001	3.42510E-001	2.90000E-004	2.67300E-002	2.45900E-002	0.00000E+000	2.64462E+001	2.64462E+001	8.15000E-003	0.00000E+000	2.66173E+001			
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			

Equipment Type	Percent Reduction										Percent Reduction				
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e			
Cranes	8.36431E-001	6.97233E-001	1.36829E-002	0.00000E+000	9.79216E-001	9.77405E-001	0.00000E+000	1.18958E-003	1.18958E-003	1.62866E-003	0.00000E+000	1.18941E-003			
Forklifts	1.18161E-003	1.17321E-003	1.16649E-003	0.00000E+000	1.12108E-003	1.21852E-003	0.00000E+000	1.18968E-003	1.18968E-003	1.22549E-003	0.00000E+000	1.18954E-003			
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000			

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Frequency (per day)
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)
Yes	Clean Paved Road	% PM Reduction	0.00	

Phase	Unmitigated			Mitigated			Percent Reduction		
	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	
Building Systems Crew - Sep 2017-Feb 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Building Systems Crew - Sep 2017-Feb 2018	0.02	0.01	0.02	0.01	0.01	0.00	0.00	0.00	

LAX West Aircraft Maintenance Area Project - Foundation Crew 2016-2018

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Foundation Crew - Oct-Dec 2016	0.66	0.59	-0.60	0.00	0.92	0.92	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Cranes	Diesel	Tier 4 Interim	1	1	No Change	0.00
Forklifts	Diesel	Tier 4 Interim	1	1	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1	1	No Change	0.00
Generator Sets	Diesel	Tier 4 Interim	4	4	No Change	0.00
Welders	Diesel	Tier 4 Interim	1	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Cranes	3.47800E-002	3.68910E-001	1.80620E-001	2.30000E-004	1.99800E-002	1.83900E-002	0.00000E+000	2.15958E+001	2.15958E+001	6.51000E-003	0.00000E+000	2.17328E+001
Forklifts	1.28800E-002	1.10840E-001	7.16700E-002	9.00000E-005	9.27000E-003	8.53000E-003	0.00000E+000	8.17104E+000	8.17104E+000	2.46000E-003	0.00000E+000	8.22279E+000
Generator Sets	7.28800E-002	8.78850E-001	3.28420E-001	1.52000E-003	2.56200E-002	2.56200E-002	0.00000E+000	1.57214E+002	1.57214E+002	5.81000E-003	0.00000E+000	1.57336E+002
Tractors/Loaders/Backhoes	9.47000E-003	9.05200E-002	6.70900E-002	9.00000E-005	6.97000E-003	6.41000E-003	0.00000E+000	8.16578E+000	8.16578E+000	2.46000E-003	0.00000E+000	8.21750E+000
Welders	1.07900E-002	8.82500E-002	6.94800E-002	1.30000E-004	4.58000E-003	4.58000E-003	0.00000E+000	1.14512E+001	1.14512E+001	8.70000E-004	0.00000E+000	1.14694E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Cranes	5.14000E-003	1.00440E-001	1.72860E-001	2.30000E-004	3.70000E-004	3.70000E-004	0.00000E+000	2.15701E+001	2.15701E+001	6.51000E-003	0.00000E+000	2.17068E+001
Forklifts	1.96000E-003	4.27100E-002	6.58400E-002	9.00000E-005	1.00000E-003	1.00000E-003	0.00000E+000	8.16131E+000	8.16131E+000	2.46000E-003	0.00000E+000	8.21301E+000
Generator Sets	2.43700E-002	3.92910E-001	7.91910E-001	1.52000E-003	2.44000E-003	2.44000E-003	0.00000E+000	1.57027E+002	1.57027E+002	5.80000E-003	0.00000E+000	1.57149E+002
Tractors/Loaders/Bac khoes	1.93000E-003	4.22000E-002	6.50500E-002	9.00000E-005	9.80000E-004	9.80000E-004	0.00000E+000	8.15607E+000	8.15607E+000	2.46000E-003	0.00000E+000	8.20773E+000
Welders	2.44000E-003	4.77000E-002	8.20900E-002	1.30000E-004	1.80000E-004	1.80000E-004	0.00000E+000	1.14376E+001	1.14376E+001	8.70000E-004	0.00000E+000	1.14558E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Cranes	8.52214E-001	7.27738E-001	4.29631E-002	0.00000E+000	9.81481E-001	9.79880E-001	0.00000E+000	1.18958E-003	1.18958E-003	0.00000E+000	0.00000E+000	1.18992E-003
Forklifts	8.47826E-001	6.14670E-001	8.13451E-002	0.00000E+000	8.92125E-001	8.82767E-001	0.00000E+000	1.19079E-003	1.19079E-003	0.00000E+000	0.00000E+000	1.18938E-003
Generator Sets	6.65615E-001	5.52927E-001	-1.41127E+000	0.00000E+000	9.04762E-001	9.04762E-001	0.00000E+000	1.18965E-003	1.18965E-003	1.72117E-003	0.00000E+000	1.18955E-003
Tractors/Loaders/Bac khoes	7.96199E-001	5.33805E-001	3.04069E-002	0.00000E+000	8.59397E-001	8.47114E-001	0.00000E+000	1.18911E-003	1.18911E-003	0.00000E+000	0.00000E+000	1.18893E-003
Welders	7.73865E-001	4.59490E-001	-1.81491E-001	0.00000E+000	9.60699E-001	9.60699E-001	0.00000E+000	1.18939E-003	1.18939E-003	0.00000E+000	0.00000E+000	1.18925E-003

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00
Yes	Clean Paved Road	% PM Reduction	0.00		
				Frequency (per day)	3.00

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Foundation Crew - Oct-Dec 2016	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Foundation Crew - Oct-Dec 2016	Roads	0.01	0.00	0.01	0.00	0.00	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Cranes	1.45300E-002	2.83990E-001	4.88720E-001	6.50000E-004	1.06000E-003	1.06000E-003	0.00000E+000	5.97232E+001	5.97232E+001	1.84000E-002	0.00000E+000	6.01095E+001
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Cranes	8.36300E-001	6.97219E-001	1.36831E-002	0.00000E+000	9.79014E-001	9.77190E-001	0.00000E+000	1.18958E-003	1.18958E-003	1.08578E-003	0.00000E+000	1.18958E-003
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00
Yes	Clean Paved Road	% PM Reduction	0.00		
				Frequency (per day)	3.00

Phase	Source	Unmitigated			Mitigated			Percent Reduction		
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	
Installation Crew - Sep 2017 - Feb 2018	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Installation Crew - Sep 2017 - Feb 2018	Roads	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Cranes	5.51800E-002	1.58590E-001	1.91360E-001	1.40000E-004	1.63200E-002	1.50200E-002	0.00000E+000	1.28639E+001	1.28639E+001	3.98000E-003	0.00000E+000	1.29476E+001
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Cranes	1.26697E-003	1.19662E-003	1.14835E-003	0.00000E+000	1.22399E-003	6.65336E-004	0.00000E+000	1.18951E-003	1.18951E-003	2.50627E-003	0.00000E+000	1.18954E-003
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00 PM2.5 Reduction	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00 PM2.5 Reduction	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00 PM2.5 Reduction	61.00 Frequency (per day)
No	Unpaved Road Mitigation	Moisture Content %	0.00 Vehicle Speed (mph)	0.00
Yes	Clean Paved Road	% PM Reduction	0.00	

		Unmitigated			Mitigated			Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5		
Interior Finishes Crew - Dec 2017-Feb 2018	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Finishes Crew - Dec 2017-Feb 2018	Roads	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr												
Cranes	7.71200E-002	2.18120E-001	2.62960E-001	1.90000E-004	2.20000E-002	2.02400E-002	0.00000E+000	1.76073E+001	1.76073E+001	5.39000E-003	0.00000E+000	1.77206E+001
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Cranes	1.16565E-003	1.19059E-003	1.17750E-003	0.00000E+000	1.36178E-003	1.48002E-003	0.00000E+000	1.18957E-003	1.18957E-003	1.85185E-003	0.00000E+000	1.18929E-003
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction 61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction 0.00
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction 61.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph) 0.00
Yes	Clean Paved Road	% PM Reduction	0.00	Frequency (per day) 3.00

Phase	Unmitigated			Mitigated			Percent Reduction		
	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Interior Rough Crew - Sep-Nov 2017	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Rough Crew - Sep-Nov 2017	Roads	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00

LAX West Aircraft Maintenance Area Project - Misc Labor Crew 2016-2018

South Coast AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	Percent Reduction											
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Misc Labor Crew	0.45	0.49	0.02	0.00	0.84	0.83	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1	1	No Change	0.00

Equipment Type	Unmitigated tons/yr										Mitigated tons/yr														
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	5.21100E-002	5.02240E-001	3.98360E-001	5.20000E-004	3.76100E-002	3.46100E-002	0.00000E+000	4.81735E+001	4.81735E+001	1.47600E-002	0.00000E+000	4.84835E+001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	4.81162E+001	1.47400E-002	0.00000E+000	4.84258E+001	

Equipment Type	Unmitigated tons/yr										Mitigated tons/yr														
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	1.16000E-002	2.53180E-001	3.90320E-001	5.20000E-004	5.91000E-003	5.91000E-003	0.00000E+000	4.81162E+001	4.81162E+001	1.47400E-002	0.00000E+000	4.84258E+001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	4.81162E+001	1.47400E-002	0.00000E+000	4.84258E+001	

Equipment Type	Percent Reduction											
	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	7.77394E-001	4.95898E-001	2.01827E-002	0.00000E+000	8.42861E-001	8.29240E-001	0.00000E+000	1.18966E-003	1.18966E-003	1.35501E-003	0.00000E+000	1.18968E-003

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00 PM2.5 Reduction	61.00
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00 PM2.5 Reduction	0.00
Yes	Water Exposed Area	PM10 Reduction	61.00 PM2.5 Reduction	61.00 Frequency (per day)
No	Unpaved Road Mitigation	Moisture Content %	0.00 Vehicle Speed (mph)	0.00
Yes	Clean Paved Road	% PM Reduction	0.00	

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Misc Labor Crew	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Misc Labor Crew	Roads	0.02	0.01	0.02	0.01	0.00	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr											
Cranes	1.18000E-002	1.90350E-001	3.83650E-001	7.20000E-004	1.18000E-003	1.18000E-003	0.00000E+000	6.67222E+001	6.67222E+001	2.04400E-002	0.00000E+000	6.71515E+001
Forklifts	6.53000E-003	1.27680E-001	2.19740E-001	2.90000E-004	4.80000E-004	4.80000E-004	0.00000E+000	2.68482E+001	2.68482E+001	8.23000E-003	0.00000E+000	2.70209E+001
Generator Sets	4.83200E-002	2.14840E-001	2.03910E-001	3.30000E-004	1.35400E-002	1.35400E-002	0.00000E+000	2.44941E+001	2.44941E+001	3.92000E-003	0.00000E+000	2.45764E+001
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Percent Reduction											
Cranes	8.05248E-001	7.53726E-001	2.67955E-001	0.00000E+000	9.62396E-001	9.59127E-001	0.00000E+000	1.18964E-003	1.18964E-003	1.46556E-003	0.00000E+000	1.18947E-003
Forklifts	7.83846E-001	5.99536E-001	-7.06490E-002	0.00000E+000	9.72509E-001	9.70112E-001	0.00000E+000	1.18973E-003	1.18973E-003	1.21359E-003	0.00000E+000	1.18951E-003
Generator Sets	1.24018E-003	1.20874E-003	1.22453E-003	0.00000E+000	1.47493E-003	1.47493E-003	0.00000E+000	1.18948E-003	1.18948E-003	2.54453E-003	0.00000E+000	1.18956E-003
Tractors/Loaders/Bac khoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	61.00	PM2.5 Reduction
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction
Yes	Water Exposed Area	PM10 Reduction	61.00	Frequency (per day)
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)
Yes	Clean Paved Road	% PM Reduction	0.00	

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Structural Steel Crew - Jan-Aug 2017	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Structural Steel Crew - Jan-Aug 2017	Roads	0.02	0.01	0.02	0.01	0.00	0.00

Appendix B.1

Construction - Criteria Pollutant and Greenhouse Gas Emissions Calculations

- SCAQMD Rule 403 Fugitive Dust

(Adopted May 7, 1976)(Amended November 6, 1992)
(Amended July 9, 1993)(Amended February 14, 1997)
(Amended December 11, 1998)

RULE 403. FUGITIVE DUST

(a) Purpose

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

(b) Applicability

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

(c) Definitions

- (1) ACTIVE OPERATIONS shall mean any activity capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, or heavy- and light-duty vehicular movement.
- (2) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook, now or hereafter adopted by the Governing Board.
- (3) BEST AVAILABLE CONTROL MEASURES represent fugitive dust control actions which are required to be implemented within the boundaries of the South Coast Air Basin. A detailed listing of best available control measures for each fugitive dust source type shall be as contained in the most recent Rule 403 Implementation Handbook, now or hereafter adopted by the Governing Board.
- (4) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.
- (5) CHEMICAL STABILIZERS mean any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law,

rule or regulation; and should meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

- (6) CONSTRUCTION/DEMOLITION ACTIVITIES are any on-site mechanical activities preparatory to or related to the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities; grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.
- (7) CONTINGENCY NOTIFICATION means that the U.S. EPA has determined and notified the District in writing that PM₁₀ contingency requirements must be implemented based on a finding that: (1) PM₁₀ and PM₁₀ precursor emissions reductions were less than required at any three-year milestone reporting interval, or (2) the region failed to attain the PM₁₀ standards within the time frames allotted under the Federal Clean Air Act, or (3) if as part of an Attainment/Maintenance Plan, the region is no longer in attainment of the PM₁₀ standards.
- (8) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.
- (9) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:
 - (A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;
 - (B) been paved or otherwise covered by a permanent structure; or
 - (C) sustained a vegetative ground cover over at least 95 percent of an area for a period of at least 6 months.
- (10) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.
- (11) EARTH-MOVING ACTIVITIES shall include, but not be limited to, grading, earth cutting and filling operations, loading or unloading of dirt

or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, or soil mulching.

- (12) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of man.
- (13) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of ten consecutive days.
- (14) LARGE OPERATIONS means any active operations on property which contains in excess of 100 acres of disturbed surface area; or any earth-moving operation which exceeds a daily earth-moving or throughput volume of 7,700 cubic meters (10,000 cubic yards) three times during the most recent 365-day period.
- (15) MEDIUM OPERATIONS means any active operations on property which contains between 50 and 100 acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of between 3,850 cubic meters (5,000 cubic yards) and 7,700 cubic meters (10,000 cubic yards) three times during the most recent 365-day period.
- (16) NON-ROUTINE means any non-periodic active operation which occurs no more than three times per year, lasts less than 30 cumulative days per year, and is scheduled less than 30 days in advance.
- (17) OPEN STORAGE PILE is any accumulation of bulk material with 5 percent or greater silt content which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet. Silt content level is assumed to be 5 percent or greater unless a person can show, by sampling and analysis in accordance with ASTM Method C-136 or other equivalent method approved in writing by the Executive Officer, the California Air Resources Board, and the U. S. EPA, that the silt content is less than 5 percent. The results of ASTM Method C-136 or equivalent method are valid for 60 days from the date the sample was taken.
- (18) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.
- (19) PAVED ROAD means an improved street, highway, alley, public way, or easement that is covered by typical roadway materials excluding access

roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

- (20) PM₁₀ is particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.
- (21) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.
- (22) REASONABLY AVAILABLE CONTROL MEASURES are appropriate techniques and procedures used to prevent or reduce the emission and airborne transport of fugitive dust, outside the boundaries of the South Coast Air Basin. These include, but are not limited to, application of dust suppressants, use of coverings or enclosures, paving, enshrouding, planting, reduction of vehicle speeds, and other measures as specified by the Executive Officer. A detailed listing of reasonably available control measures for each fugitive dust source type shall be as contained in the most recent Rule 403 Implementation Handbook, now or hereafter adopted by the Governing Board.
- (23) SILT means any aggregate material with a particle size less than 74 micrometers in diameter which passes through a No. 200 Sieve.
- (24) SIMULTANEOUS SAMPLING means the operation of two PM₁₀ samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.
- (25) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.
- (26) STABILIZED SURFACE means:

- (A) any disturbed surface area or open storage pile which is resistant to wind-driven fugitive dust;
 - (B) any unpaved road surface in which any fugitive dust plume emanating from vehicular traffic does not exceed 20 percent opacity.
- (27) UNPAVED ROADS are any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by one of the following: concrete, asphaltic concrete, recycled asphalt, asphalt or other materials with equivalent performance as determined by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Public unpaved roads are any unpaved roadway owned by Federal, State, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.
- (28) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
- (29) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.
- (30) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.
- (d) Requirements
- (1) A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source.
 - (2) A person conducting active operations within the boundaries of the South Coast Air Basin shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type which is part of the active operation.
 - (3) A person conducting active operations outside the boundaries of the South Coast Air Basin may utilize reasonably available control measures in lieu of best available control measures to minimize fugitive dust emissions from each fugitive dust source type which is part of the active operation.

- (4) A person shall not cause or allow PM₁₀ levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM₁₀ monitoring. If sampling is conducted, samplers shall be:
 - (A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM₁₀.
 - (B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.
- (5) Any person in the South Coast Air Basin shall:
 - (A) prevent or remove within one hour the track-out of bulk material onto public paved roadways as a result of their operations; or
 - (B) take at least one of the actions listed in Table 3 and:
 - (i) prevent the track-out of bulk material onto public paved roadways as a result of their operations and remove such material at anytime track-out extends for a cumulative distance of greater than 50 feet on to any paved public road during active operations; and
 - (ii) remove all visible roadway dust tracked-out upon public paved roadways as a result of active operations at the conclusion of each work day when active operations cease.

(e) Contingency Requirements

When a contingency notification has occurred, the requirements of this subdivision shall become effective in the county subject to the notification 60 days after the first publication date in newspapers of general circulation in that county. Such publication shall specify that a contingency notification has occurred, and that any person who conducts or authorizes the conducting of a medium operation shall be required to comply with the provisions of subdivision (f), in addition to the requirements of subdivision (d).

- (f) Special Requirements for Large Operations, and Medium Operations Under a Contingency Notification
 - (1) Any person who conducts or authorizes the conducting of either a large operation which is subject to the requirements of this rule, or a medium operation under a contingency notification as set forth in subdivision (e), shall either:
 - (A) take the actions specified in Tables 1 and 2 for each applicable source of fugitive dust within the property lines and shall:
 - (i) notify the Executive Officer not more than 7 days after qualifying as a large operation or as a medium operation under a contingency notification;
 - (ii) include, as part of the notification, the items specified in subparagraphs (f)(3)(A) and (f) (3)(B);
 - (iii) maintain daily records to document the specific actions taken;
 - (iv) maintain such records for a period of not less than 6 months; and
 - (v) make such records available to the Executive Officer upon request; or
 - (B) obtain an approved fugitive dust emissions control plan (plan).
 - (2) Any person subject to paragraph (f)(1) who elects to obtain an approved fugitive dust emission control plan must submit the plan to the Executive Officer no later than 30 days after the activity becomes a large operation.
 - (3) Any plan prepared pursuant to subparagraph (f)(1)(B) shall include:
 - (A) The name(s), address(es), and phone number(s) of the person(s) responsible for the preparation, submittal, and implementation of the plan;
 - (B) A description of the operation(s), including a map depicting the location of the site;
 - (C) A listing of all sources of fugitive dust emissions within the property lines;
 - (D) A description of the required control measures as applied to each of the sources identified in subparagraph (f)(3)(C). The description must be sufficiently detailed to demonstrate that the applicable best available control measures or reasonably available

control measures will be utilized and/or installed during all periods of active operations.

- (4) In the event that there are special technical (e.g., non-economic) circumstances, including safety, which prevent the use of at least one of the required control measure for any of the sources identified in subparagraph (f)(3)(C), a justification statement must be provided in lieu of the description required in subparagraph (f)(3)(D). The justification statement must explain the reason(s) why the required control measures cannot be implemented.
- (5) Within 30 calendar days of the receipt of a plan submitted pursuant to subparagraph (f)(1)(B), the Executive Officer will either approve, conditionally approve, or disapprove the plan, in writing. For a plan to be approved or conditionally approved, three conditions must be satisfied:
 - (A) All sources of fugitive dust emissions must be identified (e.g., earth-moving, storage piles, vehicular traffic on unpaved roads, etc.).
 - (B) For each source identified, at least one of the required control measures must be implemented, or an acceptable justification statement pursuant to paragraph (f)(4) must be provided; and
 - (C) If, after implementation of the required control measures, visible dust emissions are crossing the property line(s), then high wind measures (e.g., increased watering) must be specified for immediate implementation.
- (6) Conditional approval will be made if conditions are met, but the stated measures do not satisfactorily conform to the guidance contained in the applicable Rule 403 Implementation Handbook. If a plan is conditionally approved, the conditions necessary to modify the plan will be provided in writing to the person(s) identified in subparagraph (f)(3)(A). Such modifications must be incorporated into the plan within 30 days of the receipt of the notice of conditional approval, or the plan shall be disapproved. A letter to the Executive Officer stating that such modifications will be incorporated into the plan shall be deemed sufficient to result in approval of the plan.
- (7) If a plan is disapproved by the Executive Officer:
 - (A) The reasons for disapproval shall be given to the applicant in writing.

- (B) Within 7 days of the receipt of a notice of a disapproved plan, the applicant shall comply with the actions specified in Tables 1 and 2 for each applicable source of fugitive dust within the property lines.
 - (C) The applicant may resubmit a plan at any time after receiving a disapproval notification, but will not be relieved of complying with subparagraph (f)(7)(B) until such time as the plan has been approved.
- (8) Failure to comply with any of the provisions in an approved or conditionally approved plan shall be a violation of subdivision (f).
 - (9) Any approved plan shall be valid for a period of one year from the date of approval or conditional approval of the plan. Plans must be resubmitted annually, at least 60 days prior to the expiration date, or the plan shall become disapproved as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously approved plan, the resubmittal may contain a simple statement of no-change. Otherwise, a resubmittal must contain all the items specified in subparagraphs (f)(3)(A through D).
 - (10) Any person subject to the requirements of paragraph (f)(1) who no longer exceeds, and does not expect to exceed for a period of at least one year, the criteria for a large operation or a medium operation under a contingency notification may request a reclassification as a non-large operation not subject to subparagraph (f). To obtain this reclassification, a person must submit a request in writing to the Executive Officer specifying the conditions which have taken place to reduce the disturbed surface area and/or the earth-moving or throughput conditions to levels below the criteria for large operations. A person must further indicate that the criteria for large operations are not expected to be exceeded during the subsequent 12-month period. The Executive Officer shall either approve or disapprove the reclassification within 60 days from receipt of the reclassification request. The Executive Officer will disapprove the request if the indicated changes can not be verified to be below the criteria for large operations or a medium operation under a contingency notification. If approved, the person shall be relieved of all requirements under subdivision (f). Any person so reclassified would again be subject to the

requirements of subdivision (f) if at any time subsequent to the reclassification the criteria for large operations or a medium operation under a contingency notification are met.

(11) A person responsible for more than one operation subject to subparagraph (f) at non-contiguous sites may submit one plan covering multiple sites provided that:

- (A) the contents of the plan apply similarly to all sites; and
- (B) specific information is provided for each site, including, map of site location, address, description of operations, and a listing of all sources of fugitive dust emissions within the property lines.

(g) Compliance Schedule

All the newly amended provisions of this rule shall become effective upon adoption of this Rule Amendment. Pursuant to subdivision (f), any fugitive dust emission control plan which has been approved or conditionally approved prior to the date of adoption of these amendments shall remain in effect and the plan approval date and annual resubmittal date shall remain unchanged. If any changes to such plans are necessary as a result of these amendments, such changes shall not be required until the annual resubmittal date, pursuant to paragraph (f)(9).

(h) Exemptions

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

- (A) Agricultural operations outside the boundaries of the South Coast Air Basin, agricultural operations directly related to the raising of fowls or animals, and agricultural operations conducted within the boundaries of the South Coast Air Basin provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.
- (B) Agricultural operations within the South Coast Air Basin, until June 30, 1999, whose combined disturbed surface area includes more than 10 acres. All provisions of this Rule shall become applicable to agricultural operations exceeding 10 acres beginning July 1, 1999, excluding those listed in (h)(1)(A), unless the person responsible for such operations voluntarily implements the conservation practices contained in the most recent Rule 403

Agricultural Handbook, now or hereafter adopted by the Governing Board. The person responsible for such operations must complete and maintain the self-monitoring form documenting sufficient conservation practices, as described in the Rule 403 Agricultural Handbook, and must make it available to the Executive Officer upon request.

- (C) Any disturbed surface area less than one-half (1/2) acre on property zoned for residential uses.
- (D) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.
- (E) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.
- (F) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.
- (G) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.
- (H) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:
 - (i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil;
or
 - (ii) any discing or similar operation which cuts into and disturbs the soil is used and meets the following conditions:
 - [a] A determination is made by the issuing agency of the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (h)(1)(H)(i); and

[b] Such determination is made in writing and provided to the person conducting the weed abatement operation prior to beginning such activity; and

[c] Such written determination is provided to the Executive Officer upon request from the person conducting the weed abatement operation.

(Note: The provisions of clause (h)(1)(H)(ii) do not exempt the owner of any property from controlling fugitive dust emissions emanating from disturbed surface areas which have been created as a result of the weed abatement actions.)

(I) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(4) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required control measures for high wind conditions are implemented for each applicable fugitive dust source type, as specified in Table 1, and;

(ii) Records are maintained in accordance with clauses (f)(1)(A)(iii), (f)(1)(A)(iv) and (f)(1)(A)(v); and

(iii) In the event there are technical (e.g., non-economic) reasons, including safety, why any of the required control measures in Table 1 cannot be implemented for one or more fugitive dust source categories, a person submits a "High Wind Fugitive Dust Control Plan" (HW-Plan). The HW-Plan must further provide an alternative measure of fugitive dust control, if technically feasible. Such plan will be subject to the same approval conditions as specified in subparagraphs (f)(5) and (f)(6).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

- (c) have a traffic volume less than 20 vehicle-trips per day.
- (C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act.
- (D) To non-routine or emergency maintenance of flood control channels and water spreading basins.
- (3) The provisions of paragraphs (d)(1), (d)(2), and (d)(4) shall not apply to:
 - (A) Blasting operations which have been permitted by the California Division of Industrial Safety; and
 - (B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.
- (4) The provisions of paragraph (d)(4) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for each applicable fugitive dust source type. To qualify for this exemption, a person must:
 - (A) maintain records to document the dates of active operations, all applicable fugitive dust source types, and the actions taken consistent with Table 2;
 - (B) retain such records for a period of at least six months; and
 - (C) make such records available to the Executive Officer upon request.
- (5) The provisions of paragraph (d)(5) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles.
- (6) The provisions of subdivision (f) shall not apply to:
 - (A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks;
 - (B) any construction and/or earth-moving activity in which the completion date is expected to be less than 60 days after the beginning date. To qualify for this exemption, a person must:

- (i) notify the Executive Officer not more than 7 days after qualifying as a large operation or a medium operation under a contingency notification;
 - (ii) include, as part of the notification, the items specified in subparagraphs (f)(3)(A) and (f)(3)(B); and
 - (iii) take the actions specified in Tables 1 and 2 at such time as the construction and/or earth-moving activities extend more than 60 days after qualifying as a large operation or a medium operation under a contingency notification.
 - (C) any large operation or a medium operation under a contingency notification which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance. To qualify for this exemption, a person must submit a copy of the city- or county-approved dust control plan to the Executive Officer within 30 days of the effective date of this rule or within 30 days of receiving approval from the city or county government, whichever is later.
 - (D) any large operation or a medium operation under a contingency notification subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.
- (i) Fees
- (1) Any person subject to a plan submittal pursuant to subparagraph (f)(1)(B) or clause (h)(2)(A)(iii) or subparagraph (h)(1)(B) shall be assessed applicable filing and evaluation fees pursuant to Rule 306. Any person who simultaneously submits a plan pursuant to subparagraph (f)(1)(B) and clause (h)(2)(A)(iii) shall, for the purpose of this rule, be deemed to submit one plan.
 - (2) The submittal of an annual statement of no-change, pursuant to paragraph (f)(9), shall not be considered as an annual review, and therefore shall not be subject to annual review fees, pursuant to Rule 306.
 - (3) The owner/operator of any facility for which the Executive Officer conducts upwind/downwind monitoring for PM₁₀ pursuant to paragraph (d)(4) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is

exempted from paragraph (d)(4) or meets the requirements of paragraph (d)(4).

TABLE 1

BEST [REASONABLY]* AVAILABLE CONTROL MEASURES FOR HIGH WIND CONDITIONS

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

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 2
DUST CONTROL ACTIONS FOR EXEMPTION FROM PARAGRAPH (d)(3)*

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

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 2 (Continued) *

<u>FUGITIVE DUST SOURCE CATEGORY</u>	<u>CONTROL ACTIONS</u>
Earth-moving: Construction cut areas and mining operations:	(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b) Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 [70] percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c) Apply chemical stabilizers within five working days of grading completion; OR (2d) Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a) Apply water to at least 80 [70] percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR (3b) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (3c) Establish a vegetative ground cover within 21 [30] days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR (3d) Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 2 (Continued) *

<u>FUGITIVE DUST SOURCE CATEGORY</u>	<u>CONTROL ACTIONS</u>
Unpaved Roads	(4a) Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR (4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR (4c) Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a) Apply chemical stabilizers; OR (5b) Apply water to at least 80 [70] percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR (5c) Install temporary coverings; OR (5d) Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile.
<u>All Categories</u>	(6a) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 3
TRACK-OUT CONTROL OPTIONS
PARAGRAPH (d)(5)(B)

CONTROL OPTIONS

(1)	Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.
(2)	Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.
(3)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Appendix B.2

Construction - LST Dispersion Modeling

- Construction Localized Significance Thresholds Modeling Input and Output Tables
- Wind Rose Diagrams for Los Angeles International Airport (Daily Average, Daytime Average, and Nighttime Average)
- Maximum Impacted Sensitive Receptors (Nitrogen Dioxide [NO₂] and Carbon Monoxide [CO])
- Maximum Impacted Sensitive Receptors (Particulate Matter [PM₁₀ and PM_{2.5}])

Appendix B.2

Construction - LST Dispersion Modeling

- Construction Localized Significance Thresholds (LST) Analysis – Dispersion Modeling Input and Output Tables

LAX/LAWA West Aircraft Maintenance Area Project
 Draft EIR Air Quality Analysis
 AERMOD Dispersion Model
 SCAQMD Localized Significance Threshold Modeling

Source: CalEEMod (Version 2013.2). Max daily emissions occur in Year 1, Quarter 3 (August) and Quarter 4 (November).

Q3 (Aug)	Q4 (Nov)	Source	Max Daily Emissions - 2014 (pounds per day)							
			NOx	CO	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
		3.2 ACP Paving Crew pt.1 - Jul-Dec 2014 - 2014								
		Mitigated Construction On-Site								
		Diesel (On-Site/Off-Road)	8.68	13.00		0.07	0.07		0.07	0.07
		Diesel (On-Site/Off-Road)	59.86	67.44		0.35	0.35		0.44	0.44
		Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00	0.00
X	X	ACP Paving Crew	68.61	80.69	0.00	0.41	0.42	0.00	0.50	0.50
		3.2 Administrative Support Crew - Jan-Dec 2014								
		Mitigated Construction On-Site								
		Diesel (On-Site/Off-Road)	6.29	8.55	2.35	0.04	2.39	1.29	0.05	1.34
		Gas Equipment (On-Site/On-Road)	0.61	2.20	0.03	0.00	0.03	0.01	0.00	0.01
X	X	Administrative Support Crew	6.89	10.75	2.38	0.04	2.42	1.30	0.05	1.35
		3.2 Backfill Crew - Apr-Dec 2014 - 2014								
		Mitigated Construction On-Site								
		Diesel (On-Site/Off-Road)	7.06	7.91	0.14	0.04	0.18	0.02	0.05	0.07
		Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00	0.00
X	X	BackFill Crew	7.13	8.16	0.15	0.04	0.19	0.02	0.05	0.07
		3.2 Batch Plant Crew - Jul-Dec 2014 - 2014								
		Mitigated Construction On-Site								
		Diesel (On-Site/Off-Road)	14.37	16.10	4.70	0.08	4.78	2.58	0.10	2.69
		Batch Plant Trucks	34.59	25.65	2.34	0.02	2.36	0.26	0.02	0.28
		Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00	0.00
X	X	Batch Plant Crew	49.03	42.00	7.04	0.10	7.14	2.85	0.12	2.97
		3.2 Building Systems Crew - Nov 2014 - 2014								
		Mitigated Construction On-Site								
		Diesel (On-Site/Off-Road)	6.51	8.52		0.55	0.55		0.51	0.51
		Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00	0.00
	X	Building Systems Crew	6.57	8.77	0.00	0.55	0.55	0.00	0.51	0.51
		3.3 Building Systems Crew - Dec 2014 - 2014								
		Mitigated Construction On-Site								
		Diesel (On-Site/Off-Road)	13.01	17.05		1.10	1.10		1.01	1.01
		Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00	0.00
		Total	13.08	17.29	0.00	1.10	1.10	0.00	1.01	1.01
		3.2 Clean and Grub Crew - Jan 2014 - 2014								
		Mitigated Construction On-Site								
		Diesel (On-Site/Off-Road)	25.32	28.38	10.62	0.14	10.76	5.30	0.18	5.48
		Gas Equipment (On-Site/On-Road)	0.13	0.49	0.01	0.00	0.01	0.00	0.00	0.00
		Total	25.46	28.87	10.62	0.14	10.77	5.30	0.18	5.48
		3.2 Crusher Crew - Feb 2014 - 2014								
		Mitigated Construction On-Site								
		Diesel (On-Site/Off-Road)	28.72	32.18	-	0.16	0.16	-	0.21	0.21
		Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00	0.00
		Total	28.79	32.43	0.00	0.16	0.17	0.00	0.21	0.21
		3.2 Demolition Crew pt. 1- Jan 2014 - 2014								
		Mitigated Construction On-Site								
		Diesel (On-Site/Off-Road)	24.99	29.59		0.15	0.15		0.18	0.18
		Diesel (On-Site/Off-Road)	43.50	48.75		0.25	0.25		0.32	0.32
		Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00	0.00
		Total	68.55	78.58	0.00	0.39	0.40	0.00	0.50	0.50

Max NOx, CO
Q3 (Aug)

Max PM
Q4 (Nov)

		Max Daily Emissions - 2014 (pounds per day)						
Source	NOx	CO	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
3.2 Drainage Crew pt.1 - Jul-Aug 2014 - 2014								
	Mitigated Construction On-Site							
	Diesel (On-Site/Off-Road)	10.82	13.19		0.07	0.07		0.08
	Diesel (On-Site/Off-Road)	8.87	9.94		0.05	0.05		0.06
	Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00
X	Drainage Crew	19.75	23.37	0.00	0.12	0.12	0.00	0.14
3.2 Electrical Crew Jun-Dec 2014 - 2014								
	Mitigated Construction On-Site							
	Diesel (On-Site/Off-Road)	2.93	3.96		0.03	0.03		0.03
	Gas Equipment (On-Site/On-Road)	0.13	0.49	0.01	0.00	0.01	0.00	0.00
X	Electrical Crew	3.07	4.45	0.01	0.03	0.04	0.00	0.03
3.2 Excavation Crew - Feb-Jun 2014								
	Mitigated Construction On-Site							
	Diesel (On-Site/Off-Road)	54.73	61.33	5.03	0.31	5.34	2.62	0.40
	Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00
	Total	54.79	61.57	5.03	0.31	5.34	2.62	0.40
Export Truck Trips (Mass Grading) - Feb-May 2014								
	Mitigated On-Site (Idling)							
	Total	2.90	3.15	-	0.01	0.01	-	0.01
	Total	2.90	3.15	-	0.01	0.01	-	0.01
Environmental Crew - Jan-Feb 2014								
	Gas Equipment (On-Site/On-Road)							
	Total	0.07	0.24	0.00	0.00	0.00	0.00	0.00
	Total	0.07	0.24	0.00	0.00	0.00	0.00	0.00
3.2 Fence Crew - Jan 2014								
	Mitigated Construction On-Site							
	Diesel (On-Site/Off-Road)	3.12	3.50	2.35	0.02	2.37	1.29	0.02
	Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00
	Total	3.19	3.74	2.35	0.02	2.37	1.29	0.02
3.2 Finish Saw & Sealing Crew - Aug 2014 - 2014								
	Mitigated Construction On-Site							
	Diesel (On-Site/Off-Road)	5.08	6.14		0.03	0.03		0.04
	Gas Equipment (On-Site/On-Road)	0.34	1.22	0.02	0.00	0.02	0.00	0.00
X	Finish Saw & Sealing Crew	5.41	7.36	0.02	0.04	0.05	0.00	0.04
3.2 Foundation Crew - Jul-Aug 2014 - 2014								
	Mitigated Construction On-Site							
	Diesel (On-Site/Off-Road)	29.65	36.25		0.19	0.19		0.22
	Gas Equipment (On-Site/On-Road)	0.13	0.49	0.01	0.00	0.01	0.00	0.00
X	Foundation Crew	29.79	36.74	0.01	0.19	0.19	0.00	0.22
3.2 Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014 - 2014								
	Mitigated Construction On-Site							
	Diesel (On-Site/Off-Road)	24.66	27.98		0.14	0.14		0.18
	Diesel (On-Site/Off-Road)	24.41	27.71		0.36	0.36		0.39
	Gas Equipment (On-Site/On-Road)	0.20	0.73	0.01	0.00	0.01	0.00	0.00
X	Fuel Line/UG Utilities Crew	49.28	56.43	0.01	0.50	0.51	0.00	0.57
3.2 Grading Crew pt.1 - Feb-Nov 2014								
	Mitigated Construction On-Site							
	Diesel (On-Site/Off-Road)	22.39	27.59	2.51	0.14	2.65	1.31	0.16
	Diesel (On-Site/Off-Road)	51.17	57.35	0.16	0.29	0.45	0.02	0.37
	Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00
X	Grading Crew	73.62	85.18	2.68	0.43	3.10	1.33	0.53
3.2 Interior Rough Crew - Nov-Dec 2014 - 2014								
	Mitigated Construction On-Site							
	Diesel (On-Site/Off-Road)	6.66	7.78		0.66	0.66		0.61
	Gas Equipment (On-Site/On-Road)	0.13	0.49	0.01	0.00	0.01	0.00	0.00
X	Interior Rough Crew	6.79	8.27	0.01	0.66	0.67	0.00	0.61

Max NOx, CO	Max PM	Q3 (Aug)	Q4 (Nov)	Max Daily Emissions - 2014 (pounds per day)								
				Source	NOx	CO	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
				LAWA/CM Staff - Jan-Dec 2014								
				Gas Equipment (On-Site/Off-Road)	0.67	2.45	0.04	0.00	0.04	0.01	0.00	0.01
X	X			LAWA/CM Staff	0.67	2.45	0.04	0.00	0.04	0.01	0.00	0.01
				3.2 Lighting-Night Shift - Jul-Dec 2014 - 2014								
				Mitigated Construction On-Site								
				Diesel (On-Site/Off-Road)	12.60	8.74		0.70	0.70		0.70	0.70
				Gas Equipment (On-Site/On-Road)	-	-	-	-	-	-	-	-
X	X			Lighting-Night Shift	12.60	8.74	-	0.70	0.70	-	0.70	0.70
				3.2 Miscellaneous Labor Crew - 2014								
				Mitigated Construction On-Site								
				Diesel (On-Site/Off-Road)	1.48	2.00	-	0.01	0.01	-	0.01	0.01
				Gas Equipment (On-Site/On-Road)	0.07	0.24	0.00	0.00	0.00	0.00	0.00	0.00
X	X			Miscellaneous Labor Crew	1.55	2.25	0.00	0.01	0.02	0.00	0.01	0.01
				3.2 PCCP Crew pt. 1 - Jul-Dec 2014								
				Mitigated Construction On-Site								
				Diesel (On-Site/Off-Road)	20.22	23.96		0.14	0.14		0.16	0.16
				Diesel (On-Site/Off-Road)	70.68	79.21		0.40	0.40		0.51	0.51
				Gas Equipment (On-Site/On-Road)	0.47	1.71	0.03	0.00	0.03	0.01	0.00	0.01
X	X			PCCP Crew	91.38	104.88	0.03	0.54	0.56	0.01	0.67	0.67
				Quality Control Team - Jan-Dec 2014								
				Gas Equipment (On-Site/On-Road)	0.34	1.22	0.02	0.00	0.02	0.00	0.00	0.01
X	X			Quality Control Team	0.34	1.22	0.02	0.00	0.02	0.00	0.00	0.01
				3.2 Saw Crew Jul-Aug 2014 - 2014								
				Mitigated Construction On-Site								
				Diesel (On-Site/Off-Road)	5.11	6.24		0.04	0.04		0.04	0.04
				Gas Equipment (On-Site/On-Road)	0.40	1.47	0.02	0.00	0.02	0.01	0.00	0.01
X				Saw Crew	5.52	7.70	0.02	0.04	0.06	0.01	0.04	0.05
				3.3 Saw Crew Nov-Dec 2014 - 2014								
				Mitigated Construction On-Site								
				Diesel (On-Site/Off-Road)	5.11	6.24		0.04	0.04		0.04	0.04
				Gas Equipment (On-Site/On-Road)	0.40	1.47	0.02	0.00	0.02	0.01	0.00	0.01
			X	Saw Crew	5.52	7.70	0.02	0.04	0.06	0.01	0.04	0.05
				3.2 Striping Crew - Aug-Sep 2014, bc - 2014								
				Mitigated Construction On-Site								
				Diesel (On-Site/Off-Road)	4.12	4.62		0.02	0.02		0.03	0.03
				Gas Equipment (On-Site/On-Road)	0.27	0.98	0.01	0.00	0.01	0.00	0.00	0.00
X				Striping Crew	4.39	5.59	0.01	0.02	0.04	0.00	0.03	0.03
				3.2 Structural Steel Crew - Sep-Oct 2014 - 2014								
				Mitigated Construction On-Site								
				Diesel (On-Site/Off-Road)	8.28	9.50		0.25	0.25		0.25	0.25
				Gas Equipment (On-Site/On-Road)	0.13	0.49	0.01	0.00	0.01	0.00	0.00	0.00
				Total	8.41	9.98	0.01	0.25	0.25	0.00	0.25	0.25
				Survey Crew - Jan-Dec 2014								
				Gas Equipment (On-Site/On-Road)	0.20	0.73	0.01	0.00	0.01	0.00	0.00	0.00
X	X			Survey Crew	0.20	0.73	0.01	0.00	0.01	0.00	0.00	0.00

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Source: CalEEMod (Version 2013.2). Max annual emissions occur in Year 1.

Source	Annual Emissions - 2014 (tons per year)							
	NOx	CO	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
3.2 ACP Paving Crew pt.1 - Jul-Dec 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.573	0.858		0.004	0.004		0.004	0.004
Diesel (On-Site/Off-Road)	3.950	4.450		0.023	0.023		0.029	0.029
Gas Equipment (On-Site/On-Road)	0.004	0.016	0.000	0.000	0.000	0.000	0.000	0.000
ACP Paving Crew	4.527	5.324	0.000	0.027	0.028	0.000	0.033	0.033
3.2 Administrative Support Crew - Jan-Dec 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.821	1.115	0.307	0.005	0.312	0.169	0.006	0.174
Gas Equipment (On-Site/On-Road)	0.080	0.290	0.004	0.000	0.004	0.001	0.000	0.001
Administration Support Crew	0.900	1.406	0.311	0.005	0.316	0.170	0.006	0.176
3.2 Backfill Crew - Apr-Dec 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.696	0.779	0.014	0.004	0.018	0.002	0.005	0.007
Gas Equipment (On-Site/On-Road)	0.007	0.024	0.000	0.000	0.000	0.000	0.000	0.000
Backfill Crew	0.702	0.804	0.014	0.004	0.018	0.002	0.005	0.007
3.2 Batch Plant Crew - Jul-Dec 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.948	1.063	0.310	0.005	0.315	0.170	0.007	0.177
Batch Plant Trucks	2.283	1.693	0.155	0.001	0.156	0.017	0.001	0.018
Gas Equipment (On-Site/On-Road)	0.004	0.016	0.000	0.000	0.000	0.000	0.000	0.000
Batch Plant Crew	3.236	2.772	0.465	0.007	0.471	0.188	0.008	0.196
3.2 Building Systems Crew - Nov-Dec 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.065	0.085		0.005	0.005		0.005	0.005
Diesel (On-Site/Off-Road)	0.150	0.196		0.013	0.013		0.012	0.012
Gas Equipment (On-Site/On-Road)	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.000
Gas Equipment (On-Site/On-Road)	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.000
Building Systems Crew	0.216	0.287	0.000	0.018	0.018	0.000	0.017	0.017
3.2 Clean and Grub Crew - Jan 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.291	0.326	0.122	0.002	0.124	0.061	0.002	0.063
Gas Equipment (On-Site/On-Road)	0.001	0.005	0.000	0.000	0.000	0.000	0.000	0.000
Clean and Grub Crew	0.293	0.332	0.122	0.002	0.124	0.061	0.002	0.063
3.2 Crusher Crew - Feb 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.287	0.322	-	0.002	0.002	-	0.002	0.002
Gas Equipment (On-Site/On-Road)	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.000
Crusher Crew	0.288	0.324	0.000	0.002	0.002	0.000	0.002	0.002
3.2 Demolition Crew pt. 1- Jan 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.287	0.340		0.002	0.002		0.002	0.002
Diesel (On-Site/Off-Road)	0.500	0.560		0.003	0.003		0.004	0.004
Gas Equipment (On-Site/On-Road)	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.000
Demolition Crew	0.788	0.903	0.000	0.005	0.005	0.000	0.006	0.006

Source	Annual Emissions - 2014 (tons per year)							
	NOx	CO	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
3.2 Drainage Crew pt.1 - Jul-Aug 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.238	0.290		0.001	0.001		0.002	0.002
Diesel (On-Site/Off-Road)	0.195	0.219		0.001	0.001		0.001	0.001
Gas Equipment (On-Site/On-Road)	0.001	0.005	0.000	0.000	0.000	0.000	0.000	0.000
Drainage Crew	0.434	0.514	0.000	0.003	0.003	0.000	0.003	0.003
3.2 Electrical Crew Jun-Dec 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.225	0.304		0.002	0.002		0.002	0.002
Gas Equipment (On-Site/On-Road)	0.010	0.038	0.001	0.000	0.001	0.000	0.000	0.000
Electrical Crew	0.235	0.341	0.001	0.002	0.003	0.000	0.002	0.002
3.2 Excavation Crew - Feb-Jun 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	2.900	3.250	0.266	0.017	0.283	0.139	0.021	0.160
Gas Equipment (On-Site/On-Road)	0.004	0.013	0.000	0.000	0.000	0.000	0.000	0.000
Excavation Crew	2.903	3.263	0.267	0.017	0.283	0.139	0.021	0.160
Export Truck Trips (Mass Grading) - Feb-May 2014								
Mitigated On-Site (Idling)	0.117	0.127	-	0.000	0.000	-	0.000	0.000
Export Truck Trips	0.117	0.127	-	0.000	0.000	-	0.000	0.000
Environmental Crew - Jan-Feb 2014								
Gas Equipment (On-Site/On-Road)	0.001	0.005	0.000	0.000	0.000	0.000	0.000	0.000
Environmental Crew	0.001	0.005	0.000	0.000	0.000	0.000	0.000	0.000
3.2 Fence Crew - Jan 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.036	0.040	0.027	0.000	0.027	0.015	0.000	0.015
Gas Equipment (On-Site/On-Road)	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.000
Fence Crew	0.037	0.043	0.027	0.000	0.027	0.015	0.000	0.015
3.2 Finish Saw & Sealing Crew - Aug 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.053	0.065		0.000	0.000		0.000	0.000
Gas Equipment (On-Site/On-Road)	0.004	0.013	0.000	0.000	0.000	0.000	0.000	0.000
Finish Saw & Sealing Crew	0.057	0.078	0.000	0.000	0.001	0.000	0.000	0.000
3.2 Foundation Crew - Jul-Aug 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.652	0.797		0.004	0.004		0.005	0.005
Gas Equipment (On-Site/On-Road)	0.003	0.011	0.000	0.000	0.000	0.000	0.000	0.000
Foundation Crew	0.655	0.808	0.000	0.004	0.004	0.000	0.005	0.005
3.2 Fuel Line/UG Utilities Pt. 1 - Jun-Dec 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	1.886	2.140		0.011	0.011		0.014	0.014
Diesel (On-Site/Off-Road)	1.867	2.120		0.027	0.027		0.030	0.030
Gas Equipment (On-Site/On-Road)	0.016	0.056	0.001	0.000	0.001	0.000	0.000	0.000
Fuel Line/UG Utilities	3.769	4.316	0.001	0.038	0.039	0.000	0.043	0.044
3.2 Grading Crew pt.1 - Feb-Nov 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	2.406	2.965	0.270	0.015	0.284	0.141	0.017	0.158
Diesel (On-Site/Off-Road)	5.499	6.163	0.017	0.031	0.049	0.002	0.040	0.042
Gas Equipment (On-Site/On-Road)	0.007	0.027	0.000	0.000	0.000	0.000	0.000	0.000
Grading Crew	7.913	9.155	0.288	0.046	0.334	0.143	0.057	0.200

Source	Annual Emissions - 2014 (tons per year)							
	NOx	CO	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
3.2 Interior Rough Crew - Nov-Dec 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.143	0.167		0.014	0.014		0.013	0.013
Gas Equipment (On-Site/On-Road)	0.003	0.011	0.000	0.000	0.000	0.000	0.000	0.000
Interior Rough Crew	0.146	0.178	0.000	0.014	0.014	0.000	0.013	0.013
LAWA/CM Staff - Jan-Dec 2014								
Gas Equipment (On-Site/Off-Road)	0.089	0.323	0.005	0.000	0.005	0.001	0.000	0.001
LAWA/CM Staff	0.089	0.323	0.005	0.000	0.005	0.001	0.000	0.001
3.2 Lighting-Night Shift - Jul-Dec 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.832	0.577		0.046	0.046		0.046	0.046
Gas Equipment (On-Site/On-Road)	-	-	-	-	-	-	-	-
Lighting-Night Shift	0.832	0.577	-	0.046	0.046	-	0.046	0.046
3.2 Miscellaneous Labor Crew - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.193	0.261	-	0.002	0.002	-	0.002	0.002
Gas Equipment (On-Site/On-Road)	0.009	0.032	0.000	0.000	0.000	0.000	0.000	0.000
Miscellaneous Labor Crew	0.202	0.293	0.000	0.002	0.002	0.000	0.002	0.002
3.2 PCCP Crew pt.1 - Jul-Dec 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	1.334	1.581		0.009	0.009		0.010	0.010
Diesel (On-Site/Off-Road)	4.664	5.227		0.027	0.027		0.034	0.034
Gas Equipment (On-Site/On-Road)	0.031	0.113	0.002	0.000	0.002	0.000	0.000	0.000
PCCP Crew	6.029	6.920	0.002	0.035	0.037	0.000	0.044	0.044
Quality Control Team - Jan-Dec 2014								
Gas Equipment (On-Site/On-Road)	0.044	0.161	0.002	0.000	0.002	0.001	0.000	0.001
Quality Control Team	0.044	0.161	0.002	0.000	0.002	0.001	0.000	0.001
3.2 Saw Crew Jul-Aug 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.113	0.137		0.001	0.001		0.001	0.001
Diesel (On-Site/Off-Road)	0.110	0.134		0.001	0.001		0.001	0.001
Gas Equipment (On-Site/On-Road)	0.009	0.032	0.000	0.000	0.000	0.000	0.000	0.000
Gas Equipment (On-Site/On-Road)	0.009	0.032	0.000	0.000	0.000	0.000	0.000	0.000
Saw Crew	0.240	0.336	0.001	0.002	0.003	0.000	0.002	0.002
3.2 Striping Crew - Aug-Sep 2014, bc - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.091	0.102		0.001	0.001		0.001	0.001
Gas Equipment (On-Site/On-Road)	0.006	0.022	0.000	0.000	0.000	0.000	0.000	0.000
Striping Crew	0.097	0.123	0.000	0.001	0.001	0.000	0.001	0.001
3.2 Structural Steel Crew - Sep-Oct 2014 - 2014								
Mitigated Construction On-Site								
Diesel (On-Site/Off-Road)	0.186	0.214		0.006	0.006		0.006	0.006
Gas Equipment (On-Site/On-Road)	0.003	0.011	0.000	0.000	0.000	0.000	0.000	0.000
Structural Steel Crew	0.189	0.224	0.000	0.006	0.006	0.000	0.006	0.006
Survey Crew - Jan-Dec 2014								
Gas Equipment (On-Site/On-Road)	0.027	0.097	0.001	0.000	0.001	0.000	0.000	0.000
Survey Crew	0.027	0.097	0.001	0.000	0.001	0.000	0.000	0.000

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Table LST-1
Summary of Maximum On-Site Construction Emissions (Max Day and Max Year)

On-Site Construction Emissions Source	NO _x	CO	PM10	PM10	PM2.5	PM2.5
	(lbs/day)	(lbs/day)	Dust (lbs/day)	Exh ¹ (lbs/day)	Dust (lbs/day)	Exh (lbs/day)
Maximum Daily Construction	Qtr. 3 (Aug)		Qtr. 4 (Nov)			
ACP Paving Crew	68.61	80.69	0.00	0.53	0.00	0.50
Administrative Support Crew	6.89	10.75	2.38	0.05	1.30	0.05
Backfill Crew	7.13	8.16	0.15	0.05	0.02	0.05
Batch Plant Crew	49.03	42.00	7.04	0.13	2.85	0.12
Building Systems Crew	-	-	0.00	0.53	0.00	0.51
Drainage Crew	19.75	23.37	-	-	-	-
Electrical Crew	3.07	4.45	0.01	0.03	0.00	0.03
Finish Saw & Sealing Crew	5.41	7.36	-	-	-	-
Foundation Crew	29.79	36.74	-	-	-	-
Fuel Line/UG Utilities Crew	49.28	56.43	0.01	0.59	0.00	0.57
Grading Crew	73.62	85.18	2.68	0.56	1.33	0.53
Interior Rough Crew	-	-	0.01	0.64	0.00	0.61
LAWA/CM Staff	0.67	2.45	0.04	0.00	0.01	0.00
Lighting-Night Shift	12.60	8.74	-	0.73	-	0.70
Miscellaneous Labor Crew	1.55	2.25	0.00	0.01	0.00	0.01
PCCP Crew	91.38	104.88	0.03	0.70	0.01	0.67
Quality Control Team	0.34	1.22	0.02	0.00	0.00	0.00
Saw Crew	5.52	7.70	0.02	0.04	0.01	0.04
Striping Crew	4.39	5.59	-	-	-	-
Survey Crew	0.20	0.73	0.01	0.00	0.00	0.00

On-Site Construction Emissions Source	NO _x	PM10	PM10	PM2.5	PM2.5
	(tons/year)	Dust (tons/year)	Exh ¹ (tons/year)	Dust (tons/year)	Exh (tons/year)
Maximum Annual Emissions	Sum of Year 1 (i.e., Year 2014)				
ACP Paving Crew	4.53E+00	2.41E-04	3.48E-02	6.38E-05	3.33E-02
Administration Support Crew	9.00E-01	3.11E-01	6.30E-03	1.70E-01	6.03E-03
Backfill Crew	7.02E-01	1.45E-02	5.28E-03	1.62E-03	5.05E-03
Batch Plant Crew	3.24E+00	4.65E-01	8.34E-03	1.88E-01	7.98E-03
Building Systems Crew	2.16E-01	8.02E-05	1.74E-02	2.13E-05	1.67E-02
Clean and Grub Crew	2.93E-01	1.22E-01	2.21E-03	6.09E-02	2.11E-03
Crusher Crew	2.88E-01	4.01E-05	2.17E-03	1.06E-05	2.08E-03
Demolition Crew	7.88E-01	4.01E-05	5.96E-03	1.06E-05	5.70E-03
Drainage Crew	4.34E-01	8.02E-05	3.27E-03	2.13E-05	3.13E-03
Electrical Crew	2.35E-01	5.62E-04	2.07E-03	1.49E-04	1.98E-03
Excavation Crew	2.90E+00	2.67E-01	2.20E-02	1.39E-01	2.10E-02
Export Truck Trips	1.17E-01	0.00E+00	3.16E-04	0.00E+00	3.03E-04
Environmental Crew	1.48E-03	8.02E-05	1.69E-06	2.13E-05	1.62E-06
Fence Crew	3.66E-02	2.70E-02	2.73E-04	1.49E-02	2.61E-04
Finish Saw & Sealing Crew	5.70E-02	2.01E-04	4.43E-04	5.32E-05	4.24E-04
Foundation Crew	6.55E-01	1.60E-04	5.04E-03	4.25E-05	4.82E-03
Fuel Line/UG Utilities	3.77E+00	8.42E-04	4.54E-02	2.23E-04	4.34E-02
Grading Crew	7.91E+00	2.88E-01	5.98E-02	1.43E-01	5.72E-02
Interior Rough Crew	1.46E-01	1.60E-04	1.37E-02	4.25E-05	1.31E-02
LAWA/CM Staff	8.89E-02	4.81E-03	1.01E-04	1.28E-03	9.71E-05
Lighting-Night Shift	8.32E-01	0.00E+00	4.83E-02	0.00E+00	4.62E-02
Miscellaneous Labor Crew	2.02E-01	4.81E-04	1.78E-03	1.28E-04	1.70E-03
PCCP Crew	6.03E+00	1.68E-03	4.60E-02	4.47E-04	4.40E-02
Quality Control Team	4.44E-02	2.41E-03	5.07E-05	6.38E-04	4.85E-05
Saw Crew	2.40E-01	9.63E-04	1.86E-03	2.55E-04	1.78E-03
Striping Crew	9.65E-02	3.21E-04	6.97E-04	8.51E-05	6.66E-04
Structural Steel Crew	1.89E-01	1.60E-04	5.94E-03	4.25E-05	5.68E-03
Survey Crew	2.67E-02	1.44E-03	3.04E-05	3.83E-04	2.91E-05

1. Due an apparent calculation error in the CalEEMod (Version 2013.2) software, the "mitigated" PM10 off-road diesel exhaust emissions are erroneously shown to be less than the "mitigated" PM2.5 off-road diesel exhaust emissions for Year 2014. For dispersion modeling purposes, the "mitigated" PM10 off-road exhaust emissions were adjusted according to the following equation: $PM10 = PM2.5 / 0.957$ in accordance with the California Air Resources Board's, "California Emission Inventory and Reporting System (CEIDARS) - Particulate Matter (PM) Speciation Profiles." Profile ID 6099 (off-road diesel vehicle exhaust) denotes that the normalized fraction of PM10 that is PM2.5 is approximately 0.957. (<http://www.arb.ca.gov/ei/speciate/dnldoptv10001.php>)

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Table LST-2
 AERMOD Source Characteristics for Construction

Emission Source	Source Type	Release Height (m)	Vertical Dimension (m)	Length of Side X (m)	Length of Side Y (m)	Initial Vertical (m)	Initial Lateral (m)	Initial Vertical (m)	Exit Temperature (F)	Inside Diameter (ft)	Exit Flow Rate (ft ³ /s)
### Construction Off-Road Construction Fugitive Dust	Volume Area (Poly)	5.00 0.00	5.00 n/a	100.00 201.17	100.00 201.17	1.16 n/a	23.26 n/a	n/a 1.00	n/a n/a	n/a n/a	n/a n/a

Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008).

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Table LST-3
 Calculated AERMOD Source Emission Rates for Construction - Max Daily Emissions Scenario

Emissions Source (Grouped by modeling location)	Source ID Grouping	Source Type	Number of Sources	Averaging Period (hours/day)	Modeled Emission Rates												
					NO _x		CO		PM10 (Dust)		PM10 (Exh)		PM2.5 (Dust)		PM2.5 (Exh)		
					(lbs/day)	(g/s)	(lbs/day)	(g/s)	(lbs/day)	(g/s)	(lbs/day)	(g/s)	(lbs/day)	(g/s)	(lbs/day)	(g/s)	
Maximum Daily Construction																	
ACP Paving Crew Administrative Support Crew Backfill Crew Batch Plant Crew Building Systems Crew Electrical Crew Fuel Line/UG Utilities Crew Grading Crew Interior Rough Crew LAWA/CM Staff Miscellaneous Labor Crew PCCP Crew Quality Control Team Saw Crew Survey Crew	PAREA1 (Dust) (Sitewide)	Area (Poly)	1	8	0	0	0	0	12.40	1.95E-01	0	0	5.53	8.71E-02	0	0	
Building Systems Crew Electrical Crew Finish Saw & Sealing Crew Foundation Crew Interior Rough Crew Lighting-Night Shift Saw Crew	SITE01-03, 06-08 (Hangar Area)	Volume	6	8	56.38	1.48E-01	64.99	1.71E-01	0	0	1.97	5.17E-03	0	0	1.88	4.94E-03	
ACP Paving Crew PCCP Crew Striping Crew	SITE06-26 (Paving Area)	Volume	21	8	164.37	1.23E-01	191.17	1.43E-01	0	0	1.22	9.18E-04	0	0	1.17	8.78E-04	
Administrative Support Crew Backfill Crew Batch Plant Crew Drainage Crew Fuel Line/UG Utilities Crew Grading Crew LAWA/CM Staff Miscellaneous Labor Crew Quality Control Team Survey Crew	SITE01-26 (Sitewide Exhaust)	Volume	26	8	208.47	1.26E-01	232.54	1.41E-01	0	0	1.39	8.44E-04	0	0	1.33	8.07E-04	
Emission Rates by Individual Volume Source ID (based on Source ID Grouping above)	SITE01				2.74E-01		3.11E-01				6.01E-03				5.75E-03		
	SITE02				2.74E-01		3.11E-01				6.01E-03				5.75E-03		
	SITE03				2.74E-01		3.11E-01				6.01E-03				5.75E-03		
	SITE04				1.26E-01		1.41E-01				8.44E-04				8.07E-04		
	SITE05				1.26E-01		1.41E-01				8.44E-04				8.07E-04		
	SITE06				3.98E-01		4.55E-01				6.93E-03				6.63E-03		
	SITE07				3.98E-01		4.55E-01				6.93E-03				6.63E-03		
	SITE08				3.98E-01		4.55E-01				6.93E-03				6.63E-03		
	SITE09				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE10				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE11				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE12				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE13				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE14				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE15				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE16				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE17				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE18				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE19				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE20				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE21				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE22				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE23				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE24				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE25				2.50E-01		2.84E-01				1.76E-03				1.69E-03		
	SITE26				2.50E-01		2.84E-01				1.76E-03				1.69E-03		

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Table LST-5
 NO₂ 98th Percentile 1-Hour Average
 Design value for the Los Angeles-Westchester Monitoring Station, 2010-2012
 (average of the 98th percentile value in a 3-year period)

Stn #	Monitor Location	98th percentile, ppb		
		Design Value	2010	2011
820	Los Angeles-Westchester Parkway	60.233	60.9	64.8
				55.0

Source:
 California Air Resources Board, State and Local Air Quality Monitoring Plan, iAdam, Air Quality Data Statistics, <http://www.arb.ca.gov/adam/netrpt>,
 2013.

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Table LST-6
 Maximum Modeled Impacts at Sensitive Receptors for Construction - Max Daily Emissions

Model Scenario	Receptor Area/Community	Receptor Type	Maximum Modeled Impacts							
			NO ₂ 1-Hr µg/m ³	NO ₂ ppm	1-Hr µg/m ³	CO ppm	8-Hr µg/m ³	CO ppm	PM10 24-Hr µg/m ³	PM2.5 24-Hr µg/m ³
Construction LST Impacts	El Segundo (South of proposed Project Site) Receptor UTM Coordinate Easting Receptor UTM Coordinate Northing	Residential	40.12	0.021 368,100 3,755,400	60.16	0.053 368,100 3,755,400	10.27	0.0090 368,100 3,755,400	0.42	0.20 368,100 3,755,400
Construction LST Impacts	Playa del Rey/Westchester (North of proposed Project Site) Receptor UTM Coordinate Easting Receptor UTM Coordinate Northing	Residential	11.34	0.0060 368,050 3,758,050	19.35	0.017 367,929.02 3,758,093.41	3.45	0.0030 367,840 3,758,129.61	0.30	0.14 366,850 3,757,850
Construction LST Impacts	St. Bernard High School (North of proposed Project Site) Receptor UTM Coordinate Easting Receptor UTM Coordinate Northing	School	13.40	0.0071 367,667.32 3,757,861.61	21.43	0.019 367,667.32 3,757,861.61	4.18	0.0037 367,700 3,757,900	0.31	0.14 367,550 3,757,900
	Proposed Project Maximum Background ¹		40.12	0.0213	60.16	0.05	10.27	0.01	0.42	0.20
	Project + Background Threshold (CAAQs/NAAQs/LST) Over (Under)		113.24 153.36 188.00 (34.64)	0.0602 0.0816 0.1000 (0.0184)	3,433 3,493 23,000 (19,507)	3.00 3.05 20 (16.95)	2,506 2,516 10,000 (7,484)	2.19 2.20 9.0 (6.80)	n/a 0.42 10.4 (9.98)	n/a 0.20 10.4 (10.20)
	CAAQs NO ₂ Maximum Background		339.00 183.49 (115.39)	0.1800 0.0976 (0.0611)	NO	NO	NO	NO	NO	NO
	Exceed Threshold?		NO	NO	NO	NO	NO	NO	NO	NO

Source: Lakes-Environmental, AERMOD View, Version 8.2.0.

Note:

1. The background concentration for NO₂ is based on the highest 3-year average of the 98th-percentile of the annual distribution of daily maximum 1-hour concentrations for the past three years of data (2010 through 2012). The peak background concentrations for CO are based on the maximum 1-hour and 8-hour concentrations between 2010 and 2012.

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Table LST-7
 Maximum Modeled Impacts at Sensitive Receptors for Construction - Max Annual Emissions

Model Scenario	Receptor Area/Community	Receptor Type	Maximum Modeled Impacts		
			Annual $\mu\text{g}/\text{m}^3$	NO_2 ppm	PM10 Annual $\mu\text{g}/\text{m}^3$
Construction LST Impacts	El Segundo (South of proposed Project Site) <i>Receptor UTM Coordinate Easting</i> <i>Receptor UTM Coordinate Northing</i>	Residential	0.21	0.00011 368,100 3,755,400	0.0059 368,100 3,755,400
Construction LST Impacts	Playa del Rey/Westchester (North of proposed Project Site) <i>Receptor UTM Coordinate Easting</i> <i>Receptor UTM Coordinate Northing</i>	Residential	0.10	0.000053 369,306.30 3,757,977.55	0.0052 369,306.30 3,757,977.55
Construction LST Impacts	St. Bernard High School (North of proposed Project Site) <i>Receptor UTM Coordinate Easting</i> <i>Receptor UTM Coordinate Northing</i>	School	0.06	0.000032 367,667.32 3,757,861.61	0.0020 367,667.32 3,757,861.61
	Proposed Project Maximum Background Project + Background Threshold (CAAQS/NAAQSLST) ¹ Over (Under)		0.21 24.44 24.65 57.00 (32.35)	0.00011 0.013 0.013 0.030 (0.017)	0.0059 n/a 0.0059 1.0 (0.99)
	Exceed Threshold?		NO	NO	NO

Source: Lakes-Environmental, AERMOD View, Version 8.2.0.

Notes:

- The SCAQMD Final Localized Significance Threshold Methodology (2008) does not provide a concentration-based localized annual threshold for construction emissions of PM10 pursuant to Rule 403. Therefore, the annual concentration threshold from Rule 1303, Table A-2, which is applicable to operational emissions, is used. This is a conservative (i.e., health protective) approach because operational thresholds are typically lower than construction thresholds, as is the case with the 24-hour PM10 concentration-based thresholds (e.g., 10.4 $\mu\text{g}/\text{m}^3$ for construction vs. 2.5 $\mu\text{g}/\text{m}^3$ for operations).

Appendix B.2

Construction - LST Dispersion Modeling

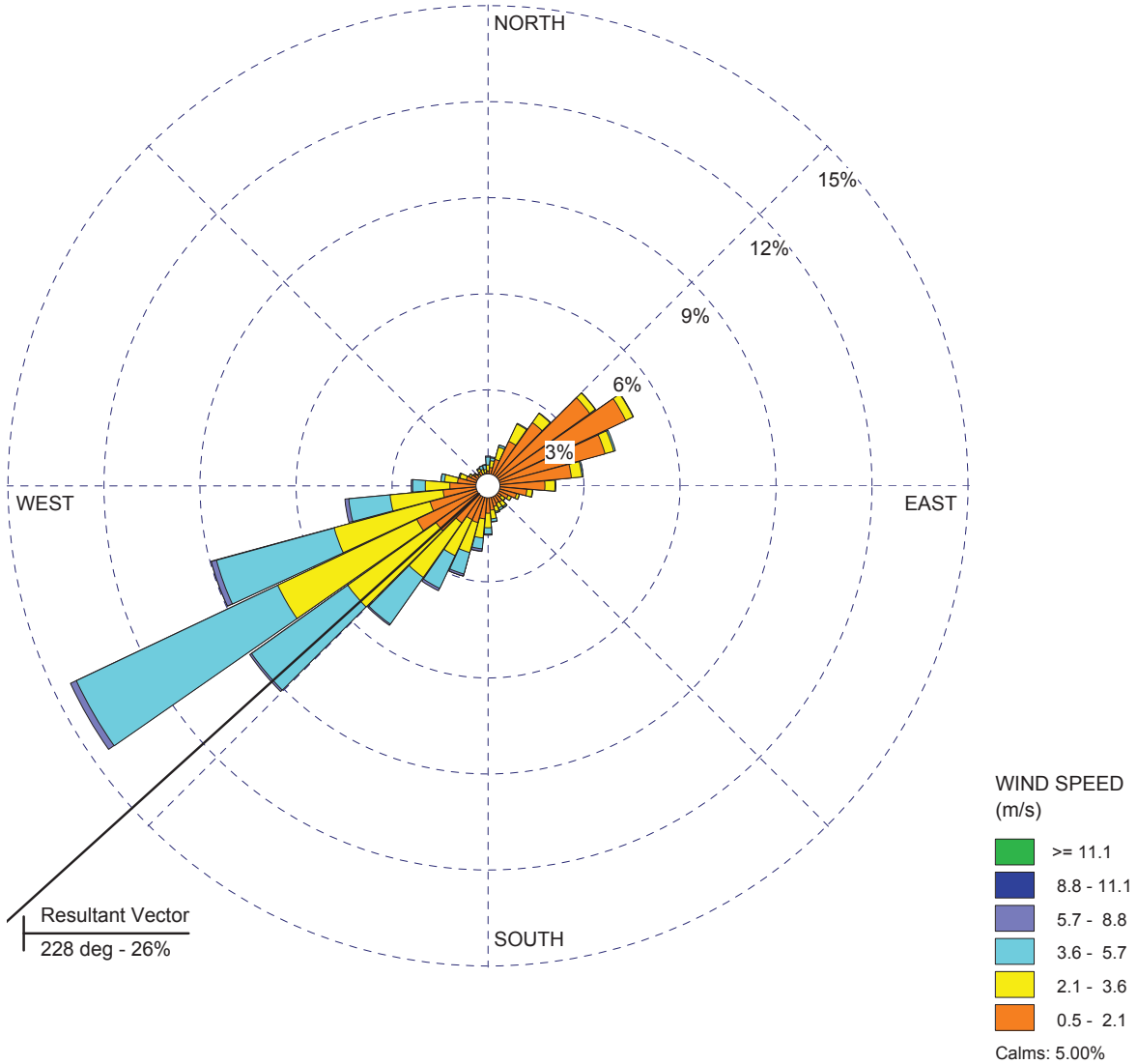
- LST Wind Rose Diagrams for Los Angeles International Airport (Daily Average, Daytime Average, and Nighttime Average)

WIND ROSE PLOT:

STATION #23174 - LOS ANGELES/INT'L ARPT, CA
Average: 1/1/2005 to 12/31/2009 - 00:00 hr to 24:00 hr

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

All Hours

DATA PERIOD:

Start Date: 1/1/2005 - 00:00
End Date: 12/31/2009 - 23:00

CALM WINDS:

5.00%

AVG. WIND SPEED:

2.22 m/s

TOTAL COUNT:

43435 hrs.

DATE:

4/24/2013

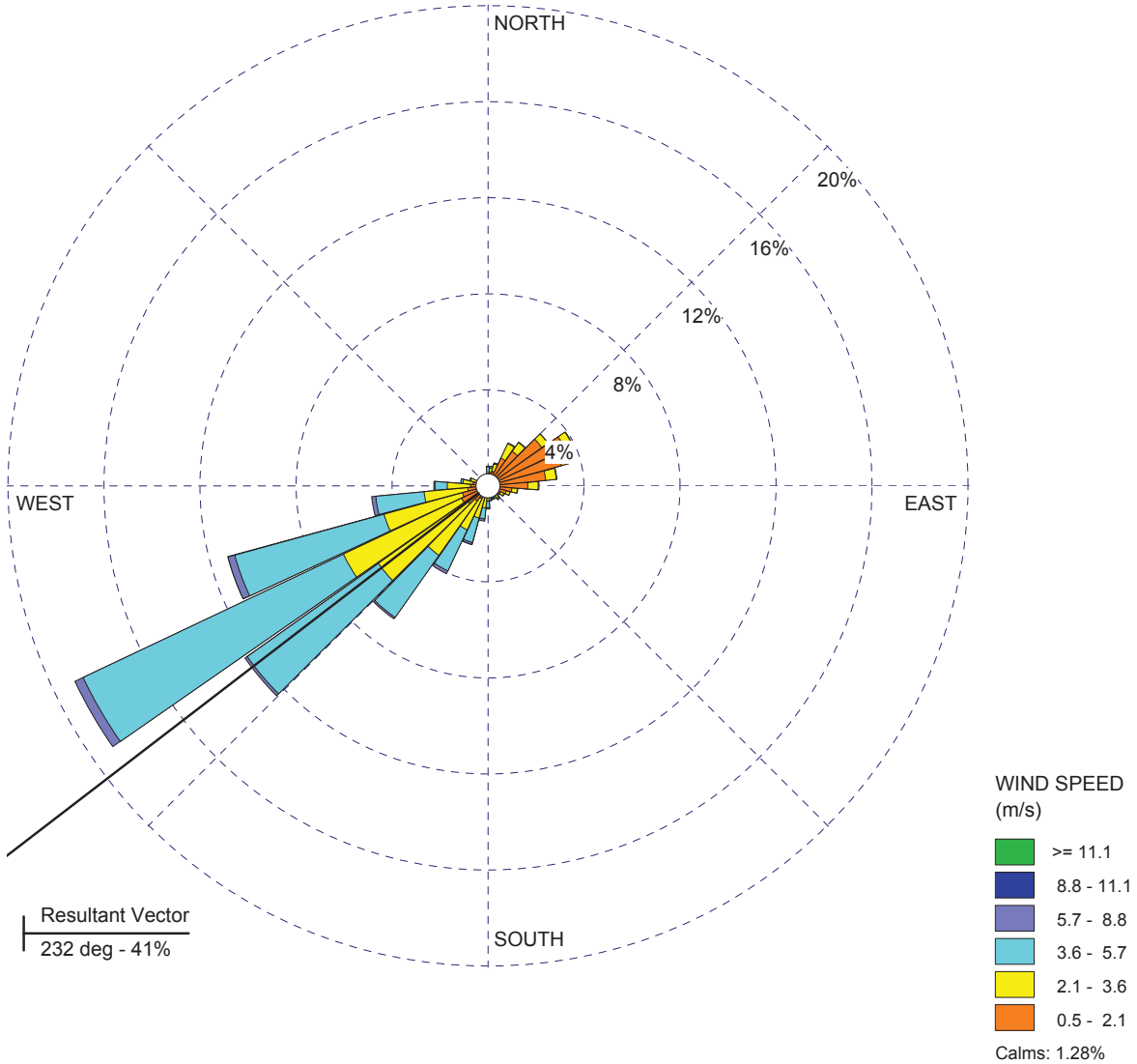
PROJECT NO.:

WIND ROSE PLOT:

STATION #23174 - LOS ANGELES/INT'L ARPT, CA
Daytime Average: 1/1/2005 to 12/31/2009 - 06:00 hr to 18:00 hr

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

Daytime Hours: 6am to 6pm

DATA PERIOD:

Start Date: 1/1/2005 - 06:00
End Date: 12/31/2009 - 17:00

CALM WINDS:

1.28%

AVG. WIND SPEED:

2.81 m/s

TOTAL COUNT:

21719 hrs.

DATE:

4/24/2013

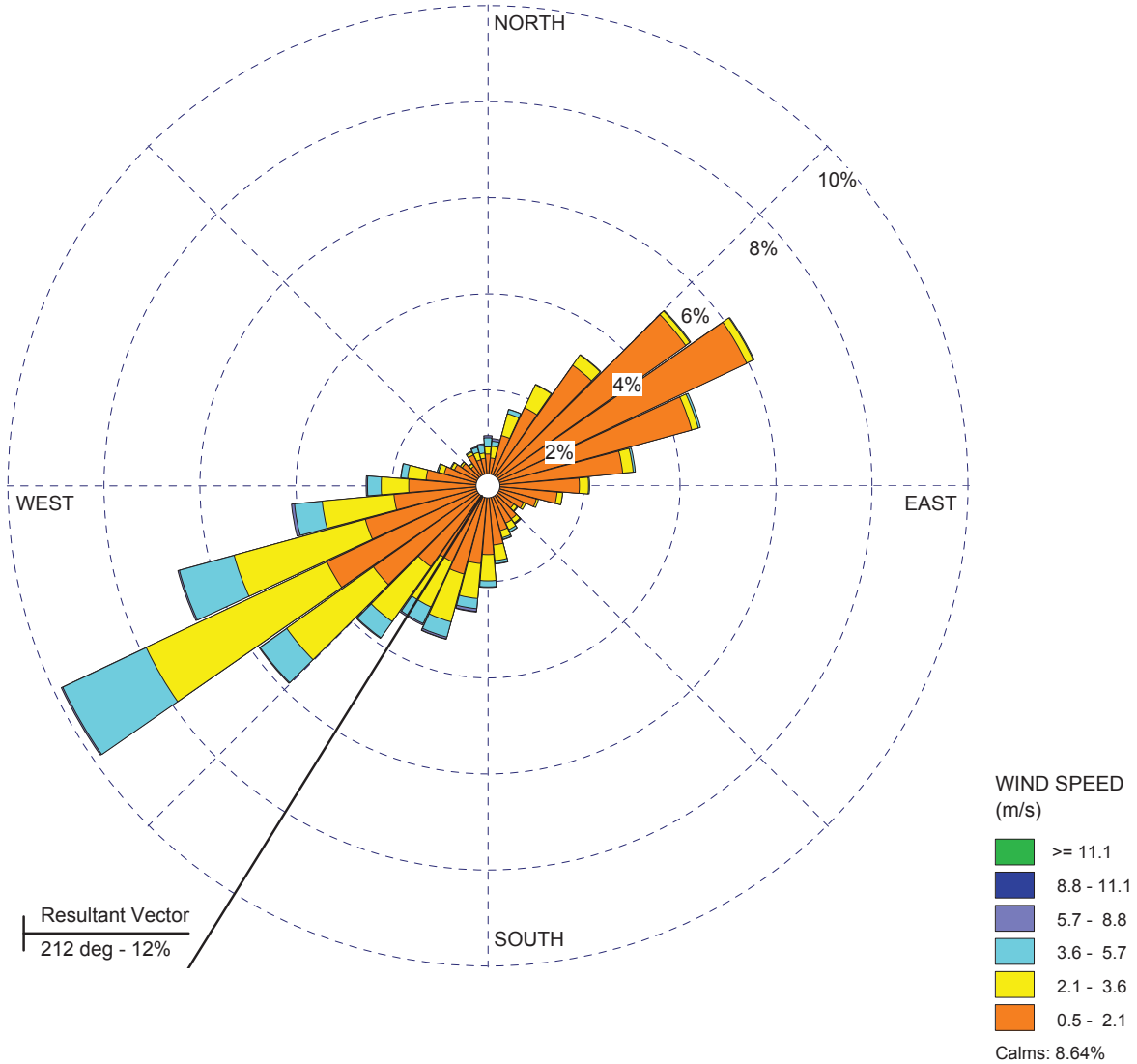
PROJECT NO.:

WIND ROSE PLOT:

STATION #23174 - LOS ANGELES/INT'L ARPT, CA
Nighttime Average: 1/1/2005 to 12/31/2009 - 18:00 hr to 06:00 hr

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

Nighttime Hours: 6pm to 6am

DATA PERIOD:

Start Date: 1/1/2005 - 00:00
End Date: 12/31/2009 - 23:00

CALM WINDS:

8.64%

AVG. WIND SPEED:

1.63 m/s

TOTAL COUNT:

21716 hrs.

DATE:

4/24/2013

PROJECT NO.:

Appendix B.2

Construction - LST Dispersion Modeling

- Maximum Impacted Sensitive Receptors (Nitrogen Dioxide [NO₂] and Carbon Monoxide [CO])
- Maximum Impacted Sensitive Receptors (Particulate Matter [PM₁₀ and PM_{2.5}])



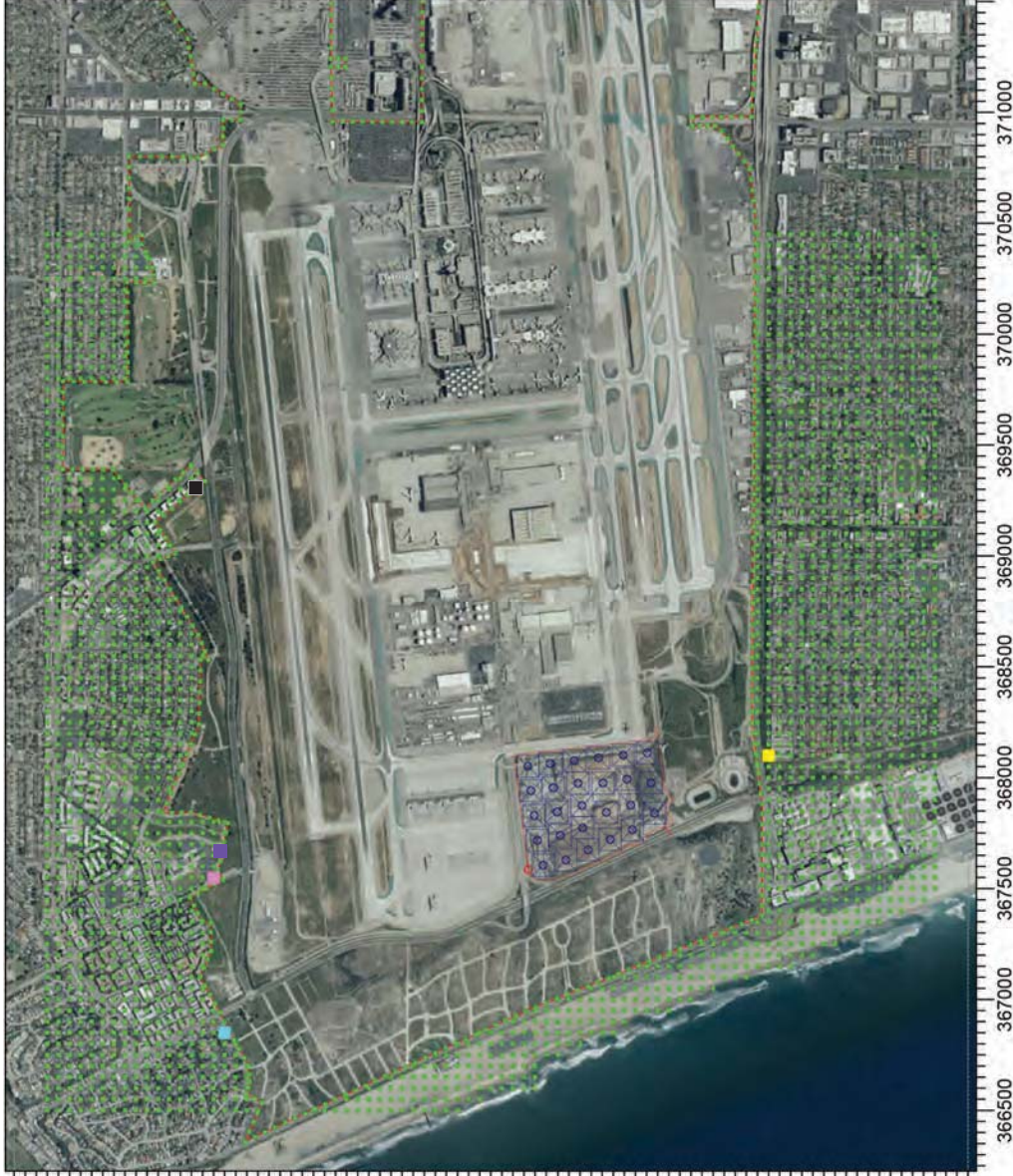
Source: PCR Services Corporation, 2013.
 Prepared by: PCR Services Corporation, 2013.

Legend

- Proposed Project Boundary
- Modeled Receptor Points
- CO (1-hour) and NO₂ (1-hour and annual) Maximum Impact (EI Segundo Residential Receptor)
- CO (8-hour) Maximum Impact (EI Segundo Residential Receptor)
- CO (8-hour) Maximum Impact (EI Segundo Residential Receptor)
- CO (1-hour) Maximum Impact (Playa del Rey/Westchester Residential Receptor)
- CO (8-hour) Maximum Impact (Playa del Rey/Westchester Residential Receptor)
- CO (1-hour) Maximum Impact (Playa del Rey/Westchester Residential Receptor)
- CO (1-hour) and NO₂ (1-hour and annual) Maximum Impact (St. Bernard High School Receptor)
- CO (8-hour) Maximum Impact (St. Bernard High School Receptor)
- NO₂ (1-hour) Maximum Impact (Playa del Rey/Westchester Residential Receptor)
- CO (1-hour) and NO₂ (1-hour and annual) Maximum Impact (St. Bernard High School Receptor)
- NO₂ (annual) Maximum Impact (Playa del Rey/Westchester Residential Receptor)
- CO (8-hour) Maximum Impact (St. Bernard High School Receptor)

**West Aircraft Maintenance Area Project
 Draft EIR**

**Construction Localized Significance Threshold Analysis -
 Maximum Impacted Sensitive Receptors (CO and NO₂)**



Source: PCR Services Corporation, 2013.
 Prepared by: PCR Services Corporation, 2013.

Legend

- Proposed Project Boundary
- Modeled Receptor Points
- PM10/PM2.5 (24-hour) Maximum Impact (St. Bernard High School Receptor)
- PM10/PM2.5 (24-hour) Maximum Impact (EI Segundo Residential Receptor)
- PM10/PM2.5 (24-hour) Maximum Impact (Playa del Rey/Westchester Residential Receptor)
- PM10/PM2.5 (annual) Maximum Impact (St. Bernard High School Receptor)
- PM10 (annual) Maximum Impact (Playa del Rey/Westchester Residential Receptor)

**West Aircraft Maintenance Area Project
 Draft EIR**

**Construction Localized Significance Threshold Analysis -
 Maximum Impacted Sensitive Receptors (PM10 and PM2.5)**

Appendix B.3

Construction - Human Health Risk Assessment (HHRA)

Prepared by:



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Irvine, California 92617

West Aircraft Maintenance Area Project Human Health Risk Assessment

Los Angeles International Airport

Prepared for:

Los Angeles World Airports
One World Way
Los Angeles, California 90045

Project No. 77870.TSK8.WMAINT

August 30, 2013

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Attachments

Attachment 1 Cancer Risk and Chronic Non-Cancer Health Hazard Calculations (RAGS Part F)
Attachment 2 Acute Health Hazard Calculations
Attachment 3 Cancer Risk and Chronic Non-Cancer Health Hazard Calculations for Adjusted Construction Emissions (RAGS Part F)

Section 1

Introduction

The human health risk assessment (HHRA) presented in this memorandum estimates cancer, chronic non-cancer, and acute health risks associated with exposure to toxic air contaminants that would be emitted from on-airport construction activities associated with the West Aircraft Maintenance Area (WAMA) project construction.

1.1 Purpose

The objective of the West Airfield Maintenance Area (WAMA) Project HHRA is to assess incremental changes to health impacts for people exposed to toxic air contaminants (TAC) resulting from construction associated with the proposed Project. The results of the HHRA identify whether the proposed Project would increase health risks for people living, working, recreating, or attending school near LAX.

The proposed Project will optimize existing operations by providing facilities and areas for existing aircraft maintenance and aircraft parking to help replace existing apron and maintenance areas that were or will be eliminated in conjunction with implementation of certain Master Plan improvements. The Project does not increase passenger or gate capacity to LAX and would not increase flights and/or operations at LAX.

Construction of the proposed Project is projected to take approximately 5 years. Construction of the project would result in temporary emissions of various air pollutants from construction equipment, worker's commute, truck haul delivery trips, surface paving, taxiway striping, and demolition/material crushing and grading activities (i.e., fugitive dust).

Emissions evaluated in the HHRA only include construction sources (e.g., construction equipment, batch plant, rock crusher, and fugitive dust). Therefore, only human health risks associated with construction activities associated with the proposed Project are evaluated in this HHRA. These emissions form the basis for estimating impacts from TAC, and baseline concentrations for the proposed Project are assumed to be zero. That is, in the absence of WAMA construction, no construction-associated TACs would be released.

Possible human health risks associated with the proposed Project were estimated using modeled TAC concentrations in air and standard methods developed by California Environmental Protection Agency (CalEPA) and U.S. Environmental Protection Agency (USEPA). Health impacts were evaluated for cancer risks and chronic and acute non-cancer health hazards. An impact was considered significant if cancer or non-cancer health hazards exceeded regulatory thresholds.

1.2 General Approach

This HHRA focuses on analysis of incremental human health risks and hazards associated with air-borne releases of TAC during construction of the proposed Project. Cancer risks as well as chronic and acute non-cancer health hazard assessments all depend on estimating TAC concentrations in air in two steps: (1) estimation of emissions of TAC associated with construction and subsequent modeling of dispersion of those TAC to downwind receptor locations; and (2) estimation of health risks

associated with inhalation of TAC. Estimated emission rates were used, along with meteorological and geographic information, as inputs to an air dispersion model. The dispersion model predicted possible concentrations of TAC released during airport construction within the study area around the airport. Modeled concentrations were used to estimate human health risks and hazards, which serve as the basis of the significance determinations for the proposed Project.

Potential impacts to human health were estimated using modeled TAC concentrations in air and methods developed by the CalEPA and the USEPA, as described below. Results of the analysis were then interpreted by comparing incremental cancer risks and chronic non-cancer health hazards to regulatory thresholds. For purposes of assessing the significance of any health impacts, these comparisons were made for maximally exposed individuals (MEI) at locations where maximum concentrations of TAC were predicted by air dispersion modeling. An impact was considered significant¹ if cancer risks and/or chronic non-cancer health hazards for MEI exceeded regulatory thresholds. In addition, the range of possible risks and hazards was addressed by evaluating risks for all modeled locations within the defined study area.

Methods for conducting this HHRA are presented in Section 2; TAC emission calculation approach and results and a discussion of the dispersion analysis are presented in Section 3; associated health risks are presented in Section 4; and uncertainties are discussed in Section 5.

¹ The term "significant" is used as defined under CEQA regulations and does not imply an independent judgment of the acceptability of risks or hazards.

Section 2

Methodology

This HHRA is based on estimates for construction TAC emissions associated with the proposed Project. Baseline construction emissions are assumed to be zero, so no baseline year is used in the analysis. The HHRA was developed as required under State of California statutes and regulations², and was conducted in four steps as defined in South Coast Air Quality Management District (SCAQMD), CalEPA, and USEPA guidance^{3,4,5} consisting of:

- Identification of chemicals (in this case, TAC) that may be released in sufficient quantities to present a public health risk (Hazard Identification)
- Analysis of ways in which people might be exposed to chemicals (TAC) (Exposure Assessment)
- Evaluation of the toxicity of chemicals (TAC) that may present public health risks (Toxicity Assessment)
- Characterization of the magnitude of health risks for the exposed community, and of locations in the community where the greatest risks or hazards may be realized (Risk Characterization)

HHRA analyses for the proposed Project address the following issues and provide additional information on the potential for human health impacts:

- Quantitative assessment of cancer risks and chronic non-cancer health hazards due to release of TAC associated with construction activities for the proposed Project.
- Quantitative evaluation of possible acute non-cancer health hazards due to release of TAC during construction associated with the proposed Project.

Protective⁶ methods that are likely to overestimate rather than underestimate possible health risks were used to estimate cancer risks and chronic non-cancer health hazards. For example, incremental

² California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxics Hot Spots Information and Assessment Act of 1987](#), Section 44300; California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments](#), August 2003.

³ South Coast Air Quality Management District, Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics Hot Spots Information and Assessment Act (AB2588), July 2005.

⁴ California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxics Hot Spots Program Risk Assessment Guidelines, Part I: Technical Support Document for the Determination of Acute Reference Exposure Levels for Airborne Toxicants](#), March 1999. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxic Hot Spots Program Risk Assessment Guidelines, Part IV: Technical Support Document for Exposure Assessment and Stochastic Analysis](#), September 2000. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxics Hot Spots Program Risk Assessment Guidelines, Part III: The Determination of Chronic Reference Exposure Levels for Airborne Toxicants](#), February 23, 2000. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxics Hot Spots Program Risk Assessment Guidelines, Part II: Technical Support Document for Describing Available Cancer Potency Factors](#), updated August 2003. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments](#), August 2003.

⁵ U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, [Risk Assessment Guidance for Superfund, Vol. I, Human Health Evaluation Manual \(Part A\), Interim Final, EPA/540/1-89/002](#), December, 1989.

⁶ The terms "protective" and "conservative" are often used interchangeably to indicate that risk assessment methods were designed to err on the side of over-estimating risk. "Protective" is used in this HHRA to avoid confusion over what

risks and hazards associated with the proposed Project were calculated for individuals assumed to live, work, recreate, or attend school at locations where TAC concentrations are predicted to be highest. Further, these individuals were assumed to be exposed to TAC for almost all days of the year and for many years to maximize estimates of possible exposure. These “maximally exposed individuals” or MEI are hypothetical individuals used to help ensure that the HHRA is protective.

Risk estimates for MEI are, therefore, upper-bound predictions that could be experienced by people working or living near LAX who breathe TAC released during construction activities associated with the proposed Project. If hypothetical individuals that receive the highest exposures are protected, actual members of the population near LAX will also be protected.

The HHRA for the proposed Project also evaluates the potential for short-term (1-hour) exposures to cause immediate, or acute, non-cancer health impacts. These estimates are also intentionally conservative; they use, for example, the highest 1-hour concentrations for assessing acute impacts regardless of whether individuals might have access to locations where maximum concentrations occur. This approach helps ensure that actual exposure concentrations in off-airport areas are not underestimated.

2.1 Selection of TACs of Concern

In general, TAC of concern used in the HHRA are based on TAC identified under California Assembly Bill AB2588 and for which the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) has developed cancer slope factors, chronic reference levels, and/or acute reference levels.

The list of TAC of concern used in this HHRA was developed using regulatory lists, emissions estimates, human toxicity information, results of the LAX Master Plan HHRA, and a review of health risk assessments for construction activities included in the LAX South Airfield Improvement Project (SAIP) Final EIR,⁷ LAX Crossfield Taxiway Project (CFTP) Final EIR,⁸ LAX Bradley West Project Final EIR,⁹ LAX Central Utility Plant Replacement Project (CUP-RP) Final EIR,¹⁰ and LAX Master Plan Final EIR.¹¹ This list of TAC was further refined to include only TAC with chronic Reference Exposure Levels (RELs), acute RELs, and cancer potency values identified by the California OEHHA. The resulting list of TAC of concern evaluated in this HHRA is provided in **Table 2-1**.

“conservative” means in different situations. For example, a “conservative” estimate of the time that someone might live in a given residence could imply to some readers that a minimum time was identified.

⁷ City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Los Angeles International Airport (LAX) South Airfield Improvement Project, August 2005.

⁸ City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Los Angeles International Airport (LAX) Crossfield Taxiway Project, January 2009.

⁹ City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Los Angeles International Airport (LAX) Bradley West Project, September 2009.

¹⁰ City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Los Angeles International Airport (LAX) Central Utility Plant Replacement Project, October 2009.

¹¹ City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

Table 2-1 Toxic Air Contaminants of Concern for the WAMA Project

Toxic Air Contaminant	Type
Acetaldehyde	VOC
Acrolein	VOC
Benzene	VOC
1,3-Butadiene	VOC
Ethylbenzene	VOC
Formaldehyde	VOC
n-Hexane	VOC
Methyl alcohol	VOC
Methyl ethyl ketone	VOC
Propylene	VOC
Styrene	VOC
Toluene	VOC
Xylene (total)	VOC
Naphthalene	PAH
Arsenic	PM-Metal
Cadmium	PM-Metal
Chromium VI	PM-Metal
Copper	PM-Metal
Lead	PM-Metal
Manganese	PM-Metal
Mercury	PM-Metal
Nickel	PM-Metal
Selenium	PM-Metal
Vanadium	PM-Metal
Diesel PM	Diesel Exhaust
Chlorine	PM-Inorganics
Silicon	PM-Inorganics
Sulfates	PM-Inorganics

Notes:

PAH = Polycyclic aromatic hydrocarbons

PM = Particulate matter

VOC = Volatile organic compounds

Source: CDM Smith 2013

2.2 Exposure Assessment

2.2.1 Exposure Populations

For analysis of the proposed Project, the HHRA selected the following receptors for quantitative evaluation: on-airport/off-site workers, on-airport/on-site workers, off-airport workers, off-airport adult residents, off-airport child residents, and off-airport school children. Each receptor represents a unique population and set of exposure conditions. As a whole, they cover a range of exposure scenarios for people who may be affected by LAX emissions to the greatest extent. Receptors for which exposure scenarios are prepared were selected to provide protective risks and hazards estimates for MEI and to demonstrate the range of risks and hazards in the vicinity of the airport. As previously noted, by providing estimates for the most exposed individuals for determination of significance, the general population is protected.

2.2.2 Exposure Pathways

Different receptors (e.g., off-site workers, school children) could be exposed to TAC in several ways, deemed exposure pathways. An exposure scenario is developed for each receptor that considers various pathways by which they might be exposed to TAC.

An exposure pathway consists of four parts:

- A TAC source (e.g., diesel/gasoline engines)
- A release mechanism (e.g., diesel/gasoline engine exhaust)
- A means of transport from point of release to point of exposure (e.g., local winds)
- A route of exposure (e.g., inhalation)

If any of these elements of an exposure pathway is absent, no exposure can take place, and, the pathway is considered incomplete. Incomplete pathways were not evaluated in this HHRA. In addition, some exposure pathways may be complete, but may result in little or negligible exposure. Thus, numerous possibly complete exposure pathways exist for receptors at or near LAX, but most are anticipated to make minimal to negligible contribution to total risks and hazards. For this HHRA, the inhalation pathway is the most important complete exposure pathway, contributing the majority of risk associated with the proposed Project, and was therefore quantitatively evaluated for all receptors.

Other exposure pathways -- including deposition of TAC onto soils and subsequent exposure via incidental ingestion of this soil, uptake from soil into homegrown vegetables, and other indirect pathways -- were addressed quantitatively in the programmatic HHRA developed for the LAX Master Plan EIR¹² (see LAX Master Plan Final EIR Technical Report 14a and Technical Report S-9a). No pathway other than inhalation was found to be an important contributor to exposure and thus to risk/hazard. Based on this previous analysis, pathways other than inhalation were not assessed in this HHRA.

2.2.3 Exposure Concentrations

Analyses of cancer risk and non-cancer health hazards, both chronic and acute, were included in the exposure assessment for the receptors identified in Section 2.2.1. Chronic and acute exposure to TAC from WAMA-specific construction activities were estimated by:

- Estimation of construction source emissions for annual (for chronic exposure) and for peak daily (for acute exposure).
- Dispersion modeling of construction emissions over an area that consists of the airport property and urban areas to the north, east, and south.

Modeled concentrations of TAC at locations where highest concentrations are anticipated were used to estimate incremental human health risks and hazards. These estimates serve as the basis for significance determinations for the proposed Project. To estimate cancer risks and the potential for adverse non-cancer health hazards, TAC intakes via inhalation for each receptor were estimated.

¹² City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

In 2009, the EPA released the Risk Assessment Guidance for Superfund (RAGS), Part F¹³ (hereafter referred to as RAGS Part F). This guidance recommends that inhalation dosimetry methodology be used to calculate inhalation exposures. In this approach, the concentration of the chemical in air is the exposure metric (e.g., milligrams per cubic meter, mg/m³), and risks are estimated using a unit risk that predicts cancer risk for each mg/m³. Inhalation rate and body weight are no longer used in the calculations. RAGS Part F methodology is currently used exclusively by USEPA for calculating risks and hazards for the inhalation pathway and has become universally applied within the United States.

RAGS Part F recommends that the concentration of the chemical in air be used as the exposure metric resulting in the following formula for an exposure concentration:¹⁴

$$EC = (CA \times ET \times EF \times ED) / AT$$

Where: EC = exposure concentration (µg/m³)

CA = chemical concentration in air (µg/m³)

ET = exposure time (hours/day)

EF = exposure frequency (days/year)

ED = exposure duration (years)

AT = average time; e.g., the period over which exposure is averaged, ED in years x 365 days/year x 24 hours/day (hours)

Averaging time for estimation of cancer risk is 70 years or 25,550 days. Cancer risk is evaluated as the lifetime average daily dose (LADD) according to CalEPA and USEPA guidance. Averaging time for estimation of non-cancer health hazards is the duration of exposure, expressed in days. Non-cancer health hazards are evaluated as average daily dose (ADD) over the period of exposure, again, following CalEPA and USEPA guidance.

Cancer risks and the non-cancer health hazards are then calculated using the following formulas:¹⁵

$$\text{Risk} = \text{IUR} \times \text{EC}$$

$$\text{HQ} = \text{EC} / (\text{RfC} \times 1000 \text{ } \mu\text{g}/\text{mg})$$

Where: IUR = inhalation unit risk (µg/m³)⁻¹

EC = exposure concentration (µg/m³)

HQ = hazard quotient

RfC = reference concentration (mg/m³)

¹³ U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Risk Assessment Guidance for Superfund, Vol. I, Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment), Final, EPA-540-R-070-002, OSWER 9285.7-82, January 2009.

¹⁴ U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, [Risk Assessment Guidance for Superfund Vol. I, Human Health Evaluation Manual \(Part F\) Final, EPA/540/R-070/002](#), January 2009.

¹⁵ U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Risk Assessment Guidance for Superfund Vol. I, Human Health Evaluation Manual (Part F) Final, EPA/540/R-070/002, January 2009.

Assessment of potential chronic human health impacts due to release of TAC associated with the proposed Project assumes that exposure concentrations of TAC are constant over a 70-year period for residential receptors. For this analysis, chemical concentrations, C, from construction are assumed to continue for five years. For the remaining 65 years of a 70 year lifetime, construction emissions were assumed to be zero. Risk estimates using these predicted TAC concentrations were based locations where construction impacts were likely to be maximal. Such risk estimates overestimate risks for most people living, working or attending school near LAX. This conservatism (protection) is built into the risk assessment developed for the proposed Project to help counter any future changes in WAMA construction that cannot now be anticipated quantitatively.

Exposure parameters used to calculate LADD and ADD for all receptors for the inhalation pathway are summarized in **Table 2-2**. Exposure parameters are based on CalEPA Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities,¹⁶ USEPA Exposure Factors Handbook,¹⁷ and CalEPA Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.¹⁸ Although USEPA has recently released another version of the Exposure Factors Handbook¹⁹ that updates some of the recommended exposure parameters, the exposure parameters in **Table 2-2** were selected to maintain consistency with the health risk analyses conducted for the LAX Master Plan Final EIR,²⁰ the SAIP EIR,²¹ the CFTP EIR,²² the Bradley West Project EIR,²³ and the SPAS EIR.

Table 2-2 Parameters Used to Estimate Exposures to TAC of Concern

Exposure Pathway Parameters for Inhalation of Particulates and Gases	Off-Airport Receptors			
	Off-Site Residents		Off-Site School Child	Off-Site Worker
	Adult	Child		
Exposure Frequency (days/yr)	350 ^{1,3}	350 ^{1,3}	200 ⁴	245 ¹
Exposure Duration (years)	70 ^{1,5}	6 ²	6 ⁴	40 ¹
Exposure Time (hrs/day)	24 ⁷	24 ⁷	8 ⁷	10 ⁷
Averaging Time - Non-cancer (days)	25,550 ^{1,6}	2,190 ⁶	2,190 ⁶	14,600 ⁶
Averaging Time - Cancer (days)	25,550 ^{1,6}	25,550 ^{1,6}	25,550 ^{1,6}	25,550 ^{1,6}

Notes:

¹ California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.

² U.S. Environmental Protection Agency, Exposure Factors Handbook, USEPA/600/P-95/002Fa, 1997.

³ U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors, August, 1991.

⁴ Site-specific.

⁵ 70 year exposure duration will be used as basis for determining significance.

¹⁶ California Environmental Protection Agency, Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities, 1993.

¹⁷ U.S. Environmental Protection Agency, Exposure Factors Handbook, USEPA/600/P-95/002Fa, 1997.

¹⁸ California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.

¹⁹ U.S. Environmental Protection Agency, Exposure Factors Handbook, EPA/600/R-090/052F, September 2011.

²⁰ City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

²¹ City of Los Angeles, Los Angeles World Airports, [Final Environmental Impact Report for Los Angeles International Airport \(LAX\) South Airfield Improvement Project](#), August 2005.

²² City of Los Angeles, Los Angeles World Airports, [Final Environmental Impact Report for Los Angeles International Airport \(LAX\) Crossfield Taxiway Project](#), January 2009.

²³ City of Los Angeles, Los Angeles World Airports, [Final Environmental Impact Report for Los Angeles International Airport \(LAX\) Bradley West Project](#), September 2009.

⁶ U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual, Part A, USEPA/540/1-89/002, 1989.

⁷ Professional judgment.

Source: CDM Smith 2013

The equation for the RAGS Part F methodology requires exposure time, an exposure parameter that was not previously defined for the LAX Master Plan EIS/EIR and other tiered LAX EIRs (SAIP EIR, CFTP EIR, Bradley West Project EIR, and CUP-RP EIR) because it was not required for the Risk Assessment Guidance for Superfund (RAGS), Part A methodology (hereafter referred to as RAGS Part A).²⁴ For exposure time, assumptions adopted for the SPAS EIR were used. Residents were assumed to be exposed 24 hours a day. A school child was assumed to be exposed eight hours per day to account for six hours of school instruction and two hours of after-school activities. An adult worker was assumed to be exposed 10 hours per day.

The CalEPA Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments recommends a range of exposure parameters be evaluated. Additional analyses are presented in the uncertainties analysis to verify how sensitivity of risk estimates to changes in exposure duration and exposure time might affect conclusions concerning impacts of the proposed Project.

2.3 Toxicity Assessment

Risks from exposure to TAC are calculated by combining estimates of potential exposure with chemical-specific toxicity criteria developed by CalEPA, USEPA, or both. The toxicity assessment initially examined quantitative toxicity criteria for TAC selected from regulatory lists.

A toxicity assessment for TAC of concern was conducted for the LAX Master Plan Final EIR, as described in Technical Report 14a of that EIR. Conclusions of that assessment have not changed materially. Both the CalEPA OEHHA, and USEPA continually update toxicity values as new studies are completed, and all toxicity information provided in Technical Report 14a was reviewed and updated as appropriate by researching recent information available from USEPA, CalEPA OEHHA, World Health Organization (WHO), and Agency for Toxic Substance and Disease Registry (ATSDR).

Acute RELs developed by the State of California were used in the characterization of potential acute non-cancer health hazards associated with the proposed Project. Other sources of acute toxicity criteria (e.g., Agency for Toxic Substances and Disease Registry (ATSDR)) were also evaluated as a source of acute criteria as part of this re-assessment of toxicity information.

Cancer unit risk factors, cancer slope factors, and chronic RELs developed by the State of California were used to characterize cancer risks and chronic non-cancer health hazards associated with longer term inhalation of emissions from construction activities. Both types of toxicity criteria are based on studies of chronic exposure in animals or, in some cases, to people. Inhalation unit risk (for RAGS Part

²⁴ In the LAX Master Plan EIS/EIR and other tiered LAX EIRs (SAIP EIR, CFTP EIR, Bradley West Project EIR, and CUP-RP EIR), average long-term daily intakes were used to estimate risk and hazards for cancer and non-cancer risk assessment in accordance with RAGS Part A. Since RAGS Part F was released in 2009, RAGS Part A methodology is considered obsolete, tends to be overly conservative, and overestimates risk. (CDM Smith, 2013. Memorandum to Lisa Trifiletti - LAWA, Subject: West Aircraft Maintenance Area (WAMA) Human Health Risk Assessment (HHRA) - Risk Assessment Guidance for Superfund (RAGS), Part A, August 30, 2013.)

F calculations) and cancer slope factors are presented in **Table 2-3**. Chronic RELs and reference concentrations (RfCs) are presented in **Table 2-4**.

Acute RELs developed by the State of California were used in characterization of potential hazards associated with short-term exposure (usually from exposures on the order of 1-hour). RELs are based on the most sensitive, relevant, adverse health effect reported in the medical and toxicological literature. Since margins of safety²⁵ are incorporated to address data gaps and uncertainties, exceeding an REL does not automatically indicate an adverse health impact. Acute RELs are applicable to all receptors, children and adults, and hazards are the ratio of estimated or measured concentrations and the REL. Acute RELs for the TAC of concern included in this analysis are provided in **Table 2-5**.

²⁵ Margin of safety is a ratio of the no-observed-effect level to the estimated exposure dose. Margins of safety are incorporated in the development of toxicity values to account for differences in dose-response among individuals. For example, the same dose of alcohol may have a greater effect on a woman than a man, not only because a woman is smaller in body size but also because men and women metabolize alcohol at different rates.

Table 2-3 Cancer Slope and Unit Risk Factors

TAC of Concern	Cal/EPA ¹ Inhalation Cancer Slope Factor [(mg/kg/day) ⁻¹] ²	Cal/EPA ¹ Inhalation Unit Risk Factor [(µg/m ³) ⁻¹] ³	Tumor Site/Inhalation	Cancer Classification ⁴
VOC				
Acetaldehyde	0.01	0.0000027	Nasal, Larynx	B2
Acrolein	NA ⁵	NA	NA	C
Benzene	0.1	0.000029	Blood	A
1,3-Butadiene	0.6	0.00017	Reproductive System, Blood, Lung, GI	A
Ethylbenzene	0.0087	0.0000025	Kidney	D
Formaldehyde	0.021	0.000006	Respiratory System	B1
PAH				
Naphthalene	0.12	0.000034	Respiratory System	C
Diesel Exhaust				
Diesel Particulates	1.1	0.0003	Lung	D
PM-Metal				
Arsenic	12	0.0033	Skin	A
Cadmium	15	0.0042	Lung, trachea, bronchus cancer deaths	B1
Chromium VI	510	0.15	Lung	A
Lead	0.042	0.000012	NA	B2
Nickel	0.91	0.00026	NA	A
Vanadium pentoxide ⁷	29 ⁶	0.0083 ⁶	NA	NA

Notes:

¹ California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Toxicity Criteria Online Database, Available: <http://www.oehha.ca.gov/tcdb/index.asp>, 2013.

² mg/kg/day - milligram per kilogram per day

³ µg/m³ = microgram per cubic meter

⁴ USEPA, EPA Weight of Evidence (EPA 1986, EPA 1996):

A Human carcinogen

B1 Probable human carcinogen - indicates limited evidence in humans

B2 Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans.

C Possible human carcinogen

D Not classifiable as human carcinogen

⁵ NA = Not available

⁶ USEPA Regional Screening Level (RSL) table, May 2013.

⁷ Inhalation unit risk value for vanadium pentoxide was used for vanadium in the risk calculations.

Source: CDM Smith, 2013

Table 2-4 Toxicity Criteria for Systemic Toxicants

TAC of Concern	USEPA Chronic Inhalation RfC ^{1,2} ($\mu\text{g}/\text{m}^3$) ^{3,1}	Cal/EPA Chronic Inhalation REL ⁴ ($\mu\text{g}/\text{m}^3$)	Target Organ	Uncertainty Factor	
				USEPA	Cal/EPA
VOC⁵					
Acetaldehyde	9	140	Respiratory System	1,000	300
Acrolein	0.02	0.35	Respiratory System, Eye	1,000	200
Benzene	30	60	Hematopoietic System, Development, Nervous System, Immune System	300	10
1,3-Butadiene	2	20	Reproductive System	1,000	30
Ethylbenzene	1,000	2,000	Developmental, Liver, Kidney, Endocrine System	300	30
Formaldehyde	9.8 ⁶	9	Respiratory System, Eye	NA ⁸	10
n-Hexane	700	7,000	Nervous System	300	30
Methyl alcohol	4,000 ⁶	4,000	Developmental	NA	30
Methyl ethyl ketone	5,000	NA	Developmental (skeletal variations)	300	NA
Propylene	3,000 ⁶	3,000	Respiratory System	NA	100
Styrene	1,000	900	CNS ⁹	30	3
Toluene	5,000	300	CNS, Respiratory System, Development	10	100
Xylenes	100	700	CNS, Respiratory System	300	30
PAH					
Naphthalene	3	9	Respiratory System	3,000	1,000
Diesel Exhaust					
Diesel Particulates	5	5	Respiratory System	30	30
PM Metal					
Arsenic	0.015 ⁶	0.015	Development, Cardiovascular System, Nervous System	NA	30
Cadmium	0.01	0.02	Kidney; respiratory system	NA	30
Chromium (VI)	0.1 ⁶	0.2	Respiratory System	300	100
Copper	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA
Manganese	0.05	0.09	Nervous System	1,000	300
Mercury	0.3	0.03	Nervous System	30	300
Nickel	0.09 ^{6,7}	0.014	Respiratory System, Immune System	NA	30
Selenium	20 ⁶	20	Alimentary system; cardiovascular system; nervous system	NA	3
Vanadium	0.1 ⁶	NA	NA	NA	NA
PM Inorganics					
Chlorine	0.15 ⁶	0.2	Respiratory System	NA	30
Silicon	3	3	Respiratory system	NA	10
Sulfates	NA	NA	NA	NA	NA

Notes:

¹ Values obtained from the USEPA Integrated Risk Information System (IRIS), 2013.² RfC = Reference Concentration³ $\mu\text{g}/\text{m}^3$ = microgram per cubic meter⁴ REL = Reference Exposure Level (obtained from OEHHA Online Toxicity Criteria database, 2013. RELs are concentrations in air that would not result in toxic effects even if exposure continued for a lifetime.)⁵ VOC = volatile organic compounds⁶ Values obtained from the USEPA Regional Screening Level (RSL) table, May 2013.⁷ RfC for nickel soluble salts was used for nickel.⁸ NA = Not available or not applicable.⁹ CNS = Central Nervous System

Source: CDM Smith, 2013

Table 2-5 Acute RELs for TAC of Concern

TAC	Acute REL ¹ (µg/m ³)
Acetaldehyde	470
Acrolein	2.5
Benzene	1,300
Formaldehyde	55
Methyl alcohol	28,000
Methyl ethyl ketone	13,000
Styrene	21,000
Toluene	37,000
Xylenes Total	22,000
Arsenic	0.2
Chlorine	210
Copper	100
Manganese	0.17 ²
Mercury	0.6
Nickel	0.2
Vanadium pentoxide ³	30
Sulfates	120

Notes:

¹ Values obtained from OEHHA Online Toxicity Criteria database, accessed June 2013.

² 8-hour value.

³ Acute value for vanadium pentoxide was used for vanadium in the risk calculations.

Source: CDM Smith, 2013.

2.4 Risk Characterization

2.4.1 Methodology for Evaluating Cancer Risks and Non-Cancer Health Hazards

Concentrations of TAC of concern in air, locations of potentially exposed populations, including locations for MEI exposure scenarios (worker, resident, student), and toxicity criteria were used to calculate incremental human health risks associated with the proposed Project. Risks for people recreating near the airport would be lower than those for workers, residents, and students, and no risks were calculated for this population. Where risks are not significant for other receptor groups, risks for recreators near LAX can also be considered insignificant.

Cancer risks were estimated by multiplying exposure estimates for carcinogenic chemicals by corresponding cancer slope factors. Results were risk estimates expressed as the odds of developing cancer. Commonly, risks (or odds) of developing cancer of one to ten in one million (1×10^{-6} to 10×10^{-6}) or less are considered de minimis.²⁶ Higher risks may be deemed significant in some instances. Cancer risks were based on an exposure duration of 70 years.

²⁶ Clay, Don R., U.S. Environmental Protection Agency, Memorandum to OSWER, Subject: Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions, April 22, 1991.

Chronic non-cancer health hazard estimates were calculated by dividing exposure estimates by reference doses. Reference doses are estimates of highest exposure levels that would not cause adverse health effects even if exposures continue over a lifetime. The ratio of exposure concentration to reference concentration is termed the hazard quotient (HQ). A HQ greater than one indicates an exposure concentration greater than that considered safe. A ratio that is less than one indicates that WAMA-related (incremental) exposure was less than the highest exposure level that would not cause an adverse health effect and, hence, no impact to human health would be expected. Risks or odds of adverse effects cannot be estimated using reference doses. However, because reference concentrations are developed in a conservative fashion, HQs only slightly higher than one are generally accepted as being associated with low risks (or even no risk) of adverse effects, and that potential for adverse effects increases as the HQ gets larger.

Impacts of exposure to multiple chemicals were accounted for by adding cancer risk estimates for exposure to all carcinogenic chemicals, and by adding estimated HQs for non-carcinogenic chemicals that affect the same target organ or tissue in the body. Addition of HQs for TAC that produce effects in similar organs and tissues results in a Hazard Index (HI) that reflects possible total hazards. Several TAC have effects on the respiratory system including acetaldehyde, acrolein, formaldehyde, xylenes, and diesel particulates. Non-cancer health hazards for the proposed Project were calculated for the respiratory system which accounted for essentially all potential non-cancer health hazards.

To determine whether releases of TAC during airport construction for the proposed Project would be significant, incremental human health risks for the proposed Project were compared to appropriate thresholds of significance identified in SCAQMD or CalEPA guidance or policy. These comparisons will focus on specific risk thresholds such as ten in one million cancer risk or a hazard index of 1. Differences in incremental human health impacts among alternatives provide a quantitative assessment of the relative impacts among alternatives.

2.4.2 Maximally Exposed Individuals (MEI)

For the proposed Project, grid points were analyzed along the airport fence-line and within the study area. In addition, several on-airport grid points that were not within WAMA project site were also modeled (for on-airport/off-site workers) and in the center of the WAMA project site (for on-airport/on-site construction workers). These locations are anticipated to represent MEI, based on previous dispersion modeling for LAX. Concentrations of each TAC at these nodes were used in calculating cancer risk, and chronic and acute non-cancer health hazard estimates. These calculations were used to identify locations with maximum cancer risks and maximum non-cancer health hazards and serve as the basis for significance determinations.

MEI estimates were partially land use specific. On-airport locations were used to identify commercial and on-worker locations. For off-airport locations, all land uses and associated receptors (commercial, residential, etc.) were evaluated for all fence-line grid points under the assumption that such land use could be present at now or in the future. Risk and hazard calculations were based on receptors appropriate for land use designations. For example, at each grid node, exposure parameters appropriate for adult commercial workers, for both adult and child residential receptors and for school children were used to estimate exposures, cancer risks, and non-cancer health hazards at that grid point location.

Fence-line concentrations of TAC represent the highest or near-highest concentrations that could be considered "off-airport." Concentrations in areas where people actually work, live, or attend school

are predicted to be lower. Thus, impacts for residents, workers, and school children are likely to provide protective estimates for risks and hazards that may occur as a result of implementing the WAMA project.

2.4.3 Methodology for Evaluating Acute Impacts

Acute non-cancer risk estimates were calculated by dividing estimated maximum 1-hour TAC concentrations in air by acute RELs. An acute REL is a concentration in air below which adverse effects are unlikely for people, including sensitive subgroups, exposed for a short time on an intermittent basis. In most cases, RELs are estimated on the basis of a 1-hour exposure duration. USEPA defines intermittent exposure as an exposure lasting less than 24 hours and occurring no more than monthly.²⁷ RELs do not distinguish between adults and children, but are established at levels that are considered protective of sensitive populations. Since margins of safety are incorporated to address data gaps and uncertainties, exceeding the REL does not automatically indicate an adverse health impact.

Toxicity criteria (i.e., RELs) for acute non-cancer health hazards do not distinguish between adults and children, but are established at levels that are considered protective of sensitive populations. An acute REL is a concentration in air below which adverse effects are unlikely, including in sensitive subgroups. In most cases, RELs were estimated on the basis of a 1 hour exposure duration. CalEPA's OEHHA has developed acute RELs for several of the TAC of concern identified in emissions from the airport.

Short-term concentrations for TAC associated with WAMA construction were estimated using the same air dispersion model (AERMOD) used to estimate annual average concentrations, but with the model option for 1-hour maximum concentrations selected. These concentrations represent the highest predicted concentrations of TAC. Acute non-cancer health hazards were then estimated at each grid point by dividing estimated maximum 1-hour TAC concentrations in air by acute RELs. A hazard index equal to or greater than 1, the threshold of significance for acute non-cancer health impacts, indicates some potential for adverse acute non-cancer health impacts. A hazard index less than 1 suggests that adverse acute non-cancer health impacts are not expected.

²⁷U.S. Environmental Protection Agency, Draft Methods for Exposure-Response Analysis and Health Assessment for Acute Inhalation Exposure to Chemicals, 1994.

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Section 3

TAC Emissions and Dispersion

3.1 TAC Emission

The first step in the process of establishing concentrations of TAC in air was estimation of emissions of TAC during project construction. During the construction phase, emissions of diesel particulate matter (DPM) are expected to contribute the majority to total incremental cancer risks. Other TAC are evaluated for incremental contributions to total cancer risk, and for contributions to chronic and acute non-cancer hazards.^{28,29} Sources of TAC during construction include diesel and gasoline engine exhaust and fugitive dust, with engine exhaust associated with highest estimates for possible health impact.

The basis for TAC emission estimates are VOC and PM10 emission calculations for construction presented in Section 4.1, *Air Quality*, of this Draft EIR. Several assumptions were made to provide a conservative estimate of TAC emissions, including:

- Twenty (20) percent of VOC and PM10 emissions from haul truck and concrete truck emissions occur on the project site; remaining truck emissions occur during off-airport travel
- All other construction equipment engine exhaust and fugitive dust emissions occur on the project site
- All organic (hydrocarbon) TAC emissions come from gasoline engine exhaust
- VOC-to-total organic gases (TOG) conversion factor is 1.13 (U.S. EPA, SPECIATE version 4.3, Profile 1101, *Light Duty Gasoline Vehicles - 46 Car Study*)
- DPM emissions are equivalent to PM10 emissions from diesel engines
- PM10 emissions in engine exhaust (gasoline and diesel engines) were assumed to be DPM

TOG and PM10 emissions used in the dispersion analysis are summarized in Table 3-1. Once these emissions were determined, estimates of TAC emissions were developed from speciation profiles developed by CARB. The profiles used included PM Profile No. 420 – Construction Dust, TOG Profile No. 2110 – Gasoline Motor Vehicles, and a composite of PM Profile Nos. 6149, 6159, 6169, 6179, and 6189 – Offroad Diesel Vehicle Exhaust (covering years 2014 through 2018).

²⁸ City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Los Angeles International Airport (LAX) Bradley West Project, September 2009.

²⁹ City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Los Angeles International Airport (LAX) Central Utility Plant Replacement Project, October 2009.

Table 3-1 Onsite Construction TOG and PM10 Emissions for WAMA Project

Averaging Period	TOG from Engine Exhaust	PM10 from Engine Exhaust	PM10 from Fugitive Dust	Comments
Peak Daily	137 lbs/day	7.49 lbs/day	14.8 lbs/day	Used for Acute Hazard
Peak Annual	11.0 tons/year	0.503 tons/year	0.991 tons/year	Used for Chronic Hazard
Average for 5-year Construction Period	2.42 tons/year	0.161 tons/year	0.316 tons/year	Used for Cancer Risk

Notes:

PM10 = Particulate matter less than or equal to 10 microns in diameter.

TOG = Total organic gases

3.2 Exposure Concentrations (Dispersion)

Air dispersion modeling was used to estimate TAC concentrations for the WAMA Project. TAC concentrations were estimated in two steps: first, dispersion modeling was used to estimate total TOG and PM10 concentrations, and then individual organic or particulate TAC concentrations were calculated using emissions profiles to speciate total TOG and PM10 estimates. For example, if total TOG at a given location was 0.1 microgram per cubic meter ($\mu\text{g}/\text{m}^3$) and a given volatile TAC was expected to make up 1 percent of this total, the concentration of that TAC at that location would be 0.001 $\mu\text{g}/\text{m}^3$.

Project-related concentrations for TAC from construction sources were estimated using the air dispersion model (AERMOD) with model options for 1-hour maximum, annual, and period average concentrations selected.

3.2.1 Source Areas

Construction sources were modeled as two co-located polygon area sources placed over the WAMA project site. One source was placed on the ground and was used to model construction dust emissions. The second source was elevated 5 meters and was used to model engine exhaust emissions. Figure 3-1 presents the source location relative to the airport.

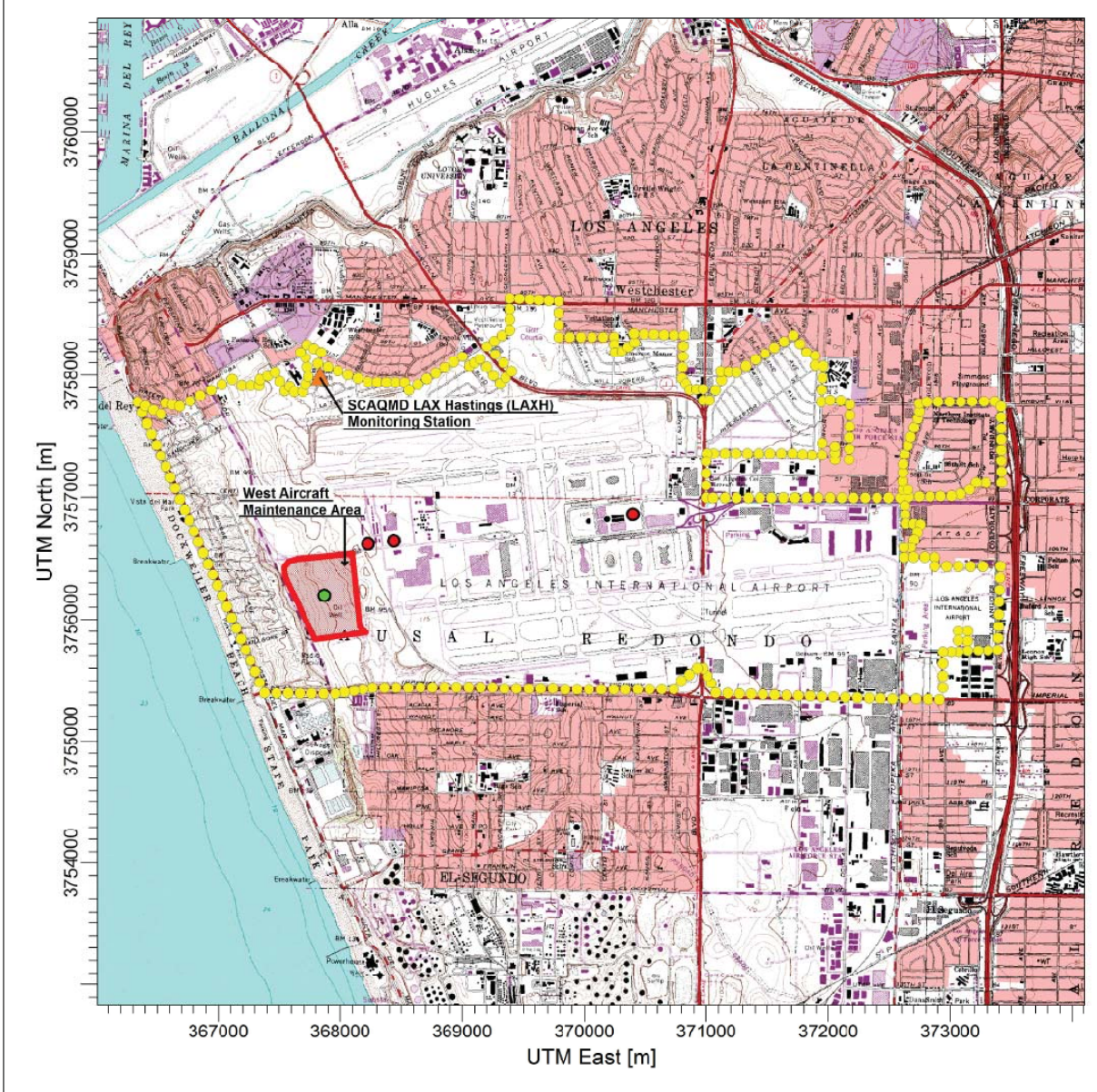
3.2.2 Receptors

Receptors were modeled along the airport fenceline at approximately 100 m intervals. In addition, several on-airport grid points that were not within WAMA project site were also modeled (on-airport/off-site workers). Finally, a receptor was modeled in the center of the WAMA project site (on-airport/on-site construction worker) to represent the occupationally exposed worker receptor. The modeled receptors are also shown on Figure 3-1.

3.2.3 Meteorology

Five years (2005 through 2009) of AERMOD-ready hourly meteorological data from SCAQMD's LAX Hastings monitoring station was provided by SCAQMD. All five years were run, and highest hourly average results at each grid point were used to quantify acute hazards, and five-year average concentration was used to develop the 70-year exposure concentration that was used for calculations of chronic non-cancer hazards and cancer risk. The monitoring station location is also shown on Figure 3-1.

PROJECT TITLE:
LAX West Aircraft Maintenance Area Project
Construction Source and Receptor Locations



<p>COMMENTS:</p> <p>Source area outlined in red with red shaded fill.</p> <p>Two co-located sources:</p> <ol style="list-style-type: none"> 1. Ground source for fugitive dust. 2. Elevated (5m) source for engine exhaust. <p>330 Receptors:</p> <ul style="list-style-type: none"> 326 Fenceline (yellow) 3 On-Airport (red) 1 On Project Site (green) 	<p>No. of Sources: 2</p>	<p>COMPANY NAME:</p> <p>Los Angeles World Airports</p>	
	<p>No. of Receptors: 330</p>	<p>MODELER:</p> <p>J.R. Pehrson</p>	
		<p>SCALE: 1:50,923</p> <p>0 2 km</p>	
		<p>DATE:</p> <p>7/10/2013</p>	<p>PROJECT NO.:</p> <p>77870</p>

AERMOD View - Lakes Environmental Software

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Figure 3-1 WAMA Construction Source and Receptor Locations

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Section 4

Human Health Risk Assessment

This HHRA assess incremental changes to health impacts for people exposed to TAC resulting from construction associated with the proposed Project. Cancer risk and chronic non-cancer health hazard estimates for impacts of the proposed Project are based on estimated project construction emissions and air dispersion modeling as discussed above and are discussed in the following sections. Acute health hazard estimates were also addressed using emission estimates and dispersion modeling. Risk calculations, presented in Attachment 1 to this memorandum, indicate that estimates of cancer risks and chronic health hazards and acute hazard indices associated with emissions during and subsequent to the proposed Project would be below regulatory thresholds of significance. Since assessment of health risks included locations where concentrations of TAC were predicted to be highest, either on-airport for construction workers or at locations in the immediate vicinity of the airport for other receptors, this finding applies to all areas on and around LAX.

The following subsections discuss the incremental cancer risk and chronic non-cancer health hazard estimates for impacts of the proposed Project by receptor.

4.1 Cancer Risks and Non-Cancer Hazards Associated with the Proposed Project

Cancer risk estimates from exposure to construction sources are presented below for on-airport/ on-site workers (occupational exposure), and off-airport/ off-site workers, residents, and school children. Acute and chronic non-cancer health hazards are discussed.

Although construction emissions are only projected to last during the 5-year construction period, for convenience in cancer risk calculations, construction emissions during the construction period were amortized over the entire 70-year exposure period. This approach allowed use of a single exposure concentration in the calculations.

4.1.1 Comparison of On-Site Air Concentrations with OSHA Limits for On-Site Workers

Impacts to on-site workers were evaluated by comparing estimated maximum 1-hour air concentrations of TAC to the California Occupational Safety and Health Administration (CalOSHA) 8-hour Time-Weighted Average Permissible Exposure Levels (PEL-TWAs)³⁰. Estimated on-site air concentrations and PEL-TWAs for TAC of concern for the proposed Project are presented in Table 4-1.

Estimated maximum 1-hour air concentrations at the on-site location under the proposed Project for controlled³¹ construction were converted to 8-hour averages by multiplying by a factor of 0.7³². The

³⁰ California Occupational Safety and Health Administration, [Permissible Exposure Limits for Chemical Contaminants, Table AC.1](http://www.dire.ca.gov/title8/5155.html). Available: <http://www.dire.ca.gov/title8/5155.html>.

³¹ Emission estimates for the proposed Project assume that mitigation measures identified in the LAX Master Plan EIR are in place. These measures are now part of all plans for renovation of the airport.

³² California Air Resources Board. 2003. HARP User Guide: Appendix H Recommendations for Estimating Concentrations of Longer Averaging Periods from the Maximum One-Hour Concentration for Screening Purposes. December. Available: <http://www.arb.ca.gov/toxics/harp/harpug.htm>

resulting 8-hour averages are a few to several orders of magnitude below PELs for all TAC. This result suggests that air concentrations from airport emissions with implementation the proposed Project would not exceed those considered "acceptable" by CalOSHA standards.

Table 4-1 Comparison of CalOSHA Permissible Exposures Limits to Maximum Estimated 8-Hour On-Site Air Concentrations

Toxic Air Contaminant ¹	Controlled WAMA Concentrations (mg/m ³) ²	CalOSHA PEL TWA (mg/m ³) ³
acetaldehyde	0.016612	45
acrolein (2-propenal)	0.000058	0.25
benzene	0.004581	0.32 ⁴
Butadiene, 1-3-	0.000446	2.2
ethylbenzene	0.000759	435
formaldehyde	0.033634	0.37 ⁴
hexane, n-	0.000440	180
methanol	0.000071	260
methyl ethyl ketone (mek) (2-butanone)	0.003289	590
naphthalene	0.000208	50
propylene	0.005964	NA ⁵
styrene	0.000137	215
toluene	0.003601	37
xylene (total)	0.002683	435
Diesel PM	NA	NA ⁵
arsenic	0.000002	0.01
cadmium	0.000004	0.005
chlorine	0.000427	1.5
chromium VI	0.000001	0.005
copper	0.000015	1
lead	0.000071	0.05
manganese	0.000116	0.2
mercury	0.000002	0.025
nickel	0.000008	0.5
selenium	0.0000004	0.2
silicon	0.024538	6
sulfates	0.000853	NA ⁵
vanadium	0.000033	0.05

Notes:

¹ All TACs for which PEL-TWAs are available are listed. PEL-TWAs are not available for diesel exhaust, propylene, and sulfates.

² Maximum 1-hour concentrations at on-airport location converted to 8-hour by multiplying by a factor of 0.7.

³ California Occupational Safety and Health Administration. Permissible Exposure Limits for Chemical Contaminants, Table AC-1, 2008, http://www.dir.ca.gov/title8/5155table_ac1.html.

⁴ CalOSHA does not have a value; value is from American Conference of Governmental Industrial Hygienists (ACGIH), Documentation of the Threshold Limit Values and Biological Exposure Indices, 8th ed., Cincinnati, Ohio, 1998.

⁵ NA = Not Available

Source: CDM Smith, 2013.

4.1.2 Cancer Risks and Chronic Non-Cancer Health Hazards for Maximally Exposed Individuals (MEI) – Residents and School Children

For the proposed Project, 330 grid points were analyzed along the airport fence-line and in the vicinity of the airport. These locations are shown on **Figure 4-1**. Concentrations at the 326 fence-line locations represent maximum concentrations of TAC predicted by the air dispersion modeling, can be used to evaluate exposure to a MEI, and thus provide a ceiling for risks and hazards for off-airport residential, commercial, and student receptors. In essence, these calculations assumed that people live, work, and go to school at the LAX fence-line. Although this assumption is incorrect, it is obviously conservative. No exposures or risks within the community would be higher than those calculated in this HHRA.

Air concentrations for TAC for construction sources were developed using emissions estimates and dispersion modeling as described in Sections 3.1 and 3.2 above. Using these emission estimates, exposure parameters for potential receptors and current toxicity values, cancer risks and chronic non-cancer health hazards were calculated for adult residents, resident children ages 0 to 6 years, and for elementary-aged school children at fence-line locations where air concentrations for TAC were predicted. Peak cancer risks and chronic non-cancer health hazards for MEI at the fence-line location are summarized in **Table 4-2**; calculations are presented in Attachment 1.

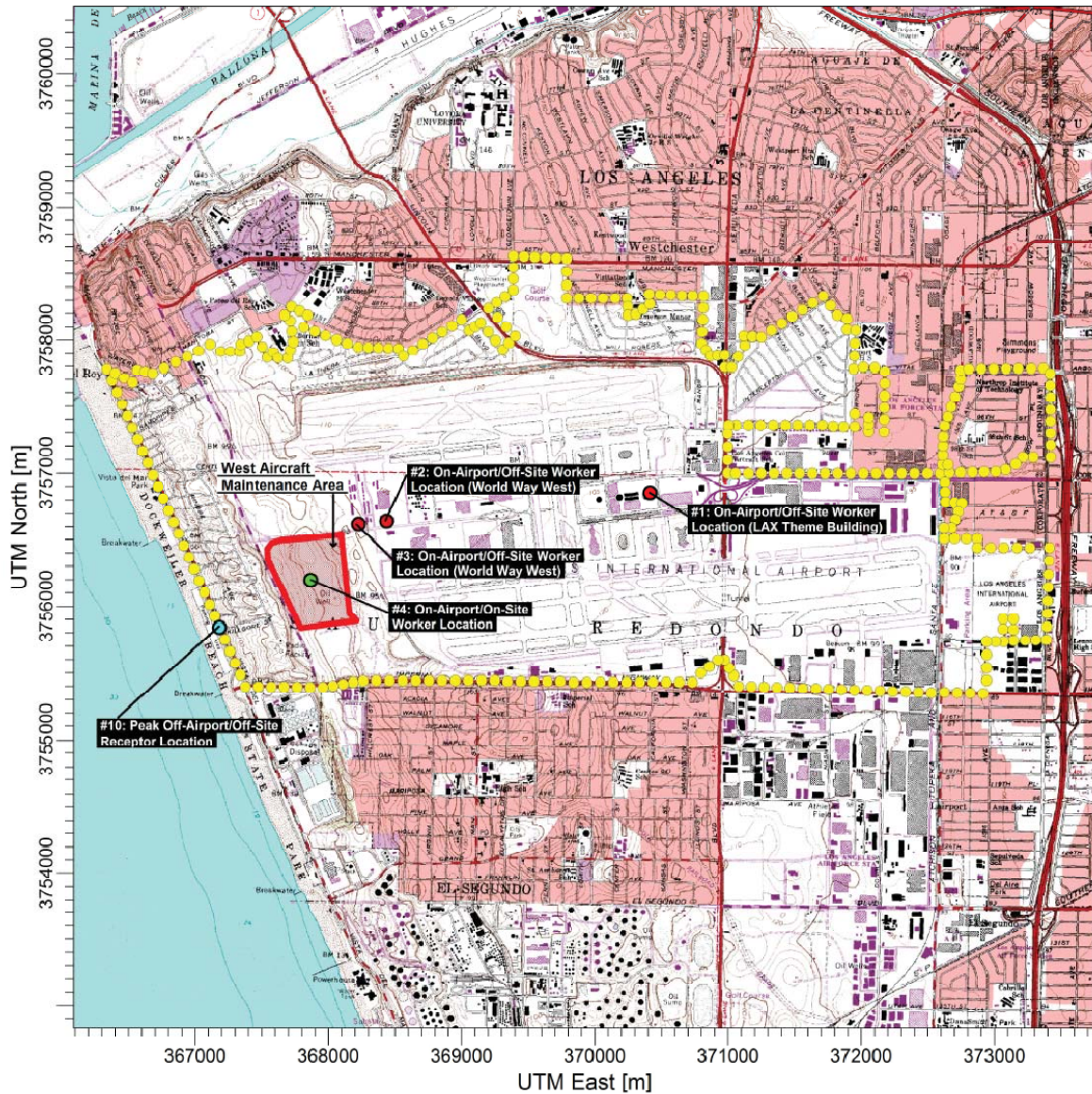
4.1.2.1 Residents (Adults and Young Children)


Residents were evaluated at all 326 off-airport grid nodes. Estimated peak incremental cancer risks for adult residents and child residents for the proposed Project range from 0.01 in one million to 0.1 in one million. Estimated incremental cancer risks are higher for adults than for children, because exposure duration for adults is longer. Exposure to DPM released during construction contributed 89 percent of the peak cancer risks for adults and children. These estimates show that project-related cancer risks for adults and for young children are predicted to be below the threshold of significance of 10 in one million for controlled³³ WAMA Project construction. These estimates are likely to be greater than actual exposure because they assume exposure occurs at the LAX fence-line for a lifetime. Concentrations at the fence-line are maxima. Actual exposures will occur at locations removed from the fence-line where less of an impact is predicted.

Project-related chronic non-cancer hazard indices for construction impacts associated with the WAMA Project are also provided in **Table 4-2**. Hazard indices for adult residents and child residents living at the peak TAC concentration location under the unmitigated scenario for the construction of the WAMA Project are estimated to be 0.0004. Non-cancer hazard indices for adult residents and child residents are the same because the RAGS Part F methodology does not normalize hazard indices to body weight. All incremental chronic non-cancer health hazards for adults and for young children are predicted to be below the significance threshold of 1. At the peak hazard index location, hazard indices are primarily attributable to silicon (52%) and DPM (18%) and to a lesser extent to chlorine (14%) and manganese (8%). DPM is primarily an emission from diesel construction equipment, haul trucks, and concrete trucks. Silicon, manganese, and chlorine are components of construction dust. The target organ for chronic toxicity of manganese is the nervous system and its actions would not be expected to be additive to the effects of DPM, silicon, and chlorine which target the respiratory system.

³³ Controlled emissions include emission reductions associated with control measures required by the South Coast Air Quality Management District, as well as mitigation measures required as part of the LAX Master Plan Mitigation Monitoring & Report Program, Community Benefits Agreement, and Stipulated Settlement Agreement.

PROJECT TITLE:
LAX West Aircraft Maintenance Area Project
Peak Risk/Hazard Locations



<p>COMMENTS:</p> <p>Source area outlined in red with red shaded fill.</p> <p>Two co-located sources:</p> <ol style="list-style-type: none"> 1. Ground source for fugitive dust. 2. Elevated (5m) source for engine exhaust. <p>330 Receptors:</p> <ul style="list-style-type: none"> 326 Fenceline (yellow) 3 On-Airport (red) 1 On Project Site (green) <p>Fenceline receptor that would have highest risk is shown in light blue.</p>	<p>NO. OF SOURCES: 2</p>	<p>COMPANY NAME:</p> <p>Los Angeles World Airports</p>	
	<p>NO. OF RECEPTORS: 330</p>	<p>MODELER:</p> <p>J.R. Pehrson</p>	
		<p>SCALE: 1:48,197</p> <p>0  1 km</p>	
		<p>DATE:</p> <p>7/10/2013</p>	

AERMOD View - Lakes Environmental Software

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Figure 4-1 Peak Impact Receptor Locations

Table 4-2 Incremental Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals from WAMA Project Construction

Receptor Type	Incremental Cancer Risks ¹ (per million people)
Child Resident	0.01
School Child	0.002
Adult Resident	0.11
Adult Worker	0.03
Receptor Type	Incremental Non-Cancer Chronic Hazards ²
Child Resident	0.0004
School Child	0.00007
Adult Resident	0.0004
Adult Worker	0.0002

Notes:

¹ Values provided are changes in the number of cancer cases per million people exposed as compared to baseline conditions. All estimates are rounded to one significant figure.

² Hazard indices are totals for all TACs that may affect the respiratory system. This incremental hazard index is essentially equal to the total for all TACs.

Source: CDM Smith, 2013.

4.1.2.2 School Children

School children were evaluated at all 326 fenceline grid nodes. Incremental cancer risk for children attending schools at the peak location within the study area is estimated to be 0.002 in one million, when rounded to one significant figure. Risks below 1 in one million are typically considered negligible by regulatory agencies in California. DPM contributed to the majority of the cancer risk (89 percent). Project-related cancer risks for school children are predicted to be below the threshold of significance for the proposed Project.

Project-related chronic non-cancer hazard index for chemicals affecting the same target (i.e., the respiratory system) for MEI school children is 0.00007. At the peak hazard index location, hazard indices are primarily attributable to silicon (52%) and DPM (18%) and to a lesser extent to chlorine (14%) and manganese (8%). Project-related chronic non-cancer health hazards for school children are predicted to be below the threshold of significance for the proposed Project.

4.1.2.3 Adult Workers

Adult workers were evaluated at all 326 off-airport grid nodes and 3 on-airport/off-site grid nodes. Cancer risks for adult workers under the controlled scenario at the peak location are estimated to be 0.03 in one million. DPM contributed to the majority of the cancer risk (89 percent). Overall, project-related cancer risks for the proposed Project for adult workers are predicted to be below the threshold of significance.

Project-related chronic non-cancer hazard indices for adult workers are estimated to be 0.0002. At the peak hazard index location, hazard indices are primarily attributable to silicon (52%) and DPM (18%) and to a lesser extent to chlorine (14%) and manganese (8%). Project-related chronic non-cancer health hazards for adult workers for the proposed Project are predicted to be below the threshold of significance.

4.1.3 Acute Non-Cancer Health Hazards

As with cancer risks and chronic non-cancer health hazards, acute health hazards were analyzed at 330 grid points within the study area. Short-term concentrations of TAC for the proposed Project sources were estimated using AERMOD with the model option for 1-hour maximum concentrations selected. Acute health hazards were estimated at each grid point by comparison of the modeled TAC concentration at each grid point with the acute REL. All TAC identified in WAMA construction emissions and for which CalEPA has developed acute RELs were evaluated for potential acute health hazards. All acute health hazard estimates are specific for airport emissions and are independent of county-wide estimates developed by USEPA.

Land use distinctions and different exposure scenarios are irrelevant for assessment of acute health hazards. For example, someone visiting a commercial establishment would potentially be subject to the same acute health hazards as someone working at the establishment. For the acute analysis, all of the 326 fence-line grid points were assumed to be residential receptors. Fence-line concentrations of TAC are likely to represent the highest concentrations and therefore the greatest impacts for residents. Acute health hazards at these locations may reflect the relative magnitude of acute health hazards in residential areas nearest to emission sources. Thus, hazards estimated for the LAX fence-line are likely to overestimate acute hazards to off-site receptors. The four on-airport grid points were assumed to be commercial receptors (workers). One of the four on-airport receptors is located in the middle of the proposed Project construction site; this grid point was assumed to be the on-site construction worker location.

Formaldehyde, and manganese are the only TAC of concern in emissions from the WAMA Project that might be present at concentrations approaching the threshold for acute health hazards. Acute health hazards for other TAC orders of magnitude their respective acute RELs. These other TAC are discussed in the Uncertainties Section. Formaldehyde and manganese are responsible for 43 to 50% and 42 to 48%, respectively, of all predicted acute non-cancer health hazards. Acrolein is only responsible for 1.6 to 1.9% of all predicted acute health hazards associated with construction of the proposed Project. Nickel and acetaldehyde actually have greater contributions (2.4 to 2.7% and 2.5 to 2.9%, respectively) to the total acute hazard than acrolein, though insignificant when compared to formaldehyde and manganese. Acrolein results are shown here for informational purposes because it has historically been a TAC of concern for acute health hazards for other LAX projects. Maximum acute health hazards associated with exposure to these three chemicals from LAX WAMA construction are summarized in **Table 4-3**. Calculations are provided in Attachment 2 to this memorandum.

Hazards quotients due to acute exposure to acrolein, formaldehyde, and manganese are below 1 for all evaluated off-site grid nodes within the study area under the proposed Project. A hazard index equal to or greater than 1 would indicate the potential for acute adverse health effects. Acute exposures to acrolein typically result in mild irritation of eyes and mucous membranes. Acute exposures to formaldehyde may result in irritation to the eye and respiratory system and potentially adverse effects to the immune system. Acute exposures to nickel could also potentially impact the immune system. Acute exposures to acetaldehyde may result in sensory irritation, irritation of the respiratory system, and eye redness and swelling.

For the on-site construction worker, the hazard quotient for acute exposure to manganese is equal to 1; all other hazard quotients are less than 1. The acute REL for manganese is set at or below a level at which no adverse health impacts are expected for the majority of the population and includes an uncertainty factor of 300. Hence, no health impacts are expected. Also, note that the target organ for

acute toxicity of manganese is the nervous system and its actions would not be expected to be additive to the effects of acrolein and formaldehyde which target the respiratory system. These two TAC are the only other chemicals with acute HI estimates close to the threshold of one. No additive impacts from exposure to manganese and other site related TAC are expected.

Table 4-3 Maximum Incremental Acute Hazard Indices for WAMA Project Construction

Summary of Incremental Acute Hazard Indices			
Receptor Type	Manganese	Acrolein	Formaldehyde
Residential			
Maximum HI ¹	0.4	0.02	0.5
Minimum HI	0.004	0.0001	0.003
Average HI	0.09	0.004	0.1
Off-Site Worker			
Maximum HI	0.7	0.03	0.8
Minimum HI	0.01	0.0005	0.01
Average HI	0.4	0.02	0.5
Overall Off-Site Maximum HI	0.7	0.03	0.8
On-Site Construction Worker ²	1.0	0.03	0.9

Notes:

¹ HI = Hazard Index

² Only one grid node was analyzed for the on-Airport/on-site location.

Source: CDM Smith, 2013.

4.2 Cumulative Risks and Non-Cancer Health Hazards Associated with the Proposed Project

Unlike air quality, for which standards have been established that determine acceptable levels of pollutant concentrations, no standards exist that establish acceptable levels of human health risks or that identify a threshold of significance for cumulative health risk impacts. Therefore, the discussion below addresses cumulative health risk impacts, and WAMA-related contributions to those impacts; however, no determination is made regarding the significance of cumulative impacts. Since these results are not used for significance determination, a general discussion of the cumulative impacts for the WAMA project is provided. Based on information available from the South Coast Air Quality Management District (SCAQMD) and U.S. Environmental Protection Agency (USEPA), relative to regional cancer risk estimates and toxic air contaminant (TAC) predictions, the geographic areas considered in the cumulative health risk impacts analysis include the South Coast Air Basin for cancer risk and the LAX area for non-cancer health hazards, as further described below.

4.2.1 Cumulative Cancer Risks

The SCAQMD conducted an urban air toxics monitoring and evaluation study for the South Coast Air Basin from April 2004 through March 2006 called Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-III)³⁴. MATES-III is a follow up to MATES-II³⁵ and provides an updated general

³⁴ South Coast Air Quality Management District, Final Report, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-III), September 2008, Available: <http://www.aqmd.gov/prdas/matesIII/matesIII.html>, accessed June 21, 2012.

evaluation of cancer risks associated with TAC from all sources within the South Coast Air Basin. The SCAQMD is currently working on another update, MATES-IV, to update the monitoring and evaluation study; however, the results of MATES-IV are not yet available to the public.³⁶ According to MATES-III, cancer risks in the South Coast Air Basin range from 870 in one million to 1,400 in one million, with an average of 1,200 in one million. These cancer risk estimates are high and indicate that current impacts associated with ongoing releases of TAC (e.g., from vehicle exhaust) and from sources of TAC from past and present projects in the region are substantial. The MATES-III study is an appropriate estimate of present cumulative impacts of TAC emissions in the South Coast Air Basin. It does not, however, have sufficient resolution to determine the fractional contribution of current LAX operations to TAC in the airshed. Only possible incremental contributions to cumulative impacts can be assessed.

Meaningful quantification of future cumulative health risk exposure in the entire South Coast Air Basin is not possible. Moreover, the threshold of significance used to determine cancer risk impacts associated with the WAMA Project is based on the cancer risks associated with individual projects; this threshold is not appropriately applied to conclusions regarding cumulative cancer risk in the South Coast Air Basin.

However, based on the relatively high cancer risk level associated with TAC in air in the South Coast Air Basin (i.e., an additional 1,200 cancer cases per million according to MATES-III), the WAMA project (with a maximum estimated incremental cancer risk of 0.1 cancer cases per million) would not add substantially (less than 0.02 percent) to the already high cumulative cancer risk in the South Coast Air Basin. This small increase estimated for the WAMA project would not be measurable against urban background conditions in the South Coast Air Basin.

The above comparisons do not account for possible positive changes in air quality in the South Coast Air Basin in the future. SCAQMD and other agencies are consistently working to reduce air pollution. In particular, reductions in emissions of diesel particulates are being considered and implemented. Since diesel particulate matter is the major contributor to estimated cancer risks, substantial reductions in diesel emissions would result in substantial reductions in cumulative cancer risks. These, and other such regulations intended to reduce TAC emissions within the South Coast Air Basin, would reduce cumulative impacts overall. While continued, if not increased, regulation by the SCAQMD of point sources as well as more stringent emission controls on mobile sources would reduce TAC emissions, whether such measures would alter incremental contributions of TAC releases to cumulative impacts under the WAMA project cannot be ascertained.

With regard to reasonably foreseeable projects, continued growth and development in the region, as well as other construction projects at LAX, may result in additional emissions of TACs. Future emissions of TACs in the airshed in general cannot be quantitatively assessed; emissions associated with other projects at LAX that may be constructed concurrently with the WAMA project are listed in Table 4-4. Also included in Table 4-4 are the cumulative projects considered in the Bradley West³⁷ and

³⁵ South Coast Air Quality Management District, Final Report, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-II), March 2000, Available: <http://www.aqmd.gov/matesiidf/es.pdf>, accessed July 24, 2013.

³⁶ Information on the new MATES-IV study is available at <http://www.aqmd.gov/prdas/MatesIV/MatesIV.html>, accessed July 24, 2013.

³⁷ City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Los Angeles International Airport (LAX) Bradley West Project, September 2009.

CUP-RP EIRs,³⁸ indicating that a similar level of cumulative project construction would occur under WAMA as under these other major projects. The list of concurrent projects is constantly changing as needs for LAX and the region fluctuate so the specific potential emissions from these concurrent projects were not calculated for this WAMA EIR. Instead, the cumulative cancer risks and hazards for concurrent projects that were presented in the Bradley West³⁹ and CUP-RP EIRs⁴⁰ are provided for comparison to the WAMA project cancer risks and hazards in Table 4-5.

Table 4-4 List of WAMA Cumulative Projects

WAMA Cumulative Projects	Bradley West & CUP Replacement Cumulative Projects
West Aircraft Maintenance Area Project (including 2nd Hanger)	West Aircraft Maintenance Area Project
Runway Safety Area (RSA) Improvements – South Airfield	Airfield Operating Area (AOA) Perimeter Fence Enhancements – Phase III
Runway Safety Area (RSA) Improvements – North Airfield	Airfield Intersection Improvements – Phase II
Bradley West Project (BWP) – Remaining Work (Demo TBIT Concourses, Build East Gates/Aprons, Build Taxiway T, Build T-4 Connector, BWP Traffic Mitigation)	Bradley West Project (Taxiway S and ARFF demolition)
Bradley West Project (BWP) – Remaining Work (Build T-3 Connector)	TBIT Interior Improvements Program
North Terminals Major Renovations (T-1)	Korean Air Cargo Terminal Improvement Project
South Terminals Major Renovations (T-5 through T-8)	CTA Joint Repair, Roadway Improvements, and Security Barriers
Midfield Satellite Concourse: Phase I – North Concourse Project	Crossfield Taxiway Project
Central Utility Plant Replacement Project – Remaining Work	Central Utility Plant Replacement Project
Miscellaneous Projects and Improvements (repair/replacement/upgrades to existing facilities)	CTA Elevators and Escalators Replacement, CTA Seismic Retrofits, Sewer Line Replacement
LAX Northside Area Development	Westchester Golf Course 3-Hole Expansion Project, Westchester Rainwater (Stormwater) Improvement Project
LAX Master Plan/Specific Plan Amendment Study Development	Security Program – In-Line Baggage Screening Systems (T6), Airport Operations Center (AOC)/Emergency Operation Center (EOC), K-9 Training Facility, Passenger Boarding Bridge Replacement, Bus Wash Rack Facility
Los Angeles Metropolitan Transit Authority – Crenshaw/LAX Transit Corridor and Station	Los Angeles Metropolitan Transit Authority – Bus Maintenance and Operations Facility

Source: CDM Smith, 2013.

As shown in Table 4-5, cancer risks from the WAMA project construction comprise less than 1 percent of cancer risks from the combined other projects at LAX anticipated to be under construction concurrent with the Bradley West Project. This increment would not be measurable against urban background conditions in the South Coast Air Basin. Risks and hazards associated with the WAMA

³⁸ City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Los Angeles International Airport (LAX) Central Utility Plant Replacement Project, October 2009.

³⁹ City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Los Angeles International Airport (LAX) Bradley West Project, September 2009.

⁴⁰ City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Los Angeles International Airport (LAX) Central Utility Plant Replacement Project, October 2009.

project would have an even smaller impact on cumulative human cancer risks and health hazards against urban background conditions in the South Coast Air Basin.

Table 4-5 Comparison of Incremental Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals from WAMA Project Construction to the Concurrent Projects of Bradley West and CUP-RP

Receptor Type	Incremental Cancer Risks ¹ (per million people)	
	WAMA Project	Concurrent Projects for Bradley West and CUP-RP ³
Child Resident	0.01	9
School Child	0.002	0.8
Adult Resident	0.11	31
Adult Worker	0.03	31
Receptor Type	Incremental Non-Cancer Chronic Hazards ²	
Child Resident	0.0004	0.3
School Child	0.00007	0.03
Adult Resident	0.0004	0.09
Adult Worker	0.0002	0.09

Notes:

¹ Values provided are changes in the number of cancer cases per million people exposed as compared to baseline conditions. All estimates are rounded to one significant figure.

² Hazard indices are totals for all TACs that may affect the respiratory system. This incremental hazard index is essentially equal to the total for all TACs.

³ Includes Bradley West Project (Taxiway S and ARFF demolition, both Bradley West Project construction and operation), Crossfield Taxiway Project, Airfield Operating Area (AOA) Perimeter Fence Enhancements - Phase III, Security Program - In-Line Baggage Screening Systems (T6), TBIT Interior Improvements Program, Airfield Intersection Improvements - Phase 2, Airport Operations Center (AOC)/Emergency Operation Center (EOC), K-9 Training Facility, Central Utilities Plant Replacement Program (CUP-RP), Passenger Boarding Bridge Replacement, Bus Wash Rack Facility, CTA Elevators and Escalators Replacement, CTA Seismic Retrofits, Sewer Line Replacement, CTA Joint Repair, Roadway Improvements, and Security Barriers, Korean Air Cargo Terminal Improvement Project, West Aircraft Maintenance/Aircraft Parking Area, Westchester Golf Course 3-Hole Expansion Project, Westchester Rainwater (Stormwater) Improvement Project, and Metro Bus Maintenance and Operations Facility.

Source: CDM Smith, 2013.

4.2.2 Cumulative Chronic Non-Cancer Health Hazards

Acrolein is the TAC of concern that is responsible for the majority of all predicted chronic non-cancer health hazards associated with LAX operations. However, for the WAMA construction project, chronic non-cancer health hazards are primarily attributable to DPM and silicon, and to a lesser extent acrolein and chlorine. In 2011, USEPA published an independent study of possible annual average air concentrations within the South Coast Air Basin associated with a variety of TAC, including acrolein, chlorine, and DPM (silicon was not included).⁴¹ These estimates provide a means for assessing cumulative chronic non-cancer health hazard impacts of airport operations in much the same manner as cumulative cancer risks were assessed using the MATES-III results.

Within Los Angeles County, USEPA predictions⁴² for annual average concentrations yield acrolein hazard indices ranging from 0.3 to 15, with an average of 4; DPM hazard indices ranging from 0.0007

⁴¹ U.S. Environmental Protection Agency, 2005 National-Scale Air Toxics Assessment, 2011, Available: www.epa.gov/ttn/atw/nata2005/tables.html.

⁴² U.S. Environmental Protection Agency, 2005 National-Scale Air Toxics Assessment, 2011, Available: www.epa.gov/ttn/atw/nata2005/tables.html.

to 1.2, with an average of 0.3; and chlorine hazard indices ranging from 0.0006 to 0.8, with an average of 0.09. Incremental hazard indices for the WAMA project (Table 4-2) were estimated to range from 0.00007 to 0.0002, orders of magnitude below the threshold of significance of one. Given the relatively small hazard indices associated with WAMA project emissions, the WAMA project is not expected to add significantly to cumulative chronic non-cancer health hazards.

Because of the substantial uncertainties associated with the USEPA estimates,⁴³ the cumulative analysis for chronic non-cancer health hazard impacts is semi-quantitative and based on a range of possible contributions. This cumulative analysis does not address the issue of potential interactions among acrolein and criteria pollutants. Such interactions cannot, at this time, be addressed in a quantitative fashion. A qualitative discussion of the issue is presented in the LAX Master Plan Final EIR⁴⁴ Technical Report S-9a, Section 7.

As discussed in the LAX Master Plan Final EIR⁴⁵ (Section 4.24.1.2), limited data are available for describing acrolein emissions. Therefore, estimates of chronic non-cancer health hazards are very uncertain. Chronic non-cancer health hazards associated with the WAMA project should only be used to provide a relative comparison to basin-wide conditions. These hazards should not be viewed as absolute estimates of potential health impacts. Moreover, USEPA's estimates are based on data from 2005 and are therefore several years old. Emissions from some important sources may have been reduced as a result of continuing efforts by SCAQMD and other agencies to improve air quality in the South Coast Air Basin. Finally, the estimates do not consider degradation of TAC in the atmosphere. Degradation may be very important for relatively reactive chemicals such as acrolein.

4.2.3 Cumulative Acute Non-Cancer Health Hazards

Acrolein, formaldehyde, and manganese are the primary TAC of concern in WAMA project emissions that might be present at concentrations approaching the threshold for acute health hazards. Predicted concentrations of TAC released from construction activities for the WAMA project estimate that acute non-cancer health hazards would be below the significance threshold of one. The assessment of cumulative acute non-cancer health hazards follows the methods used to evaluate cumulative acute non-cancer health hazards presented in the LAX Master Plan Final EIR⁴⁶ (Section 4.24.1.7 and Technical Report S-9a, Section 6.3), incorporating updated National-Scale Air Toxics Assessment (NATA) tables from 2005. USEPA-modeled emission estimates by census tract were used to estimate annual average ambient air concentrations. These census tract emission estimates are subject to high uncertainty, and USEPA warns against using them to predict local concentrations. Thus, for the analysis of cumulative acute non-cancer health hazards, estimates for each census tract within Los Angeles County were identified, and the range of concentrations was used as an estimate of the possible range of annual average concentrations in the general vicinity of the airport. This range of concentrations was used to estimate a range of acute non-cancer hazard indices using the same

⁴³ U.S. Environmental Protection Agency, 2005 National-Scale Air Toxics Assessment, 2011, Available: www.epa.gov/ttn/atw/nata2005/tables.html.

⁴⁴ City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

⁴⁵ City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

⁴⁶ City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

methods as described in the LAX Master Plan Final EIR⁴⁷ (Section 4.24.1.7 and Technical Report S-9a, Section 6.1). The methodology entails converting the USEPA annual average estimates to maximum 1-hour average concentrations by dividing annual average estimates by 0.08⁴⁸. Then the maximum 1-hour average concentrations were divided by the acute REL to calculate acute hazard indices. The range of hazard indices was then used as a basis for comparison with estimated maximum acute non-cancer health hazards for the WAMA project. The relative magnitude of acute non-cancer health hazards calculated on the basis of the USEPA estimates and maximum hazards estimated for the WAMA project were taken as a general measure of relative cumulative impacts. Emphasis must be placed on the relative nature of these estimates. Uncertainties in the analysis preclude estimation of absolute impacts.

When USEPA annual average estimates are converted to possible maximum 1-hour average concentrations, acrolein acute hazard indices are estimated to range from 0.03 to 1.5, with an average of 0.4; formaldehyde acute hazard indices are estimated to range from 0.1 to 2.2, with an average of 1; and manganese acute hazard indices are estimated to range from 0.03 to 0.5, with an average of 0.13 for locations within the HHRA study area. Predicted overall maximum incremental acute non-cancer health hazards for the WAMA project associated with acrolein ranged from 0.0001 to 0.03; associated with formaldehyde ranged from 0.003 to 0.9; and associated with manganese ranged from 0.004 to 1. Results suggest that the acute non-cancer health hazards for the WAMA project would not add significantly to total acute non-cancer health hazards for the WAMA project. Therefore, cumulative acute non-cancer health hazards associated with the WAMA project would not be cumulatively considerable.

4.2.4 Conclusions

Although no defined thresholds for cumulative health risk impacts are available, it is the policy of the SCAQMD to use the same significance thresholds for cumulative impacts as for the project-specific impacts analyzed in the EIR.⁴⁹ If cumulative health risks are evaluated following this SCAQMD policy, the project's contribution to the cumulative cancer risk would not be cumulatively considerable since the incremental cancer risk impacts of the WAMA project are all below the individual cancer risk significance thresholds of 10 in one million.

In contrast to cancer risk, the SCAQMD policy does have different significance thresholds for project-specific and cumulative impacts for hazard indices for TAC emissions. A project-specific significance threshold is one (1.0) while the cumulative threshold is 3.0. Based on this SCAQMD policy, chronic non-cancer hazard indices associated with airport emissions under the WAMA project would not be cumulatively considerable.

⁴⁷ City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

⁴⁸ California Air Resources Board. 2003. HARP User Guide: Appendix H Recommendations for Estimating Concentrations of Longer Averaging Periods from the Maximum One-Hour Concentration for Screening Purposes. December. Available: <http://www.arb.ca.gov/toxics/harp/harpug.htm>

⁴⁹ South Coast Air Quality Management District, White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution, August 2003, Appendix D, Available: <http://www.aqmd.gov/hb/2003/030929a.html>, accessed June 15, 2012.

Section 5

Uncertainties

Uncertainties are present in all facets of human health risk assessment. Potential important uncertainties associated with the HHRA for the LAX Master Plan are discussed in detail in Technical Report 14a and Technical Report S-9a of the LAX Master Plan Final EIR. These same uncertainty considerations apply to the analyses presented in the WAMA Project EIR. These uncertainties are briefly summarized below.

5.1 Uncertainties Associated with Emission Estimates and Dispersion Modeling

Risk estimates were based on chemical concentration estimates obtained through emissions and dispersion modeling. Emissions estimates are sensitive to the values used to represent the numerous emission source variables (e.g., future aircraft operation assumptions) and to the air toxic emission factor values used for each source. Consequently, estimated emissions values are subject to uncertainties. Different assumptions and values of variables would result in different emissions estimates. The HHRA used well-accepted methods and best available emission factor data to develop estimates of emissions, and estimates and assumptions are reasonable and appropriate. Actual emissions are unlikely to be meaningfully greater than those used in the analyses.

In accordance with the Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,⁵⁰ a simplification was made in the emissions modeling to model DPM and not the speciated emissions from diesel-fueled engines for the emission concentrations used in the evaluation of cancer risk or chronic non-cancer health impacts. According to the guidance, the inhalation cancer potency factor and chronic REL for DPM already account for inhalation impacts from speciated emissions from diesel-fueled engines. Therefore, this omission in the modeling is not expected to impact the results of the analysis.

Another simplification was made in the estimate of construction emissions. Construction emission sources were limited to diesel engine exhaust, gasoline engine exhaust, and construction dust. Previous studies indicated that these sources account for a substantial majority of all TAC emissions and thus for risks and hazards associated with construction activities come from these sources. Further, methods used assumed that all PM from engine exhaust came from diesel engines and all of the engine exhaust TOG came from gasoline engines. Given the high toxicity of diesel PM and the greater emissions of toxic organic chemicals in gasoline engine exhaust, these assumptions compensate for ignoring expected minor contributions from paving and striping emissions.

In addition, recent studies suggest that predicted concentrations of acrolein in air associated with LAX construction and operations may be over-estimated. Acrolein is unlikely to be transported over long distances because of its high reactivity and estimated short half-life in air. A study at Chicago O'Hare Airport used empirical measurements of acrolein in ambient air to determine that acrolein was not a significant TAC associated with airport operations. The Illinois EPA measured airborne levels of

⁵⁰ California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments](#), Appendix D, August 2003.

various air contaminants in the vicinity of the O'Hare Airport as well as at other locations in the Chicago area over a seven-month period in 2000. An objective of the air toxics monitoring program was to determine if emissions associated with O'Hare Airport had a measurable impact on air quality in areas adjacent to the airport. Acrolein was not reported at measurable levels in air at locations near the airport during the air toxic monitoring program.

5.2 Evaluation of Sensitive Receptor Populations

Certain subpopulations may be more sensitive or susceptible to negative health impacts caused by environmental contaminants than the population at large. Risk estimates presented in the HHRA represent a wide range of potential exposures including the highest that can be reasonably expected. Thus, even though risk estimates are not provided for all potentially sensitive receptors in the area, populations not specifically evaluated are still expected to be represented. For example, quantitatively evaluated populations include those with the highest expected exposure durations and exposure frequencies (e.g., residents). Exposures are therefore expected to be less for other populations, even those with higher chemical sensitivities.

5.3 Uncertainties Associated with Exposure Parameter Assumptions

Evaluating human exposure requires many assumptions about how people actually contact chemicals in the environment. Key issues associated with exposure assessment are discussed below.

5.3.1 Uncertainties in Exposure Duration for Cancer Risks

An exposure duration of 70 years was used to estimate possible cancer risks associated with the proposed Project. A 70-year exposure duration is generally used by the SCAQMD in risk assessments performed for permitting purposes. This exposure duration combined with other exposure parameters used in this HHRA assumes that an individual exists who resides where maximum impacts occur in a location near construction similar to construction anticipated for LAX, and that the individual is sedentary, spending essentially all of his/her time at home. Further, this exposure duration assumes that construction emissions continue for a lifetime (6 years for a child and 70 years for an adult). In essence, SCAQMD assumes that person would constantly be exposed to emissions at the point of greatest impact for their entire lives. This combination of factors never occurs, and any estimates of cancer risk based on such a combination will greatly overestimate possible cancer risks for everyone in the study area.

In the Air Toxics Hot Spots Guidance,⁵¹ OEHHA recommends using a stochastic approach to evaluating cancer risks for residential receptors (it does not recommend this approach for workers or for chronic non-cancer health hazards). It suggests consideration of a range of exposure durations, e.g., 9-year, 30-year, and 70-year exposure durations. Varying exposure duration for residents evaluated for the proposed Project would not materially affect conclusions about the cancer risk impact of the proposed Project because all of the incremental cancer risks estimated for residential receptors are below the threshold of significance. The conclusions regarding potential cancer risk impacts of the proposed Project would remain the same.

⁵¹ California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments](#), August 2003.

5.3.2 Uncertainties Associated with the Evaluation of the Construction Emissions

For the evaluation of construction impacts, construction emissions from the proposed Project were estimated to produce a 5-year average for the 5-year construction period and then amortized over the 70-year exposure period to estimate the annualized 70-year average emissions. While this approach may be appropriate for the estimate of cancer risks for the adult resident who has an exposure duration of 70 years, it may underestimate risks for receptors whose exposure durations are less than 70 years, such as the child resident and school child with 6-year exposure durations. To check the sensitivity of the conclusions to this amortization, annual average emissions were recalculated for the peak locations by amortizing the construction emissions only over the 5-year construction period (instead of the 70-year period). Then, cancer risks and non-cancer health hazards were recalculated for exposure to these revised exposure concentrations assuming an exposure duration of 5 years for all receptors. The averaging time for the cancer risks remained at 70 years, but non-cancer averaging times were modified to be 5 years. These results are presented in **Table 9**. Calculations for this analysis are provided in Attachment 3.

Table 5-1 Incremental Cancer Risks for Maximally Exposed Individuals for WAMA Project Construction with Adjustment of Construction Emissions for 5-Year Construction Period

Receptor Type ¹	Incremental Cancer Risks ^{2,3,4} (per million people)
Child Resident	0.1
School Child	0.02
Adult Resident	0.1
Adult Worker	0.05
	Incremental Non-Cancer Chronic Hazards^{2,4,5}
Child Resident	0.005
School Child	0.001
Adult Resident	0.005
Adult Worker	0.003

Notes:

¹ All receptors were evaluated assuming only a 5-year exposure during the time of construction.

² Values provided are calculated using RAGS Part F methodology.

³ Values provided are changes in the number of cancer cases per million people exposed as compared to baseline conditions. All estimates are rounded to one significant figure.

⁴ Maximum values indicated are not all located at the same grid location

⁵ Hazard indices are totals for all TACs that may affect the respiratory system. This incremental hazard index is essentially equal to the total for all TACs.

Source: CDM Smith, 2013.

Although the incremental cancer risks and hazards are higher for the 5-year modified construction emissions analysis, the risks and hazards are still below the significance thresholds and conclusions regarding potential impacts of the proposed Project would remain the same.

5.4 Uncertainties Associated with Toxicity Assessment

Quantitative evaluation of chemical toxicity requires assumptions to extrapolate toxicity information in the literature to possible impacts on people exposure to chemicals in the environment. Key assumptions are discussed briefly below.

5.4.1 Uncertainties Associated with Toxicity Criteria

A potentially large source of uncertainty is inherent in the derivation of the CalEPA toxicity criteria (cancer slope factors and RELs). In many cases, data used to develop toxicity criteria must be extrapolated from animals to sensitive humans. For example, the application of uncertainty factors to estimated no-observable-adverse-effects-levels (NOAELs) or lowest-observed-adverse-effects-levels (LOAELs) are typically used to develop RELs. While designed to be protective, in many cases toxicity criteria are likely to overestimate the magnitude of differences that may exist between humans and animals, and among humans.

In some cases, however, toxicity criteria may be based on studies that did not detect the most sensitive adverse effects. For example, many past studies have not measured possible toxic effects on the immune system. Moreover, some chemicals may cause subtle effects not easily recognized in animal studies. Overall, toxicity criteria are likely to be protective for most or all exposed populations. These criteria are constantly being reconsidered in light of new research and are subject to occasional change during this process. The nature and direction of these changes cannot be predicted and currently available criteria are the best source of toxicity information for use in health risk assessments.

5.4.2 Uncertainties Associated with Unavailable Toxicity Values

1,3-Butadiene, ethylbenzene, naphthalene, n-hexane, propylene, silicon, antimony, cadmium, hexavalent chromium, lead, selenium, and DPM do not have acute RELs that have been developed by OEHHA. However, 1,3-butadiene and ethylbenzene have acute toxicity screening levels from the Agency for Toxic Substances and Disease Registry (ATSDR) in the form of published acute minimal risk levels (MRLs) for hazardous substances. MRLs were established to provide a screening tool for public health professionals to use to identify if potential human health hazards exist from contamination at hazardous waste sites. MRLs are often based on animal studies because relevant human studies are lacking. ATSDR assumes that humans are more sensitive than animals to the effects of hazardous substances and that certain persons may be particularly sensitive. Thus, ATSDR recommendations for MRLs may be as much as a hundred-fold below levels shown to be nontoxic in laboratory animals. This approach is conservative (i.e., protective) for public health. Acute inhalation MRLs for 1,3-butadiene and ethylbenzene are 0.1 parts per million (ppm) and 5 ppm, respectively. These MRLs are relatively high (compared to acrolein which has an acute MRL of 0.003 ppm), reflecting the low acute toxicity of these chemicals. It's unlikely that acute non-cancer health hazards associated with these organic chemicals would rival acrolein, the risk driver for potential acute non-cancer health hazards from aircraft emissions. Lack of inclusion of these chemicals in the quantitative risk assessment is not expected to change the conclusions of the acute non-cancer health hazard evaluation.

Although DPM does not have an acute REL, several components of DPM (such as arsenic, chlorine, mercury, nickel, vanadium, and sulfates) were evaluated in the acute non-cancer health hazard analysis. As noted in Section 5.1, Air Toxics Hot Spots Program Guidance Manual for Preparation of

Health Risk Assessments⁵² indicates that toxicity values for DPM were developed for whole diesel exhaust (gas and particulate matter). As such, DPM should be the only TAC considered in the calculation of cancer risks and chronic non-cancer health hazards for diesel engine emissions; speciated diesel exhaust components (e.g., PAHs, metals) should not be evaluated along with DPM. Studies used to support the DPM toxicity value also indicate that "potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multipathway cancer risk from the speciated components." DPM does not, however, have an acute REL. Therefore, in order to account for potential acute impacts from DPM, the speciated components of DPM (arsenic, chlorine, mercury, nickel, vanadium, and sulfates) were evaluated in the acute non-cancer health hazard analysis.

Naphthalene, n-hexane, propylene, silicon, antimony, cadmium, hexavalent chromium, lead, and selenium do not have acute toxicity values. Therefore, their potential impact on the conclusions of the acute risk evaluation is unknown.

5.5 Uncertainties in Risk Characterization

Combining estimates of exposure and toxicity to estimate risks and hazards to human health require the use of methods that simplify actual exposure. For the inhalation pathway, important issues for risk characterization are discussed below.

5.5.1 Uncertainties Associated with Elimination of Potentially Complete Exposure Pathways

The WAMA HHRA evaluates the potential complete exposure pathway of direct inhalation of TAC released during construction of the proposed Project. However, other exposure pathways, such as exposure to TAC deposited onto soils, could also be important. For example, children might ingest TAC that deposited onto soil through hand-to-mouth activity during outdoor play, or residents who have gardens could ingest TAC taken up from soil into plants. For the WAMA HHRA, based on the multipathway screening analysis in the LAX Master Plan Final EIR and other airport HHRAs, inhalation of TAC was identified as the primary exposure pathway, and exposures and risks from inhalation of TAC were quantified.

Other potential exposure pathways were analyzed in a two-step screening process described in Technical Report 14a Attachment B, Section 2.5.3 of the LAX Master Plan Final EIR. In the first step, air dispersion modeling was used to determine potential TAC concentrations in air on or near LAX, and these concentrations were used to estimate deposition of TAC onto soils over time. In the second screening step, concentrations of TAC estimated in soil were compared to the range of background concentrations of these chemicals to determine the relative impacts of deposition from air. This analysis indicated that impacts to soils from deposition of TAC from airport construction would be negligible and that the estimated contribution from LAX emissions would result in no measurable difference in expected background concentrations of metals. Therefore, secondary pathways involving TAC in soil were not further evaluated.

5.6 Interactions among Acrolein and Criteria Pollutants

TAC that act in similar ways to produce toxicity may cause additive, or even greater than additive, impacts to human health. Acrolein and criteria pollutants, such as oxides of nitrogen and ozone, all act as irritants to the upper respiratory system. Thus, interactions among these chemicals are possible.

⁵² California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, [Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments](#), Appendix D, August 2003.

Whether such interactions actually occur, and are important for emissions from LAX construction, cannot be ascertained with available information. Many uncertainties exist, including:

- Reliability of acrolein concentration estimates (see Section 5.1).
- Lack of information on specific mechanisms of toxicity for the chemicals in question, which will affect the potential for and degree of any interactions.
- Lack of information on thresholds at which interactions may occur.

Without extensive additional research, the potential for impacts related to interactions among acrolein and criteria pollutants cannot be further assessed.

Section 6

Summary

The HHRA addressed possible incremental health impacts associated with construction of the Proposed project. The evaluation assessed cancer risks, chronic non-cancer health hazards, and acute health hazards. The text below summarizes the conclusions regarding significant human health impacts based on modeling estimates.

- Incremental cancer risks associated with construction of the WAMA project are anticipated to be below the threshold of significance of 10 in one million for all receptor types (i.e., child resident, school child, adult resident, and adult worker) within the study area. Incremental cancer risk estimates indicate that impacts would be less than significant.
- Incremental chronic non-cancer hazard indices associated with construction of the WAMA project are anticipated to be below the threshold of significance for all receptor types (i.e., child resident, school child, adult resident, and adult worker). Incremental chronic non-cancer hazard indices indicate that impacts would be less than significant.
- Incremental acute hazard indices would be at or below the threshold of significance of 1 at all locations of modeled peak TAC concentrations. Incremental acute hazard indices indicate that impacts would not be significant.
- Exposure concentrations used for the risk calculations assumed that the 5-year average construction emissions were amortized over a 70-year exposure period to estimate the annualized 70-year average emissions. Because this approach could underestimate risks for receptors whose exposure durations are less than 70 years, cancer risks and hazards were recalculated using construction emissions amortized over the 5-year construction period (instead of the 70-year period) and assuming an exposure duration of 5 years for all receptors. Although this recalculation showed that the incremental cancer risks and hazards are higher for the 5-year modified construction emissions analysis, the risks and hazards are still below significance thresholds and conclusions regarding potential impacts of the proposed Project would remain the same.
- Estimated maximum air concentrations for all TAC evaluated on the WAMA project site would not exceed PEL-TWA for WAMA construction workers. Therefore, health impacts to on-airport/on-site workers would be less than significant.
- From a cumulative standpoint, cancer risks, chronic non-cancer hazards and acute hazards from the WAMA project construction would likely contribute negligibly to the risks and hazards from emissions for anticipated concurrent construction projects at LAX.
- Estimated cumulative risks and hazards from emissions for concurrent construction projects at LAX would not be measurable against urban background conditions in the South Coast Air Basin.

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Attachment 1

Cancer Risk and Chronic Non-Cancer Health Hazard Calculations (RAGS Part F)

Table 1-1
RAGS F Risk Calculation for LAX West Airfield Maintenance Area, 2015 Construction - Lifetime Exposure
 (Based on Peak Location of Residential Cancer Risks¹)

Exposure Parameters	Residential Child		School Child		Residential Adult		RAGS F Equations		Hazard Quotients			
	24 (hrs/day) 6 (years) 350 (days/year) 52560 (hrs) 613200 (hrs)	8 (hrs/day) 6 (years) 200 (days/year) 52560 (hrs) 613200 (hrs)	24 (hrs/day) 70 (years) 350 (days/year) 613200 (hrs) 613200 (hrs)	24 (hrs/day) 70 (years) 350 (days/year) 613200 (hrs) 613200 (hrs)	EC = (CA x ET x EF x ED) / (AT) Risk = IUR x EC HQ = EC / REL Where: HQ = Hazard Quotient IUR = Inhalation Unit Risk REL = Reference Exposure Level	EC = Exposure Concentration AT = Averaging Time (for cancer or non-cancer)	Cancer Risks		Hazard Quotients			
TAC	Concentration at Location w/Maximum Risk (ug/m ³)	CalEPA Inhalation Unit Risk (ug/m ³) ⁻¹	CalEPA Inhalation Unit Risk (ug/m ³) ⁻¹	CalEPA RfC (ug/m ³)	Cancer Risk to Child Resident	Cancer Risk to Child Resident	Cancer Risk to Child Resident	Cancer Risk to Child Resident	Hazard Quotient School Child	Hazard Quotient Resident		
acetaldehyde	6.05E-07	2.70E-06	9.00E+00	1.40E+02	1.34E-13	2.56E-14	6.71E-13	1.57E-12	4.14E-09	7.89E-10	4.14E-09	4.14E-09
acrolein	2.87E-07	NA	2.00E-02	3.50E-01	NC	NC	NC	NC	7.86E-07	1.50E-07	7.86E-07	7.86E-07
benzene	5.36E-06	2.90E-05	3.00E+01	6.00E+01	1.28E-11	2.43E-12	6.38E-11	1.49E-10	8.56E-08	1.63E-08	8.56E-08	8.56E-08
1,3-butadiene	1.18E-06	1.70E-04	2.00E+00	2.00E+01	1.65E-11	3.14E-12	8.25E-11	1.93E-10	5.66E-08	1.08E-08	5.66E-08	5.66E-08
ethylbenzene	2.27E-06	2.50E-06	1.00E+03	2.00E+03	4.67E-13	8.89E-14	2.33E-12	5.45E-12	1.09E-09	2.08E-10	1.09E-09	1.09E-09
formaldehyde	3.42E-06	6.00E-06	9.80E+00	9.00E+00	1.69E-12	3.21E-13	8.44E-12	1.97E-11	3.65E-07	6.95E-08	3.65E-07	3.65E-07
hexane, n-	3.46E-06	NA	7.00E+02	7.00E+03	NC	NC	NC	NC	4.75E-10	9.04E-11	4.75E-10	4.75E-10
methyl alcohol	2.65E-07	NA	4.00E+03	4.00E+03	NC	NC	NC	NC	6.35E-11	1.21E-11	6.35E-11	6.35E-11
methyl ethyl ketone	3.96E-08	NA	5.00E+03	NA	NC	NC	NC	NC	7.59E-12	1.45E-12	7.59E-12	7.59E-12
naphthalene	1.02E-07	3.40E-05	3.00E+00	9.00E+00	2.86E-13	5.44E-14	1.43E-12	3.33E-12	1.09E-08	2.07E-09	1.09E-08	1.09E-08
propylene	6.64E-06	NA	3.00E+03	3.00E+03	NC	NC	NC	NC	2.12E-09	4.04E-10	2.12E-09	2.12E-09
styrene	2.66E-07	NA	1.00E+03	9.00E+02	NC	NC	NC	NC	2.84E-10	5.40E-11	2.84E-10	2.84E-10
toluene	1.25E-05	NA	5.00E+03	3.00E+02	NC	NC	NC	NC	3.99E-08	7.59E-09	3.99E-08	3.99E-08
xylene (total)	1.04E-05	NA	1.00E+02	7.00E+02	NC	NC	NC	NC	1.42E-08	2.71E-09	1.42E-08	1.42E-08
Diesel PM	3.51E-04	3.00E-04	5.00E+00	5.00E+00	8.66E-09	1.65E-09	4.33E-08	1.01E-07	6.74E-05	1.28E-05	6.74E-05	6.74E-05
arsenic	6.14E-08	3.30E-03	1.50E-02	1.50E-02	1.66E-11	3.17E-12	8.32E-11	1.94E-10	3.92E-06	7.47E-07	3.92E-06	3.92E-06
cadmium	9.97E-08	1.80E-03	4.20E-03	2.00E-02	3.44E-11	6.56E-12	1.72E-10	4.02E-10	4.78E-06	9.11E-07	4.78E-06	4.78E-06
chlorine	1.09E-05	NA	1.50E-01	2.00E-01	NC	NC	NC	NC	5.21E-05	9.92E-06	5.21E-05	5.21E-05
chromium (VI)	3.35E-08	1.20E-02	1.50E-01	2.00E-01	4.13E-10	7.87E-11	2.07E-09	4.82E-09	1.61E-07	3.06E-08	1.61E-07	1.61E-07
copper	3.53E-07	NA	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
lead	1.79E-06	1.20E-05	NA	NA	1.77E-12	3.37E-13	8.84E-12	2.06E-11	NC	NC	NC	NC
manganese	2.94E-06	NA	5.00E-02	9.00E-02	NC	NC	NC	NC	3.13E-05	5.97E-06	3.13E-05	3.13E-05
mercury	5.11E-08	NA	3.00E-01	3.00E-02	NC	NC	NC	NC	1.63E-06	3.11E-07	1.63E-06	1.63E-06
nickel	1.94E-07	2.60E-04	9.00E-02	1.40E-02	4.15E-12	7.91E-13	2.08E-11	4.85E-11	1.33E-05	2.54E-06	1.33E-05	1.33E-05
selenium	7.67E-09	NA	2.00E+01	2.00E+01	NC	NC	NC	NC	3.68E-10	7.01E-11	3.68E-10	3.68E-10
silicon	6.24E-04	NA	3.00E+00	3.00E+00	NC	NC	NC	NC	1.99E-04	3.80E-05	1.99E-04	1.99E-04
sulfates	1.51E-05	NA	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
vanadium	8.46E-07	8.30E-03	1.00E-01	NA	5.77E-10	1.10E-10	2.89E-09	6.73E-09	8.11E-06	1.55E-06	8.11E-06	8.11E-06
TOTAL					1E-08	2E-09	5E-08	1E-07	0.0004	0.00007	0.0004	0.0004

¹ Residential Maximum Grid No. 10
 ug/m³ = micrograms per cubic meter
 mg/kg-d = milligrams per kilogram day

Table 1-2
RAGS F Risk Calculation for LAX West Airfield Maintenance Area, 2015 Construction - Lifetime Exposure
 (Based on Peak Location of Residential Hazards¹)

Exposure Parameters	Residential Child		School Child		Residential Adult		RAGS F Equations		Hazard Quotients			
	24 (hrs/day) 6 (years) 350 (days/year) 52560 (hrs) 613200 (hrs)	8 (hrs/day) 6 (years) 200 (days/year) 52560 (hrs) 613200 (hrs)	24 (hrs/day) 70 (years) 350 (days/year) 613200 (hrs) 613200 (hrs)	24 (hrs/day) 70 (years) 350 (days/year) 613200 (hrs) 613200 (hrs)	EC = (CA x ET x EF x ED) / (AT) Risk = IUR x EC HQ = EC / REL Where: HQ = Hazard Quotient IUR = Inhalation Unit Risk REL = Reference Exposure Level	EC = Exposure Concentration AT = Averaging Time (for cancer or non-cancer) AT = Reference Exposure Level	Cancer Risks		Hazard Quotients			
TAC	Concentration at Location w/Maximum Risk (ug/m ³)	CalEPA Inhalation Slope Factor (ug/m ³) ⁻¹	CalEPA Inhalation Slope Factor (ug/m ³) ⁻¹	EPA RfDI (ug/m ³)	CalEPA REL (ug/m ³)	Cancer Risk to Resident	Cancer Risk to Resident	Cancer Risk to Resident	Hazard Quotient Child	Hazard Quotient Resident	Hazard Quotient Child	Hazard Quotient Resident
acetaldehyde	6.05E-07	2.70E-06	9.00E+00	9.00E+00	1.40E+02	1.34E-13	2.56E-14	6.71E-13	1.57E-12	4.14E-09	7.89E-10	4.14E-09
acrolein	2.87E-07	NA	2.00E-02	2.00E-02	3.50E-01	NC	NC	NC	NC	7.86E-07	1.50E-07	7.86E-07
benzene	5.36E-06	7.80E-06	3.00E+01	3.00E+01	6.00E+01	1.28E-11	2.43E-12	6.38E-11	1.49E-10	8.56E-08	1.63E-08	8.56E-08
1,3-butadiene	1.18E-06	3.00E-05	2.00E+01	2.00E+01	2.00E+01	1.65E-11	3.14E-12	8.25E-11	1.93E-10	5.66E-08	1.08E-08	5.66E-08
ethylbenzene	2.27E-06	2.50E-06	1.00E+03	1.00E+03	2.00E+03	4.67E-13	8.89E-14	2.33E-12	5.45E-12	1.09E-09	2.08E-10	1.09E-09
formaldehyde	3.42E-06	1.30E-05	6.00E-06	9.80E+00	9.00E+00	1.69E-12	3.21E-13	8.44E-12	1.97E-11	3.65E-07	6.95E-08	3.65E-07
hexane, n-	3.46E-06	NA	7.00E+02	7.00E+03	7.00E+03	NC	NC	NC	NC	4.75E-10	9.04E-11	4.75E-10
methyl alcohol	2.65E-07	NA	4.00E+03	4.00E+03	4.00E+03	NC	NC	NC	NC	6.35E-11	1.21E-11	6.35E-11
methyl ethyl ketone	3.96E-08	NA	5.00E+03	5.00E+03	NA	NC	NC	NC	NC	7.59E-12	1.45E-12	7.59E-12
naphthalene	1.02E-07	NA	3.00E-05	3.00E+00	9.00E+00	2.86E-13	5.44E-14	1.43E-12	3.33E-12	1.09E-08	2.07E-09	1.09E-08
propylene	6.64E-06	NA	3.00E+03	3.00E+03	3.00E+03	NC	NC	NC	NC	2.12E-09	4.04E-10	2.12E-09
styrene	2.66E-07	NA	1.00E+03	1.00E+02	9.00E+02	NC	NC	NC	NC	2.84E-10	5.40E-11	2.84E-10
toluene	1.25E-05	NA	5.00E+03	5.00E+03	3.00E+02	NC	NC	NC	NC	3.99E-08	7.59E-09	3.99E-08
xylene (total)	1.04E-05	NA	1.00E+02	7.00E+02	7.00E+02	NC	NC	NC	NC	1.42E-08	2.71E-09	1.42E-08
Diesel PM	3.51E-04	3.00E-04	5.00E+00	5.00E+00	5.00E+00	8.66E-09	1.65E-09	4.33E-08	1.01E-07	6.74E-05	1.28E-05	6.74E-05
arsenic	6.14E-08	4.30E-03	3.30E-03	1.50E-02	1.50E-02	1.66E-11	3.17E-12	8.32E-11	1.94E-10	3.92E-06	7.47E-07	3.92E-06
cadmium	9.97E-08	1.80E-03	4.20E-03	1.00E-02	2.00E-02	3.44E-11	6.56E-12	1.72E-10	4.02E-10	4.78E-06	9.11E-07	4.78E-06
chlorine	1.09E-05	NA	1.50E-01	2.00E-01	2.00E-01	NC	NC	NC	NC	5.21E-05	9.92E-06	5.21E-05
chromium (VI)	3.35E-08	1.20E-02	1.50E-01	2.00E-01	2.00E-01	4.13E-10	7.87E-11	2.07E-09	4.82E-09	1.61E-07	3.06E-08	1.61E-07
copper	3.53E-07	NA	NA	NA	NA	NC	NC	NC	NC	NC	NC	NC
lead	1.79E-06	1.20E-05	NA	NA	NA	1.77E-12	3.37E-13	8.84E-12	2.06E-11	NC	NC	NC
manganese	2.94E-06	NA	5.00E-02	9.00E-02	9.00E-02	NC	NC	NC	NC	3.13E-05	5.97E-06	3.13E-05
mercury	5.11E-08	NA	3.00E-01	3.00E-02	3.00E-02	NC	NC	NC	NC	1.63E-06	3.11E-07	1.63E-06
nickel	1.94E-07	2.60E-04	9.00E-02	1.40E-02	1.40E-02	4.15E-12	7.91E-13	2.08E-11	4.85E-11	1.33E-05	2.54E-06	1.33E-05
selenium	7.67E-09	NA	2.00E+01	2.00E+01	2.00E+01	NC	NC	NC	NC	3.68E-10	7.01E-11	3.68E-10
silicon	6.24E-04	NA	3.00E+00	3.00E+00	3.00E+00	NC	NC	NC	NC	1.99E-04	3.80E-05	1.99E-04
sulfates	1.51E-05	NA	NA	NA	NA	NC	NC	NC	NC	NC	NC	NC
vanadium	8.46E-07	8.30E-03	NA	1.00E-01	NA	5.77E-10	1.10E-10	2.89E-09	6.73E-09	8.11E-06	1.55E-06	8.11E-06
						TOTAL	2E-09	5E-08	1E-07	0.0004	0.00007	0.0004

¹ Residential Maximum Grid No. 10
 ug/m³ = micrograms per cubic meter
 mg/kg-d = milligrams per kilogram day

Table 1-3
RAGS F Risk Calculation for LAX West Airfield Maintenance Area, 2015 Construction - Lifetime Exposure
(Based on Peak Location of Commercial Cancer Risks¹)

Exposure Parameters	Adult Worker		RAGS F Equations		Toxicity Criteria		Cancer Risks		Hazard Quotients	
	Exposure Time	10 (hrs/day)	EC = (CA x ET x EF x ED) / (AT)	EPA	EPA	CalEPA	Cancer	Hazard	Adult	Worker
	Exposure Duration	40 (years)	Risk = IUR x EC	Inhalation	RFDI	REL	Risk to	Quotient		
Exposure Frequency	245 (days/year)	HQ = EC / REL	Slope Factor	(ug/m ³) ⁻¹	(ug/m ³)	Adult	Worker			
Averaging Time (non-carcinogenic)	350400 (hrs)	Where:								
Averaging Time (carcinogenic)	613200 (hrs)	HQ = Hazard Quotient								
		IUR = Inhalation Unit Risk								
		AT = Averaging Time (for cancer or non-cancer)								
		REL = Reference Exposure Level								
TAC	Concentration at Location w/Maximum Risk (ug/m³)	EPA Inhalation Slope Factor (ug/m³)⁻¹	CalEPA Inhalation Slope Factor (ug/m³)⁻¹	EPA RFDI (ug/m³)	CalEPA REL (ug/m³)	Cancer Risk to Adult	Cancer Risk to Worker	Hazard Quotient Adult	Hazard Quotient Worker	
acetaldehyde	9.89E-07	2.20E-06	2.70E-06	9.00E+00	1.40E+02	4.27E-13	4.27E-13	1.98E-09	1.98E-09	
acrolein	4.69E-07	NA	NA	2.00E-02	3.50E-01	NC	NC	3.75E-07	3.75E-07	
benzene	8.76E-06	7.80E-06	2.90E-05	3.00E+01	6.00E+01	4.06E-11	4.06E-11	4.08E-08	4.08E-08	
1,3-butadiene	1.93E-06	3.00E-05	1.70E-04	2.00E+00	2.00E+01	5.25E-11	5.25E-11	2.70E-08	2.70E-08	
ethylbenzene	3.72E-06	2.50E-06	2.50E-06	1.00E+03	2.00E+03	1.48E-12	1.48E-12	5.20E-10	5.20E-10	
formaldehyde	5.60E-06	1.30E-05	6.00E-06	9.80E+00	9.80E+00	5.37E-12	5.37E-12	1.74E-07	1.74E-07	
hexane, n-	5.67E-06	NA	NA	7.00E+02	7.00E+03	NC	NC	2.26E-10	2.26E-10	
methyl alcohol	4.33E-07	NA	NA	4.00E+03	4.00E+03	NC	NC	3.03E-11	3.03E-11	
methyl ethyl ketone	6.47E-08	NA	NA	5.00E+03	NA	NC	NC	3.62E-12	3.62E-12	
naphthalene	1.67E-07	NA	3.40E-05	3.00E+00	9.00E+00	9.08E-13	9.08E-13	5.19E-09	5.19E-09	
propylene	1.08E-05	NA	NA	3.00E+03	3.00E+03	NC	NC	1.01E-09	1.01E-09	
styrene	4.35E-07	NA	NA	1.00E+03	9.00E+02	NC	NC	1.35E-10	1.35E-10	
toluene	2.04E-05	NA	NA	5.00E+03	3.00E+02	NC	NC	1.90E-08	1.90E-08	
xylene (total)	1.70E-05	NA	NA	1.00E+02	7.00E+02	NC	NC	6.80E-09	6.80E-09	
Diesel PM	5.75E-04	NA	3.00E-04	5.00E+00	5.00E+00	2.75E-08	2.75E-08	3.21E-05	3.21E-05	
arsenic	9.97E-08	4.30E-03	3.30E-03	1.50E-02	1.50E-02	5.26E-11	5.26E-11	1.86E-06	1.86E-06	
cadmium	1.62E-07	1.80E-03	4.20E-03	1.00E-02	2.00E-02	1.09E-10	1.09E-10	2.27E-06	2.27E-06	
chlorine	1.77E-05	NA	NA	1.50E-01	2.00E-01	NC	NC	2.47E-05	2.47E-05	
chromium (VI)	5.44E-08	1.20E-02	1.50E-01	1.00E-01	2.00E-01	1.30E-09	1.30E-09	7.61E-08	7.61E-08	
copper	5.74E-07	NA	NA	NA	NA	NC	NC	NC	NC	
lead	2.91E-06	NA	1.20E-05	NA	NA	5.58E-12	5.58E-12	NC	NC	
manganese	4.78E-06	NA	NA	5.00E-02	9.00E-02	NC	NC	1.48E-05	1.48E-05	
mercury	8.31E-08	NA	NA	3.00E-01	3.00E-02	NC	NC	7.75E-07	7.75E-07	
nickel	3.16E-07	NA	2.60E-04	9.00E-02	1.40E-02	1.31E-11	1.31E-11	6.31E-06	6.31E-06	
selenium	1.25E-08	NA	NA	2.00E+01	2.00E+01	NC	NC	1.74E-10	1.74E-10	
silicon	1.01E-03	NA	NA	3.00E+00	3.00E+00	NC	NC	9.45E-05	9.45E-05	
sulfates	2.45E-05	NA	NA	NA	NA	NC	NC	NC	NC	
vanadium	1.37E-06	8.30E-03	NA	1.00E-01	NA	1.82E-09	1.82E-09	3.84E-06	3.84E-06	
TOTAL						3E-08	3E-08	0.0002	0.0002	

¹ Commercial Maximum Grid No. 3
 ug/m³ = micrograms per cubic meter
 mg/kg-d = milligrams per kilogram day

Attachment 2

Acute Health Hazard Calculations

Table 2-1
 Summary of Incremental Acute Hazard Indices for LAX Specific Plan Amendment Study for LAX Specific Plan Amendment Study for Onsite Workers and Offsite Receptors - LAX West Airfield Maintenance Area
 Construction TAC Concentrations

Receptor Location	acetaldehyde (µg/m ³)	acrolein (µg/m ³)	benzene (µg/m ³)	formaldehyde (µg/m ³)	methyl alcohol (µg/m ³)	methyl ethyl ketone (µg/m ³)	styrene (µg/m ³)	toluene (µg/m ³)	xylene, total (µg/m ³)	arsenic (µg/m ³)	chlorine (µg/m ³)	copper (µg/m ³)	manganese (µg/m ³)	mercury (µg/m ³)	nickel (µg/m ³)	vanadium (µg/m ³)	sulfates (µg/m ³)
Commercial - Onsite	2.37E+01	8.23E-02	6.54E+00	4.80E+01	1.01E-01	4.70E+00	1.96E-01	5.14E+00	3.83E+00	3.48E-03	6.10E-01	2.10E-02	1.66E-01	3.01E-03	1.11E-02	4.75E-02	1.22E+00
Maximum Onsite Concentration-->																	
Commercial - Offsite	1.15E+01	7.46E-02	5.93E+00	4.36E+01	9.20E-02	4.26E+00	1.78E-01	4.66E+00	3.47E+00	2.39E-03	4.18E-01	1.47E-02	1.14E-01	2.09E-03	7.61E-03	3.26E-02	9.18E-01
Maximum Offsite Concentration-->																	
Average Offsite Concentration-->	1.22E+01	4.24E-02	3.37E+00	2.48E+01	5.23E-02	2.42E+00	1.01E-01	2.65E+00	1.98E+00	1.34E-03	2.35E-01	8.25E-03	6.39E-02	1.17E-03	4.27E-03	1.83E-02	5.17E-01
Minimum Offsite Concentration-->	3.33E-01	1.15E-03	9.17E-02	6.73E-01	1.42E-03	6.59E-02	2.75E-03	7.21E-02	5.37E-02	4.85E-05	8.52E-03	2.94E-04	2.32E-03	4.19E-05	1.54E-04	6.63E-04	1.70E-02
Residential	1.31E+01	4.53E-02	3.60E+00	2.65E+01	5.59E-02	2.59E+00	1.08E-01	2.83E+00	2.11E+00	1.44E-03	2.52E-01	8.84E-03	6.86E-02	1.26E-03	4.59E-03	1.96E-02	5.51E-01
Maximum Offsite Concentration-->																	
Average Offsite Concentration-->	2.68E+00	9.29E-03	7.39E-01	5.42E+00	1.15E-02	5.31E-01	2.22E-02	5.81E-01	4.33E-01	3.35E-04	5.88E-02	2.05E-03	1.60E-02	2.92E-04	1.07E-03	4.58E-03	1.24E-01
Minimum Offsite Concentration-->	8.84E-02	3.07E-04	2.44E-02	1.79E-01	3.78E-04	1.75E-02	7.31E-04	1.92E-02	1.43E-02	1.34E-05	2.33E-03	8.15E-05	6.38E-04	1.16E-05	4.26E-05	1.81E-04	4.92E-03
CalEPA Acute REL	470	2.5	1300	55	28000	13000	21000	37000	22000	0.2	210	100	0.17	0.6	0.2	30	120
Commercial - Onsite	5.05E-02	0.0329	5.03E-03	0.8736	3.62E-06	3.61E-04	9.34E-06	1.39E-04	1.74E-04	1.74E-02	2.91E-03	2.10E-04	0.976	5.01E-03	5.53E-02	1.58E-03	1.02E-02
Onsite Maximum Acute Hazard-->																	
Commercial - Offsite	4.58E-02	0.0298	4.56E-03	0.7918	3.28E-06	3.28E-04	8.47E-06	1.26E-04	1.58E-04	1.20E-02	1.99E-03	1.47E-04	0.670	3.48E-03	3.81E-02	1.09E-03	7.65E-03
Offsite Maximum Acute Hazard-->																	
Average Offsite Acute Hazard-->	2.60E-02	0.0170	2.59E-03	0.4503	1.87E-06	1.86E-04	4.82E-06	7.17E-05	8.98E-05	6.71E-03	1.12E-03	8.25E-05	0.376	1.96E-03	2.14E-02	6.09E-04	4.31E-03
Minimum Offsite Acute Hazard-->	7.08E-04	0.0005	7.05E-05	0.0122	5.08E-08	5.07E-06	1.31E-07	1.95E-06	2.44E-06	2.43E-04	4.06E-05	2.94E-06	0.014	6.99E-05	7.72E-04	2.21E-05	1.42E-04
Residential	2.78E-02	0.0181	2.77E-03	0.4811	2.00E-06	1.99E-04	5.15E-06	7.66E-05	9.60E-05	7.20E-03	1.20E-03	8.84E-05	0.404	2.10E-03	2.29E-02	6.54E-04	4.59E-03
Offsite Maximum Acute Hazard-->																	
Average Offsite Acute Hazard-->	5.70E-03	0.0037	5.68E-04	0.0866	4.09E-07	4.08E-05	1.06E-06	1.57E-05	1.97E-05	1.68E-03	2.80E-04	2.05E-05	0.094	4.86E-04	5.34E-03	1.53E-04	1.03E-03
Minimum Offsite Acute Hazard-->	1.88E-04	0.0001	1.88E-05	0.0033	1.35E-08	1.35E-06	3.48E-08	5.18E-07	6.49E-07	6.69E-05	1.11E-05	8.15E-07	0.004	1.94E-05	2.13E-04	6.03E-06	4.10E-05

Table 2-1
 Summary of Incremental Acute Hazard Indices for LAX Specific Plan Amendment Study for LAX Specific Plan Amendment Study for Onsite Workers and Offsite Receptors - LAX West Airfield Maintenance Area
 Construction TAC Concentrations

Receptor Number	X	Y	Receptor Type	acetaldehyde ($\mu\text{g}/\text{m}^3$)	acrolein ($\mu\text{g}/\text{m}^3$)	benzene ($\mu\text{g}/\text{m}^3$)	formaldehyde ($\mu\text{g}/\text{m}^3$)	methyl alcohol ($\mu\text{g}/\text{m}^3$)	methyl ethyl ketone ($\mu\text{g}/\text{m}^3$)	styrene ($\mu\text{g}/\text{m}^3$)	toluene ($\mu\text{g}/\text{m}^3$)	xylene, total ($\mu\text{g}/\text{m}^3$)	arsenic ($\mu\text{g}/\text{m}^3$)	chlorine ($\mu\text{g}/\text{m}^3$)	copper ($\mu\text{g}/\text{m}^3$)	manganese ($\mu\text{g}/\text{m}^3$)	mercury ($\mu\text{g}/\text{m}^3$)	nickel ($\mu\text{g}/\text{m}^3$)	vanadium ($\mu\text{g}/\text{m}^3$)	sulfates ($\mu\text{g}/\text{m}^3$)
311	369249	3755442	Residential	3.92E+00	1.36E-02	1.08E+00	7.94E+00	1.68E-02	7.76E-01	3.24E-02	8.50E-01	6.33E-01	5.88E-04	1.03E-01	3.55E-03	2.80E-02	5.07E-04	1.87E-03	8.03E-03	2.05E-01
312	369151	3755442	Residential	4.57E+00	1.59E-02	1.26E+00	9.26E+00	1.96E-02	9.06E-01	3.78E-02	9.92E-01	7.39E-01	6.68E-04	1.17E-01	4.03E-03	3.18E-02	5.75E-04	2.12E-03	9.09E-03	2.34E-01
313	369052	3755442	Residential	5.44E+00	1.89E-02	1.50E+00	1.10E+01	2.33E-02	1.08E+00	4.50E-02	1.18E+00	8.79E-01	7.29E-04	1.28E-01	4.43E-03	3.48E-02	6.32E-04	2.32E-03	9.94E-03	2.63E-01
314	368953	3755441	Residential	6.30E+00	2.19E-02	1.74E+00	1.28E+01	2.69E-02	1.25E+00	5.21E-02	1.37E+00	1.02E+00	8.64E-04	1.52E-01	5.25E-03	4.12E-02	7.49E-04	2.75E-03	1.18E-02	3.09E-01
315	368854	3755441	Residential	7.08E+00	2.45E-02	1.95E+00	1.43E+01	3.02E-02	1.40E+00	5.84E-02	1.53E+00	1.14E+00	1.00E-03	1.76E-01	6.07E-03	4.78E-02	8.67E-04	3.19E-03	1.37E-02	3.55E-01
316	368755	3755441	Residential	7.59E+00	2.63E-02	2.09E+00	1.54E+01	3.24E-02	1.50E+00	6.28E-02	1.65E+00	1.23E+00	1.08E-03	1.90E-01	6.55E-03	5.16E-02	9.35E-04	3.44E-03	1.48E-02	3.82E-01
317	368657	3755441	Residential	7.74E+00	2.68E-02	2.13E+00	1.57E+01	3.31E-02	1.53E+00	6.40E-02	1.68E+00	1.25E+00	1.08E-03	1.84E-01	6.37E-03	5.01E-02	9.09E-04	3.34E-03	1.43E-02	3.77E-01
318	368558	3755440	Residential	8.81E+00	3.06E-02	2.43E+00	1.78E+01	3.77E-02	1.75E+00	7.29E-02	1.91E+00	1.42E+00	1.29E-03	2.19E-01	7.55E-03	5.95E-02	1.08E-03	3.96E-03	1.70E-02	4.42E-01
319	368459	3755440	Residential	9.78E+00	3.39E-02	2.70E+00	1.98E+01	4.18E-02	1.94E+00	8.09E-02	2.12E+00	1.58E+00	1.34E-03	2.35E-01	8.14E-03	6.40E-02	1.16E-03	4.27E-03	1.83E-02	4.80E-01
320	368360	3755440	Residential	9.98E+00	3.46E-02	2.75E+00	2.02E+01	4.26E-02	1.97E+00	8.24E-02	2.16E+00	1.61E+00	1.30E-03	2.29E-01	7.93E-03	6.22E-02	1.13E-03	4.15E-03	1.78E-02	4.73E-01
321	368262	3755439	Residential	8.87E+00	3.08E-02	2.45E+00	1.80E+01	3.79E-02	1.76E+00	7.33E-02	1.92E+00	1.43E+00	1.10E-03	1.93E-01	6.72E-03	5.26E-02	9.58E-04	3.51E-03	1.50E-02	4.07E-01
322	368166	3755427	Residential	1.06E+01	3.67E-02	2.92E+00	2.15E+01	4.53E-02	2.10E+00	8.76E-02	2.30E+00	1.71E+00	1.39E-03	2.37E-01	8.24E-03	6.45E-02	1.17E-03	4.30E-03	1.84E-02	4.95E-01
323	368111	3755414	Residential	1.14E+01	3.96E-02	3.15E+00	2.31E+01	4.89E-02	2.26E+00	9.45E-02	2.48E+00	1.85E+00	1.40E-03	2.45E-01	8.52E-03	6.66E-02	1.21E-03	4.44E-03	1.90E-02	5.18E-01
324	368035	3755402	Residential	1.11E+01	3.84E-02	3.05E+00	2.24E+01	4.73E-02	2.19E+00	9.16E-02	2.40E+00	1.79E+00	1.38E-03	2.42E-01	8.41E-03	6.57E-02	1.20E-03	4.39E-03	1.88E-02	5.09E-01
325	367960	3755389	Residential	9.63E+00	3.34E-02	2.65E+00	1.95E+01	4.12E-02	1.91E+00	7.96E-02	2.09E+00	1.60E+00	1.24E-03	2.18E-01	7.57E-03	5.93E-02	1.08E-03	3.96E-03	1.70E-02	4.53E-01
326	367863	3755390	Residential	9.89E+00	3.43E-02	2.73E+00	2.00E+01	4.23E-02	1.96E+00	8.18E-02	2.14E+00	1.66E+00	1.23E-03	2.15E-01	7.50E-03	5.86E-02	1.07E-03	3.91E-03	1.68E-02	4.54E-01
327	367766	3755392	Residential	9.50E+00	3.29E-02	2.62E+00	1.92E+01	4.06E-02	1.88E+00	7.85E-02	2.06E+00	1.53E+00	1.20E-03	2.11E-01	7.34E-03	5.74E-02	1.05E-03	3.83E-03	1.64E-02	4.42E-01
328	367669	3755393	Residential	1.00E+01	3.47E-02	2.76E+00	2.03E+01	4.28E-02	1.98E+00	8.28E-02	2.17E+00	1.62E+00	1.28E-03	2.24E-01	7.78E-03	6.09E-02	1.11E-03	4.06E-03	1.74E-02	4.68E-01
329	367572	3755394	Residential	9.89E+00	3.43E-02	2.73E+00	2.00E+01	4.23E-02	1.96E+00	8.18E-02	2.14E+00	1.60E+00	1.27E-03	2.23E-01	7.74E-03	6.06E-02	1.10E-03	4.05E-03	1.73E-02	4.64E-01
330	367475	3755395	Residential	9.14E+00	3.17E-02	2.52E+00	1.85E+01	3.91E-02	1.81E+00	7.56E-02	1.98E+00	1.48E+00	1.17E-03	2.05E-01	7.13E-03	5.59E-02	1.02E-03	3.73E-03	1.60E-02	4.28E-01

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Note: Shaded cells indicate locations where concentrations were highest within each land use category.

Attachment 3

Cancer Risk and Chronic Non-Cancer Health Hazard Calculations for Adjusted Construction Emissions (RAGS Part F)

Table 3-1
RAGS F Risk Calculation for LAX West Airfield Maintenance Area, 2015 Construction - 5-year Construction Exposure
 (Based on Peak Location of Residential Cancer Risks¹)

Exposure Parameters	Residential Child		School Child		Residential Adult		RAGS F Equations		Hazard Quotients					
	24 (hrs/day)	5 (years)	8 (hrs/day)	5 (years)	24 (hrs/day)	5 (years)	EC = (CA x ET x EF x ED) / (AT)	Risk = IUR x EC	HQ = EC / REL	Cancer Risks		Hazard Quotients		
Exposure Duration	24 (hrs/day)	5 (years)	8 (hrs/day)	5 (years)	24 (hrs/day)	5 (years)				Cancer		Hazard		
Exposure Frequency	350 (days/year)	43800 (hrs)	200 (days/year)	43800 (hrs)	350 (days/year)	43800 (hrs)				Risk to	Quotient	School	Adult	
Averaging Time (non-carcinogenic)	613200 (hrs)	613200 (hrs)	613200 (hrs)	613200 (hrs)	613200 (hrs)	613200 (hrs)				Child	Resident	Child	Resident	
Averaging Time (carcinogenic)										Resident	Resident	Resident	Resident	
Where: HQ = Hazard Quotient EC = Exposure Concentration														
IUR = Inhalation Unit Risk AT = Averaging Time (for cancer or non-cancer)														
REL = Reference Exposure Level														
Toxicity Criteria														
TAC	Concentration at Location w/Maximum Risk (ug/m ³)		CalEPA Inhalation Unit Risk (ug/m ³) ⁻¹		EPA RfC (ug/m ³)		CalEPA REL (ug/m ³)		Cancer Risk to School Child		Cancer Risk to Resident		Hazard Quotient	
	Residential Child	School Child	Residential Adult	CalEPA REL (ug/m ³)	Residential Adult	CalEPA REL (ug/m ³)	Cancer Risk to School Child	Cancer Risk to Resident	Hazard Quotient Child	Hazard Quotient Resident	Hazard Quotient School	Hazard Quotient Resident	Hazard Quotient Child	Hazard Quotient Resident
acetaldehyde	8.47E-06	2.70E-06	9.00E+00	1.40E+02	1.57E-12	2.98E-13	1.57E-12	5.80E-08	1.10E-08	5.80E-08	1.10E-08	5.80E-08	1.10E-08	5.80E-08
acrolein	4.02E-06	NA	2.00E-02	3.50E-01	NC	NC	NC	1.10E-05	2.10E-06	1.10E-05	2.10E-06	1.10E-05	2.10E-06	1.10E-05
benzene	7.50E-05	2.90E-05	3.00E+01	6.00E+01	1.49E-10	2.84E-11	1.49E-10	1.20E-06	2.28E-07	1.20E-06	2.28E-07	1.20E-06	2.28E-07	1.20E-06
1,3-butadiene	1.65E-05	1.70E-04	2.00E+00	2.00E+01	1.93E-10	3.67E-11	1.93E-10	7.93E-07	1.51E-07	7.93E-07	1.51E-07	7.93E-07	1.51E-07	7.93E-07
ethylbenzene	3.18E-05	2.50E-06	1.00E+03	2.00E+03	5.45E-12	1.04E-12	5.45E-12	1.53E-08	2.91E-09	1.53E-08	2.91E-09	1.53E-08	2.91E-09	1.53E-08
formaldehyde	4.79E-05	6.00E-06	9.80E+00	9.00E+00	1.97E-11	3.75E-12	1.97E-11	5.10E-06	9.72E-07	5.10E-06	9.72E-07	5.10E-06	9.72E-07	5.10E-06
hexane, n-	4.85E-05	NA	7.00E+02	7.00E+03	NC	NC	NC	6.64E-09	1.27E-09	6.64E-09	1.27E-09	6.64E-09	1.27E-09	6.64E-09
methyl alcohol	3.71E-06	NA	4.00E+03	4.00E+03	NC	NC	NC	8.89E-10	1.69E-10	8.89E-10	1.69E-10	8.89E-10	1.69E-10	8.89E-10
methyl ethyl ketone	5.54E-07	NA	5.00E+03	NA	NC	NC	NC	1.06E-10	2.02E-11	1.06E-10	2.02E-11	1.06E-10	2.02E-11	1.06E-10
naphthalene	1.43E-06	3.40E-05	3.00E+00	9.00E+00	3.33E-12	6.35E-13	3.33E-12	1.52E-07	2.90E-08	1.52E-07	2.90E-08	1.52E-07	2.90E-08	1.52E-07
propylene	9.29E-05	NA	3.00E+03	3.00E+03	NC	NC	NC	2.97E-08	5.66E-09	2.97E-08	5.66E-09	2.97E-08	5.66E-09	2.97E-08
styrene	3.73E-06	NA	1.00E+03	9.00E+02	NC	NC	NC	3.97E-09	7.56E-10	3.97E-09	7.56E-10	3.97E-09	7.56E-10	3.97E-09
toluene	1.75E-04	NA	5.00E+03	3.00E+02	NC	NC	NC	5.58E-07	1.06E-07	5.58E-07	1.06E-07	5.58E-07	1.06E-07	5.58E-07
xylene (total)	1.46E-04	NA	1.00E+02	7.00E+02	NC	NC	NC	1.99E-07	3.80E-08	1.99E-07	3.80E-08	1.99E-07	3.80E-08	1.99E-07
Diesel PM	4.92E-03	NA	5.00E+00	5.00E+00	1.01E-07	1.93E-08	1.01E-07	9.44E-04	1.80E-04	9.44E-04	1.80E-04	9.44E-04	1.80E-04	9.44E-04
arsenic	8.59E-07	4.30E-03	3.30E-03	1.50E-02	1.94E-10	3.70E-11	1.94E-10	5.49E-05	1.05E-05	5.49E-05	1.05E-05	5.49E-05	1.05E-05	5.49E-05
cadmium	1.40E-06	1.80E-03	1.00E-02	2.00E-02	4.02E-10	7.65E-11	4.02E-10	6.69E-05	1.28E-05	6.69E-05	1.28E-05	6.69E-05	1.28E-05	6.69E-05
chlorine	1.52E-04	NA	1.50E-01	2.00E-01	NC	NC	NC	7.29E-04	1.39E-04	7.29E-04	1.39E-04	7.29E-04	1.39E-04	7.29E-04
chromium (VI)	4.69E-07	1.20E-02	1.00E-01	2.00E-01	4.82E-09	9.18E-10	4.82E-09	2.25E-06	4.28E-07	2.25E-06	4.28E-07	2.25E-06	4.28E-07	2.25E-06
copper	4.95E-06	NA	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
lead	2.51E-05	1.20E-05	NA	NA	2.06E-11	3.93E-12	2.06E-11	4.39E-04	8.35E-05	4.39E-04	8.35E-05	4.39E-04	8.35E-05	4.39E-04
manganese	4.12E-05	NA	5.00E-02	9.00E-02	NC	NC	NC	2.29E-05	4.36E-06	2.29E-05	4.36E-06	2.29E-05	4.36E-06	2.29E-05
mercury	7.16E-07	NA	3.00E-01	3.00E-02	NC	NC	NC	1.86E-04	3.55E-05	1.86E-04	3.55E-05	1.86E-04	3.55E-05	1.86E-04
nickel	2.72E-06	NA	9.00E-02	1.40E-02	4.85E-11	9.23E-12	4.85E-11	5.15E-09	9.81E-10	5.15E-09	9.81E-10	5.15E-09	9.81E-10	5.15E-09
selenium	1.07E-07	NA	2.00E+01	2.00E+01	NC	NC	NC	2.79E-03	5.32E-04	2.79E-03	5.32E-04	2.79E-03	5.32E-04	2.79E-03
silicon	8.73E-03	NA	3.00E+00	3.00E+00	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
sulfates	2.11E-04	NA	NA	NA	NC	NC	NC	1.14E-04	2.16E-05	1.14E-04	2.16E-05	1.14E-04	2.16E-05	1.14E-04
vanadium	1.18E-05	8.30E-03	1.00E-01	NA	6.73E-09	1.28E-09	6.73E-09	0.005	0.010	0.005	0.010	0.005	0.010	0.005
TOTAL					1E-07	2E-08	1E-07	0.005	0.010	0.005	0.010	0.005	0.010	0.005

¹ Residential Maximum Grid No. 10
 ug/m³ = micrograms per cubic meter
 mg/kg-d = milligrams per kilogram day

Table 3-2
RAGS F Risk Calculation for LAX West Airfield Maintenance Area, 2015 Construction - 5-year Construction Exposure
 (Based on Peak Location of Residential Hazards¹)

Exposure Parameters	Residential Child		School Child		Residential Adult		RAGS F Equations		Hazard Quotients			
	24 (hrs/day) 5 (years) 350 (days/year) 43800 (hrs) 613200 (hrs)	EPA Inhalation Slope Factor (ug/m ³) ⁻¹	8 (hrs/day) 5 (years) 200 (days/year) 43800 (hrs) 613200 (hrs)	CalEPA REL (ug/m ³)	24 (hrs/day) 5 (years) 350 (days/year) 43800 (hrs) 613200 (hrs)	Cancer Risk to Adult Resident	Cancer Risk to Child Resident	EC = (CA x ET x EF x ED) / (AT) Risk = IUR x EC HQ = EC / REL Where: HQ = Hazard Quotient IUR = Inhalation Unit Risk REL = Reference Exposure Level	EC = Exposure Concentration AT = Averaging Time (for cancer or non-cancer)	Hazard Quotient Adult	Hazard Quotient Child	Hazard Quotient School
TAC	Concentration at Location w/Maximum Risk (ug/m ³)	CalEPA Inhalation Slope Factor (ug/m ³) ⁻¹	EPA RfDI (ug/m ³)	CalEPA REL (ug/m ³)	Cancer Risk to Adult Resident	Cancer Risk to Child Resident	Cancer Risk to Adult Resident	Cancer Risk to Child Resident	Hazard Quotient Adult	Hazard Quotient Child	Hazard Quotient School	Hazard Quotient Resident
acetaldehyde	8.47E-06	2.20E-06	9.00E+00	1.40E+02	1.57E-12	2.98E-13	1.57E-12	5.80E-08	1.10E-08	5.80E-08	1.10E-08	5.80E-08
acrolein	4.02E-06	NA	2.00E-02	3.50E-01	NC	NC	NC	1.10E-05	2.10E-06	1.10E-05	2.10E-06	1.10E-05
benzene	7.50E-05	7.80E-06	3.00E+01	6.00E+01	1.49E-10	2.84E-11	1.49E-10	1.20E-06	2.28E-07	1.20E-06	2.28E-07	1.20E-06
1,3-butadiene	1.65E-05	3.00E-05	2.00E+00	2.00E+01	1.93E-10	3.67E-11	1.93E-10	7.93E-07	1.51E-07	7.93E-07	1.51E-07	7.93E-07
ethylbenzene	3.18E-05	2.50E-06	1.00E+03	2.00E+03	5.45E-12	1.04E-12	5.45E-12	1.53E-08	2.91E-09	1.53E-08	2.91E-09	1.53E-08
formaldehyde	4.79E-05	1.30E-05	9.80E+00	9.00E+00	1.97E-11	3.75E-12	1.97E-11	5.10E-06	9.72E-07	5.10E-06	9.72E-07	5.10E-06
hexane, n-	4.85E-05	NA	7.00E+02	7.00E+03	NC	NC	NC	6.64E-09	1.27E-09	6.64E-09	1.27E-09	6.64E-09
methyl alcohol	3.71E-06	NA	4.00E+03	4.00E+03	NC	NC	NC	8.89E-10	1.69E-10	8.89E-10	1.69E-10	8.89E-10
methyl ethyl ketone	5.54E-07	NA	5.00E+03	NA	NC	NC	NC	1.06E-10	2.02E-11	1.06E-10	2.02E-11	1.06E-10
naphthalene	1.43E-06	NA	3.00E+00	9.00E+00	3.33E-12	6.35E-13	3.33E-12	1.52E-07	2.90E-08	1.52E-07	2.90E-08	1.52E-07
propylene	9.29E-05	NA	3.00E+03	3.00E+03	NC	NC	NC	2.97E-08	5.66E-09	2.97E-08	5.66E-09	2.97E-08
styrene	3.73E-06	NA	1.00E+03	9.00E+02	NC	NC	NC	3.97E-09	7.56E-10	3.97E-09	7.56E-10	3.97E-09
toluene	1.75E-04	NA	5.00E+03	3.00E+02	NC	NC	NC	5.58E-07	1.06E-07	5.58E-07	1.06E-07	5.58E-07
xylene (total)	1.46E-04	NA	1.00E+02	7.00E+02	NC	NC	NC	1.99E-07	3.80E-08	1.99E-07	3.80E-08	1.99E-07
Diesel PM	4.92E-03	NA	5.00E+00	5.00E+00	1.01E-07	1.93E-08	1.01E-07	9.44E-04	1.80E-04	9.44E-04	1.80E-04	9.44E-04
arsenic	8.59E-07	4.30E-03	3.30E-03	1.50E-02	1.94E-10	3.70E-11	1.94E-10	5.49E-05	1.05E-05	5.49E-05	1.05E-05	5.49E-05
cadmium	1.40E-06	1.80E-03	4.20E-03	2.00E-02	4.02E-10	7.65E-11	4.02E-10	6.69E-05	1.28E-05	6.69E-05	1.28E-05	6.69E-05
chlorine	1.52E-04	NA	1.50E-01	2.00E-01	NC	NC	NC	7.29E-04	1.39E-04	7.29E-04	1.39E-04	7.29E-04
chromium (VI)	4.69E-07	1.20E-02	1.00E-01	2.00E-01	4.82E-09	9.18E-10	4.82E-09	2.25E-06	4.28E-07	2.25E-06	4.28E-07	2.25E-06
copper	4.95E-06	NA	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
lead	2.51E-05	NA	1.20E-05	NA	2.06E-11	3.93E-12	2.06E-11	NC	NC	NC	NC	NC
manganese	4.12E-05	NA	5.00E-02	9.00E-02	NC	NC	NC	4.39E-04	8.35E-05	4.39E-04	8.35E-05	4.39E-04
mercury	7.16E-07	NA	3.00E-01	3.00E-02	NC	NC	NC	2.29E-05	4.36E-06	2.29E-05	4.36E-06	2.29E-05
nickel	2.72E-06	NA	9.00E-02	1.40E-02	4.85E-11	9.23E-12	4.85E-11	1.86E-04	3.55E-05	1.86E-04	3.55E-05	1.86E-04
selenium	1.07E-07	NA	2.00E+01	2.00E+01	NC	NC	NC	5.15E-09	9.81E-10	5.15E-09	9.81E-10	5.15E-09
silicon	8.73E-03	NA	3.00E+00	3.00E+00	NC	NC	NC	2.79E-03	5.32E-04	2.79E-03	5.32E-04	2.79E-03
sulfates	2.11E-04	NA	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC
vanadium	1.18E-05	8.30E-03	1.00E-01	NA	6.73E-09	1.28E-09	6.73E-09	1.14E-04	2.16E-05	1.14E-04	2.16E-05	1.14E-04
TOTAL					1E-07	2E-08	1E-07	0.005	0.0010	0.005	0.0010	0.005

¹ Residential Maximum Grid No. 10
 ug/m³ = micrograms per cubic meter
 mg/kg-d = milligrams per kilogram day

Table 3-3
RAGS F Risk Calculation for LAX West Airfield Maintenance Area, 2015 Construction - 5-year Construction Exposure
(Based on Peak Location of Commercial Cancer Risks¹)

Exposure Parameters	Adult Worker		RAGS F Equations		Cancer Risks	Hazard Quotients	
	10 (hrs/day)	5 (years)	EC = (CA x ET x EF x ED) / (AT)	Risk = IUR x EC		Cancer Risk to Adult	Hazard Quotient Adult
Exposure Duration	245 (days/year) <td>43800 (hrs) <td>HQ = EC / REL <td>Where:</td> <td>Worker</td> <td>Worker</td> <td></td> </td></td>	43800 (hrs) <td>HQ = EC / REL <td>Where:</td> <td>Worker</td> <td>Worker</td> <td></td> </td>	HQ = EC / REL <td>Where:</td> <td>Worker</td> <td>Worker</td> <td></td>	Where:	Worker	Worker	
Exposure Frequency	613200 (hrs) <td></td> <td>IUR = Inhalation Unit Risk <td>HQ = Hazard Quotient <td></td> <td></td> <td></td> </td></td>		IUR = Inhalation Unit Risk <td>HQ = Hazard Quotient <td></td> <td></td> <td></td> </td>	HQ = Hazard Quotient <td></td> <td></td> <td></td>			
Averaging Time (non-carcinogenic)			REL = Reference Exposure Level <td>IUR = Averaging Time (for cancer or non-cancer) <td></td> <td></td> <td></td> </td>	IUR = Averaging Time (for cancer or non-cancer) <td></td> <td></td> <td></td>			
Averaging Time (carcinogenic)							
	Toxicity Criteria				Cancer	Hazard	
	Concentration at Location w/Maximum Risk (ug/m ³)	EPA Inhalation Slope Factor (ug/m ³) ⁻¹	CalEPA Inhalation Slope Factor (ug/m ³) ⁻¹	EPA RfDI (ug/m ³)	Risk to Adult Worker	Quotient Adult Worker	
TAC							
acetaldehyde	1.38E-05	2.20E-06	2.70E-06	9.00E+00	7.47E-13	2.77E-08	
acrolein	6.57E-06	NA	NA	2.00E-02	NC	5.25E-06	
benzene	1.23E-04	7.80E-06	2.90E-05	3.00E+01	7.10E-11	5.72E-07	
1,3-butadiene	2.70E-05	3.00E-05	1.70E-04	2.00E+00	9.18E-11	3.78E-07	
ethylbenzene	5.20E-05	2.50E-06	2.50E-06	1.00E+03	2.60E-12	7.27E-09	
formaldehyde	7.83E-05	1.30E-05	6.00E-06	9.80E+00	9.39E-12	2.43E-06	
hexane, n-	7.93E-05	NA	NA	7.00E+02	NC	3.17E-09	
methyl alcohol	6.06E-06	NA	NA	4.00E+03	NC	4.24E-10	
methyl ethyl ketone	9.06E-07	NA	NA	5.00E+03	NC	5.07E-11	
naphthalene	2.34E-06	NA	3.40E-05	3.00E+00	1.59E-12	7.27E-08	
propylene	1.52E-04	NA	NA	3.00E+03	NC	1.42E-08	
styrene	6.09E-06	NA	NA	1.00E+03	NC	1.89E-09	
toluene	2.86E-04	NA	NA	5.00E+03	NC	2.66E-07	
xylene (total)	2.38E-04	NA	NA	1.00E+02	NC	9.51E-08	
Diesel PM	8.04E-03	NA	3.00E-04	5.00E+00	4.82E-08	4.50E-04	
arsenic	1.40E-06	4.30E-03	3.30E-03	1.50E-02	9.20E-11	2.60E-05	
cadmium	2.27E-06	1.80E-03	4.20E-03	1.00E-02	1.90E-10	3.17E-05	
chlorine	2.47E-04	NA	NA	1.50E-01	NC	3.46E-04	
chromium (VI)	7.62E-07	1.20E-02	1.50E-01	1.00E-01	2.28E-09	1.07E-06	
copper	8.03E-06	NA	NA	NA	NC	NC	
lead	4.08E-05	NA	1.20E-05	NA	9.77E-12	NC	
manganese	6.69E-05	NA	NA	5.00E-02	NC	2.08E-04	
mercury	1.16E-06	NA	NA	3.00E-01	NC	1.08E-05	
nickel	4.42E-06	NA	2.60E-04	9.00E-02	2.30E-11	8.83E-05	
selenium	1.75E-07	NA	NA	2.00E+01	NC	2.44E-09	
silicon	1.42E-02	NA	NA	3.00E+00	NC	1.32E-03	
sulfates	3.43E-04	NA	NA	NA	NC	NC	
vanadium	1.92E-05	8.30E-03	NA	1.00E-01	3.19E-09	5.38E-05	
					TOTAL	5E-08	0.003

¹ Commercial Maximum Grid No. 3
 ug/m³ = micrograms per cubic meter
 mg/kg-d = milligrams per kilogram day

Source: CDM Smith, 2012

Appendix B.4

Construction - Cumulative Emissions Analysis

LAX/LAWA West Aircraft Maintenance Area Project
Draft EIR Air Quality Analysis
Cumulative Emissions

Cumulative Construction Project Peak Quarterly Emissions Estimates

Project No.	Concurrent Construction Project	Start Date	End Date	Estimated Total Construction Cost ² (millions)	Volatile Organic Compounds (VOCs) Estimated Quarterly Emissions (tons per quarter)												Peak Emissions (tons per quarter)	Tons per Quarter per SFR (Cst. Cost)			
					Year 2018			Year 2019			Year 2020			Year 2021					Year 2022		
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			Q1	Q2	Q3
N/A ¹	West Aircraft Maintenance Area Project	01/14	12/18	\$175.00	0.5	0.6	1.5	1.2	0.3	0.3	0.1	0.1	0.2	0.2	0.2	0.3	0.2	1.5	-		
1	Runway Safety Area (RSA) Improvements-South Airfield ³	02/14	02/15	\$106.30	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0024		
2	Runway Safety Area (RSA) Improvements-North Airfield ³	06/14	06/19	\$139.10	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0024		
3	LAX Bradley West Project - Remaining Work ⁴	11/13	12/17	\$683.70	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0019		
4	T-3 Connector (Part of BWP, but listed separate due to schedule) ⁵	07/19	01/22	\$175.00	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0019		
5	North Terminals Major Renovation (T-3) ⁶	08/13	08/17	\$380.00	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0004		
6	South Terminals Major Renovation (T-5 through T-8) ⁷	11/11	02/18	\$665.00	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0004		
7	Midfield Satellite Concourse: Phase 1 - North Concourse Project ⁸	07/14	07/19	\$666.50	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0019		
8	Central Utility Plant Replacement Project - Remaining Work ⁹	01/14	02/20	\$945.50	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	0.0018		
9	Miscellaneous Projects/Improvements ¹⁰	01/15	12/22	N/A ¹	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.0067		
10	LAX Northside Area Development ¹¹	06/15	06/25	\$16,391.00	8.4	8.7	9.9	9.9	11.5	23.4	24.4	24.4	26.7	26.7	26.7	26.7	26.7	26.7	1.2		
11	LAX Master Plan Alt. D/SPAS Alt. 3 ¹²	12/15	04/19	N/A ¹	8.8	9.3	11.5	11.2	12.5	24.1	23.7	24.4	26.7	26.7	26.7	26.3	26.3	26.3	1.2		
12	Metro Crenshaw /LAX Transit Corridor and Station ¹³	12/15	04/19	N/A ¹	8.8	9.3	11.5	11.2	12.5	24.1	23.7	24.4	26.7	26.7	26.7	26.3	26.3	26.3	1.2		
Total Cumulative Construction Projects					8.4	8.7	9.9	9.9	11.5	23.4	24.4	24.4	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	

Notes:

- N/A = Not Applicable
- Estimated total construction costs for related projects based on Los Angeles International Airport, Capital Improvement Projects (CIP) List (June 18, 2013).
- Construction emissions based on Inroads & Associates Preliminary Calculations (August 8, 2013).
- Construction emissions based on Inroads & Associates Preliminary Calculations (August 8, 2013).
- Emissions estimates reflect the ratio of total project costs to the total project emissions as applied to cost of the remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (total project cost data), Tables 4.4-8 and 4.4-11 (total project emissions data), May 2009.
- Emissions estimates based on same approach as described above for LAX Bradley West Project - Remaining Work.
- Emissions estimates for all terminal renovation projects based on the emission rates associated with the United Airlines (UA) T-7 Improvements Project, as presented in Table II-2 of the United Airlines T-7 Initial Study (March 2013), given that the nature of construction activity associated with terminal/concourse renovations would be generally comparable to those of the UAL project. The subject emissions rates of the UAL project were applied to terminal renovation projects based on cost ratios (i.e., emissions per million dollars of construction costs).
- Emissions estimates for the Midfield Satellite Concourse: Phase 1 Project based on the same emission rates as for the Bradley West Project, given the generally similar nature of both projects, as applied proportionally to the total estimated construction cost of the Midfield Satellite Concourse: Phase 1 Project.
- Emissions estimates reflect the ratio of total project costs to the total project emissions as applied to cost of the remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (total project cost data), Tables 4.4-8 and 4.4-11 (total project emissions data), May 2009.
- Emissions estimates based on Los Angeles International Airport, Northside Area Development Project Draft Environmental Impact Report (DEIR), Table 4.10-3 (total project emissions data), September 2013. Emissions, which were provided in tons per year, were divided by four to obtain tons per quarter.
- Emissions estimates based on Los Angeles International Airport, Northside Area Development Project Draft Environmental Impact Report (DEIR), Table 4.10-3 (total project emissions data), September 2013. Emissions, which were provided in tons per year, were divided by four to obtain tons per quarter.
- As of this date, LAWA had considered nine development alternatives for the LAX-Specific Plan Amendment Study (SPAS), and a combination of Alternatives 1 and 9 was approved; however, the implementation of that alternative cannot occur without future review and approval by FAA. As such, it is assumed for the purposes of this analysis that the LAX Master Plan Alternative D is currently approved, and was included in the SPAS analysis as Alternative 3, is implemented. The SPAS EIR indicates that construction of SPAS-related development, if approved, would occur between 2015 and 2025; however, there currently is no detailed construction schedule or construction phasing program. The SPAS EIR provides a general estimate of average daily construction emissions for the overall 11-year development duration. Emissions are based on the estimate of average daily construction emissions converted to tons per quarter based on a 5-day workweek.
- Los Angeles County Metropolitan Transportation Authority, Crenshaw/LAX Transit Corridor, Final EIS/Final EIR, August 2011. Detailed construction information was not available at the time of this analysis. Estimated emissions based on maximum daily construction emissions presented in the Crenshaw/LAX Transit Corridor Project FEIS/FEIR and converted to tons per quarter based on a 5-day workweek.

LAX/LAWA West Aircraft Maintenance Area Project
Draft EIR Air Quality Analysis
Cumulative Emissions

Cumulative Construction Projects Peak Quarterly Emissions Estimates

Project No.	Concurrent Construction Project	Start Date	End Date	Estimated Total Construction Cost ² (millions)	Nitrogen Oxides (NO _x)												Peak Quarter (tons per quarter)	Tons per Quarter per Sq. of Est. Cost										
					Year 2014				Year 2015				Year 2016						Year 2017				Year 2018					
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
N/A ¹	West Aircraft Maintenance Area Project	01/14	12/18	\$175.00	7.8	9.0	13.7	12.0	5.4	3.2	0.9	1.2	0.7	0.7	0.7	1.0	0.8							13.7	-			
1	Runway Safety Area (RSA) Improvements-South Airfield ³	02/14	02/15	\$106.30	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0104		
2	Runway Safety Area (RSA) Improvements-North Airfield ³	06/14	06/19	\$139.10	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0104		
3	LAX Bradley West Project - Remaining Work ⁴	11/13	12/17	\$603.70	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	0.0135		
4	T-3 Connector (Part of BWP, but listed separate due to schedule) ⁵	07/19	01/22	\$175.00	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0011		
5	North Terminals Major Renovation (T-3) ⁶	08/13	08/17	\$380.00	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0011		
6	South Terminals Major Renovation (T-5 through T-8) ⁶	11/11	02/18	\$665.00	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0011		
7	Midfield Satellite Concourse: Phase 1 - North Concourse Project ⁸	07/14	07/19	\$120.60	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.0121		
8	Central Utility Plant Replacement Project - Remaining Work ⁸	09/13	12/14	\$945.50	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	0.0341		
9	Miscellaneous Projects/Improvements ⁹	01/14	07/20	N/A ¹	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	0.0011		
10	LAX Northside Area Development ¹⁰	01/15	12/22	N/A ¹	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	0.0011		
11	LAX Master Plan Alt. D/SPAS Alt. 3 ¹⁰	06/15	06/25	\$16,391.00	44.2	46.6	54.6	54.6	57.4	213.5	213.5	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	0.0011	
12	Metro Crenshaw / LAX Transit Corridor and Station ¹¹	12/15	04/19	N/A ¹	51.9	54.6	68.3	66.6	62.8	216.7	214.5	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	0.0011	
Total from Other Construction Projects					44.2	46.6	54.6	54.6	57.4	213.5	213.5	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	223.3	0.0011	
Total Cumulative Construction Projects					51.9	54.6	68.3	66.6	62.8	216.7	214.5	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	223.6	0.0011

Notes:

- N/A = Not Applicable
- Estimated total construction costs for related projects based on Los Angeles International Airport, Capital Improvement Projects (CIP) List (June 18, 2013).
- Construction emissions based on Ricordo & Associates Preliminary Calculations (August 8, 2013).
- Construction emissions for RSA Improvements-North Airfield are estimated based on the proportional construction costs compared to SA Improvements-South Airfield, given the generally similar nature of improvements (i.e., construction costs and associated emissions of NO_x-North project are 1,366 times greater than those of the RSA-South project).
- Construction emissions for RSA Improvements-South Airfield are estimated based on the proportional construction costs compared to SA Improvements-South Airfield, given the generally similar nature of improvements (i.e., construction costs and associated emissions of NO_x-South project are 1,366 times greater than those of the RSA-South project).
- Emissions estimates based on the ratio of total project costs to the total cost of remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.9 and 4.4-11 (Total Project Emissions data), July 2009.
- Emissions estimates based on the ratio of total project costs to the total cost of remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.9 and 4.4-11 (Total Project Emissions data), July 2009.
- Emissions estimates for all terminal renovation projects based on the emission rates associated with the United Airlines (UAL) T7 Improvements Project, as presented in Table II.2 of the United Airlines T7 Initial Study (March 2013), given that the nature of construction activity associated with terminal/concourse renovations would be generally comparable to those of the UAL project. The subject emissions rates of the UAL project were applied to terminal renovation projects based on cost ratios (i.e., emissions per million dollars of construction costs).
- Emissions estimates for the Midfield Satellite Concourse: Phase 1 Project based on the same emission rates as for the Bradley West Project, given the generally similar nature of both projects, as applied proportionally to the total estimated construction cost of the Midfield Satellite Concourse: Phase 1 Project.
- Emissions estimates reflect the ratio of total project costs to the total project emissions as applied to cost of the remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 6.10-3 (Total Project Emissions data), September 2013. Emissions, which were provided in tons per year, were divided by four to obtain tons per quarter.
- Emissions based on a range of terminal improvements projects, utilities/infrastructure improvements projects, and airfield operations area (AOA) improvements projects, as applied based on total construction cost.
- Emissions estimate based on Los Angeles International Airport, Northside Area Development Project Draft Environmental Impact Report (DEIR), Table 6.10-3 (Total Project Emissions data), September 2013.
- As of this date, LAWA had considered nine development alternatives for the LAX Specific Plan Amendment Study (SPAS), and a combination of Alternatives 1, and 9 was approved; however, the implementation of that alternative cannot occur without future review and approval by FAA. As such, it assumed for the purposes of this analysis that the LAX Master Plan Alternative D is currently approved, and was included in the SPAS analysis as Alternative 3, is implemented. The SPAS EIR indicates that construction of SPAS-related development, if approved, would occur between 2015 and 2022; however, there currently is no detailed construction schedule or construction phasing program. The SPAS EIR provides a general estimate of average daily construction emissions for the overall 11-year development duration. Emissions are based on the estimate of average daily construction emissions converted to tons per quarter.
- Los Angeles County Metropolitan Transportation Authority, Crenshaw/LAX Transit Corridor, Final EIS/EA/EIR, August 2011. Detailed construction information was not available at the time of this analysis. Estimated emissions based on maximum daily construction emissions presented in the Crenshaw/LAX Transit Corridor Project FEIS/EIR and converted to tons per quarter based on a 5-day workweek.

LAX/LAWA West Aircraft Maintenance Area Project
Draft EIR Air Quality Analysis
Cumulative Emissions

Cumulative Construction Projects Peak Quarterly Emissions Estimates

Project No.	Concurrent Construction Project	Start Date	End Date	Estimated Quarterly Emissions (tons per quarter)												Peak Quarterly Emissions (tons per quarter)	Tons per Quarter per SMT (Cst.)				
				Year 2014				Year 2015				Year 2017						Year 2018			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			Q1	Q2	Q3	Q4
N/A ¹	West Aircraft Maintenance Area Project	01/14	12/18	6.2	7.4	16.2	14.1	9.8	6.1	1.7	2.4	1.3	1.3	1.8	1.4	16.2	-				
1	Runway Safety Area (RSA) Improvements-South Airfield ²	02/14	02/15	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	0.0354				
2	Runway Safety Area (RSA) Improvements-North Airfield ²	06/14	06/14	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	0.0354				
3	LAX Bradley West Project - Remaining Work ³	11/13	12/17	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	0.0106				
4	T-3 Connector (Part of BWP, but listed separate due to schedule) ⁴	07/19	01/22	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0006				
5	North Terminals Major Renovation (T-3) ⁵	08/13	08/17	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0009				
6	South Terminals Major Renovation (T-5 through T-8) ⁵	11/11	02/18	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0009				
7	Midfield Satellite Concourse: Phase 1 - North Concourse Project ⁶	07/14	07/19	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0006				
8	Central Utility Plant Replacement Project - Remaining Work ⁶	09/13	12/14	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	1.2				
9	Miscellaneous Projects/Improvements ⁶	01/14	07/20	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	0.0052				
10	LAX Northside Area Development ⁷	01/15	12/22	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	25.3				
11	LAX Master Plan Alt. D/SPAS Alt. 3 ⁸	06/15	06/25	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	1.2				
12	Metro Crenshaw /LAX Transit Corridor and Station ¹³	12/15	04/19	36.2	41.1	48.2	48.2	64.2	122.1	122.1	122.1	127.0	133.5	133.5	133.5	136.4	136.4				
	Total from Other Construction Projects			42.4	48.5	64.4	62.3	74.0	128.3	123.8	127.0	133.5	133.5	133.5	136.4	136.4	136.4				
	Total Cumulative Construction Projects			36.2	41.1	48.2	48.2	64.2	122.1	122.1	122.1	127.0	133.5	133.5	133.5	136.4	136.4				

Notes:

- N/A = Not Applicable
- Estimated total construction costs for related projects based on Los Angeles International Airport, Capital Improvement Projects (CIP) List (June 18, 2013).
- Construction emissions based on ICCOBS & Associates Preliminary Calculations (August 8, 2013).
- Construction emissions based on ICCOBS & Associates Preliminary Calculations (August 8, 2013).
- Emissions estimates reflect the ratio of total project costs to the total project emissions as applied to cost of the remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (total project cost data), Tables 4.4-8 and 4.4-11 (total project emissions data), May 2009.
- Emissions estimates based on same approach as described above for LAX Bradley West Project - Remaining Work.
- Emissions estimates for all terminal renovation projects based on the emission rates associated with the United Airlines (UA) T-7 Improvements Project, as presented in Table II-2 of the United Airlines T-7 Initial Study (March 2013), given that the nature of construction activity associated with terminal/concourse renovations would be generally comparable to those of the UAL project. The subject emissions rates of the UAL project were applied to terminal renovation projects based on cost ratios (i.e., emissions per million dollars of construction costs).
- Emissions estimates for the Midfield Satellite Concourse: Phase 1 Project based on the same emission rates as for the Bradley West Project, given the generally similar nature of both projects, as applied proportionally to the total estimated construction cost of the Midfield Satellite Concourse: Phase 1 Project.
- Emissions estimates reflect the ratio of total project costs to the total project emissions as applied to cost of the remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (total project cost data), Tables 4.4-8 and 4.4-11 (total project emissions data), September 2013.
- Emissions estimates based on Los Angeles International Airport, Northside Area Development Project Draft Environmental Impact Report (DEIR), Table 6.10-3 (total project emissions data), September 2013.
- Emissions estimates based on Los Angeles International Airport, Northside Area Development Project Draft Environmental Impact Report (DEIR), Table 6.10-3 (total project emissions data), September 2013.
- As of this date, LAWA had considered nine development alternatives for the LAX Specific Plan Amendment Study (SPAS), and a combination of Alternatives 1 and 9 was approved; however, the implementation of that alternative cannot occur without future review and approval by FAA. As such, it is assumed for the purposes of this analysis that the LAX Master Plan Alternative D is currently approved, and was included in the SPAS analysis as Alternative 3, is implemented. The SPAS EIR indicates that construction of SPAS-related development, if approved, would occur between 2015 and 2025; however, there currently is no detailed construction schedule or construction phasing program. The SPAS EIR provides a general estimate of average daily construction emissions for the overall 11-year development duration. Emissions are based on the estimate of average daily construction emissions converted to tons per quarter based on a 5-day workweek.
- Los Angeles County Metropolitan Transportation Authority, Crenshaw/LAX Transit Corridor, Final EIS/Final EIR, August 2011. Detailed construction information was not available at the time of this analysis. Estimated emissions based on maximum daily construction emissions presented in the Crenshaw/LAX Transit Corridor Project FEIS/8 and converted to tons per quarter based on a 5-day workweek.

LAX/LAWA West Aircraft Maintenance Area Project
Draft EIR Air Quality Analysis
Cumulative Emissions

Cumulative Construction Projects Peak Quarterly Emissions Estimates

Project No.	Concurrent Construction Project	Start Date	End Date	Estimated Total Construction Cost ² (millions)	Sulfur Oxides (SO _x)												Peak Quarter (tons per quarter)	Tons per Quarter per Sq. of Est. Cost								
					Year 2014				Year 2015				Year 2016						Year 2017				Year 2018			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
N/A ¹	West Aircraft Maintenance Area Project	01/14	12/18	\$175.00	0.02	0.02	0.03	0.02	0.02	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-
1	Runway Safety Area (RSA) Improvements-South Airfield ³	02/14	02/15	\$106.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00E+00
2	Runway Safety Area (RSA) Improvements-North Airfield ⁴	06/14	06/19	\$139.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00E+00
3	LAX Bradley West Project - Remaining Work ⁵	11/13	12/17	\$603.70	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	2.54E-05
4	T-3 Connector (Part of BWP, but listed separate due to schedule) ⁶	07/19	01/22	\$175.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.54E-05
5	North Terminals Major Renovation (T-1) ⁷	08/13	08/17	\$380.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.90E-05
6	South Terminals Major Renovation (T-5 through T-8) ⁷	11/11	02/18	\$665.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.90E-05
7	Midfield Satellite Concourse: Phase 1 - North Concourse Project ⁸	07/14	07/19	\$666.50	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.90E-05
8	Central Utility Plant Replacement Project - Remaining Work ⁸	09/13	12/14	\$120.60	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	2.86E-05
9	Miscellaneous Projects/Improvements ⁹	01/14	07/20	\$945.50	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	8.96E-05
10	LAX Northside Area Development ¹⁰	01/15	12/22	N/A ¹	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	1.25E-04
11	LAX Master Plan Alt. D/SPAS Alt. 3 ¹¹	06/15	06/25	\$16,391.00	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	-
12	Metro Crenshaw / LAX Transit Corridor and Station ¹²	12/15	04/19	N/A ¹	0.18	0.18	0.18	0.20	0.20	0.22	0.22	0.40	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	-
	Total from Other Construction Projects				0.16	0.16	0.18	0.18	0.20	0.22	0.22	0.40	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
	Total Cumulative Construction Projects				0.18	0.18	0.21	0.20	0.22	0.22	0.22	0.40	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41

Notes:

- N/A = Not Applicable
- Estimated total construction costs for related projects based on Los Angeles International Airport, Capital Improvement Projects (CIP) List (June 18, 2013).
- Construction emissions based on Ricordo & Associates Preliminary Calculations (August 8, 2013).
- Construction emissions for RSA Improvements-North Airfield are estimated based on the proportional construction costs compared to RSA Improvements-South Airfield, given the generally similar nature of improvements (i.e., construction costs and associated emissions of RSA-North project are 1,366 times greater than those of the RSA-South project).
- Construction emissions for Bradley West Project are based on the ratio of total project costs to the total cost of remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (Total Project Cost Data), Tables 4.4-8 and 4.4-11 (Total Project Emissions Data, May 2009).
- Emissions estimates based on the ratio of total project costs to the total cost of remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (Total Project Cost Data), Tables 4.4-8 and 4.4-11 (Total Project Emissions Data, May 2009).
- Emissions estimates based on the ratio of total project costs to the total cost of remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (Total Project Cost Data), Tables 4.4-8 and 4.4-11 (Total Project Emissions Data, May 2009).
- Emissions estimates based on the ratio of total project costs to the total cost of remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (Total Project Cost Data), Tables 4.4-8 and 4.4-11 (Total Project Emissions Data, May 2009).
- Emissions estimates based on the ratio of total project costs to the total cost of remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (Total Project Cost Data), Tables 4.4-8 and 4.4-11 (Total Project Emissions Data, May 2009).
- Emissions estimates based on the ratio of total project costs to the total cost of remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (Total Project Cost Data), Tables 4.4-8 and 4.4-11 (Total Project Emissions Data, May 2009).
- Emissions estimates based on the ratio of total project costs to the total cost of remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3-9 (Total Project Cost Data), Tables 4.4-8 and 4.4-11 (Total Project Emissions Data, May 2009).
- As of this date, LAWA had considered nine development alternatives for the LAX Specific Plan Amendment Study (SPAS), and a combination of Alternatives 1, 2 and 9 was approved; however, the implementation of that alternative cannot occur without future review and approval by FAA. As such, it assumed for the purposes of this analysis that the LAX Master Plan Alternative D is currently approved, and was included in the SPAS analysis as Alternative 3. It is assumed that the implementation of Alternative 3 will occur between 2015 and 2022; however, there currently is no detailed construction schedule or construction phasing program. The SPAS EIR provides a general estimate of average daily construction emissions for the overall 11-year development duration. Emissions are based on the estimate of average daily construction emissions converted to tons implemented. The SPAS EIR indicates that construction of SPAS-related development, if approved, would occur between 2015 and 2022; however, there currently is no detailed construction schedule or construction phasing program. The SPAS EIR provides a general estimate of average daily construction emissions for the overall 11-year development duration. Emissions are based on the estimate of average daily construction emissions converted to tons implemented.
- Los Angeles County Metropolitan Transportation Authority, Crenshaw/LAX Transit Corridor, Final EIS/EA/EIR, August 2011. Detailed construction information was not available at the time of this analysis. Estimated emissions based on maximum daily construction emissions presented in the Crenshaw/LAX Transit Corridor Project FEIS/EIR and converted to tons per quarter based on a 5-day workweek.

Cumulative Construction Projects Peak Quarterly Emissions Estimates

Project No.	Construction Project	Estimated Total Construction Cost ² (millions)	Start Date	End Date	Respirable Particulate Matter (P ₁₀) Estimated Quarterly Emissions (tons per quarter)												Peak (tons per quarter)	Tons per Quarter Shift Cst.								
					Year 2014				Year 2015				Year 2017						Year 2018							
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			Q1	Q2	Q3	Q4				
N/A ¹	West Aircraft Maintenance Area Project	\$175.00	01/14	12/18	0.7	0.6	0.6	0.6	0.4	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7	-
1	Runway Safety Area (RSA) Improvements-South Airfield ³	\$106.30	02/14	02/15	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0012
2	Runway Safety Area (RSA) Improvements-North Airfield ⁴	\$139.10	06/14	06/19	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0012
3	LAX Bradley West Project - Remaining Work ⁵	\$603.70	11/13	12/17	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0033
4	T-3 Connector (part of BMP, but listed separate due to schedule) ⁶	\$175.00	07/19	01/22	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0002
5	North Terminals Major Renovation (T-3) ⁷	\$380.00	08/13	08/17	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0002
6	South Terminals Major Renovation (T-5 through T-8) ⁸	\$665.00	11/11	02/18	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0002
7	Midfield Satellite Concourse: Phase 1 - North Concourse Project ⁹	\$666.50	07/14	07/19	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0.0033
8	Central Utility Plant Replacement Project - Remaining Work ¹⁰	\$120.60	09/13	12/14	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0018
9	Miscellaneous Projects/Improvements ¹¹	\$945.50	01/14	07/20	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	0.0044
10	LAX Northside Area Development ¹²	N/A ¹³	01/15	12/22	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.9	-
11	LAX Master Plan Alt. D/SPAG Alt. 3 ¹⁴	\$16,391.00	06/15	06/25	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	-
12	Metro Crenshaw / LAX Transit Corridor and Station ¹⁵	N/A ¹³	12/15	04/19	6.7	6.8	9.0	9.0	9.6	74.1	74.1	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	72.8	72.6	72.6	75.0	-
Total from Other Construction Projects					7.3	7.5	9.6	9.6	10.1	74.3	74.1	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	72.8	72.6	72.6	75.3	-
Total Cumulative Construction Projects					6.7	6.8	9.0	9.0	9.6	74.1	74.1	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	72.8	72.6	72.6	75.3	-

Notes:

1. N/A = Not Applicable
2. Estimated total construction costs for related projects based on Los Angeles International Airport Capital Improvement Projects (CIP) List (June 18, 2013).
3. Construction emissions based on Iconoro & Associates Preliminary Calculations (August 8, 2013).
4. Construction emissions based on the same approach as described above for Los Angeles International Airport, Bradley West Project Drift Environmental Impact Report (DEIR), Table 4.3-9 (total project cost data), Tables 4.4-8 and 4.4-11 (total project emissions data), May 2009.
5. Emissions estimates reflect the rate of total project costs for total project emissions as applied to cost of the remaining improvements, based on Los Angeles International Airport, Bradley West Project Drift Environmental Impact Report (DEIR), Table 4.3-9 (total project cost data), Tables 4.4-8 and 4.4-11 (total project emissions data), May 2009.
6. Emissions estimates for all terminal renovation projects based on the same approach as described above for Los Angeles International Airport, Bradley West Project - Remaining Work.
7. Emissions estimates for all terminal renovation projects based on the same approach as described above for Los Angeles International Airport, Bradley West Project - Remaining Work.
8. Emissions estimates for the Midfield Satellite Concourse: Phase 1 Project based on the same approach as described above for Los Angeles International Airport, Bradley West Project - Remaining Work.
9. Emissions estimates reflect the rate of total project costs for total project emissions as applied to cost of the remaining improvements, based on Los Angeles International Airport, Bradley West Project Drift Environmental Impact Report (DEIR), Table B.10-3 (total project emissions data), September 2013.
10. Emissions based on average of terminal improvements projects, utilities/infrastructure improvements projects, and airfield operations area (AOA) improvements projects, as applied based on total construction cost.
11. Emissions based on Los Angeles International Airport, Northside Area Development Project Drift Environmental Impact Report (DEIR), Table B.10-3 (total project emissions data), September 2013.
12. As of this date, LAX had considered nine development alternatives for the LAX Spacie Plan Amendment Study (SPAS), and a combination of Alternatives 1 and 9 was approved; however, the implementation of that alternative cannot occur without future review and approval by FAA. As such, it is assumed for the purposes of this analysis that the LAX Master Plan Alternative D, as currently approved, and was included in the SPAS analysis as Alternative 3, is implemented. The SPAS DR indicates that construction of SPAS related development, if approved, would occur between 2015 and 2025; however, there currently is no detailed construction schedule or construction phasing program.
13. Los Angeles County Metropolitan Transportation Authority, Crenshaw/LAX Transit Corridor, Final EIS/Final EIR, August 2011. Detailed construction information was not available at the time of this analysis. Estimated emissions based on maximum daily construction emissions presented in the Crenshaw/LAX Transit Corridor Project FEIS/EIR and converted to tons per quarter based on a 5-day workweek.
14. Los Angeles County Metropolitan Transportation Authority, Crenshaw/LAX Transit Corridor, Final EIS/Final EIR, August 2011. Detailed construction information was not available at the time of this analysis. Estimated emissions based on maximum daily construction emissions presented in the Crenshaw/LAX Transit Corridor Project FEIS/EIR and converted to tons per quarter based on a 5-day workweek.
15. Los Angeles County Metropolitan Transportation Authority, Crenshaw/LAX Transit Corridor, Final EIS/Final EIR, August 2011. Detailed construction information was not available at the time of this analysis. Estimated emissions based on maximum daily construction emissions presented in the Crenshaw/LAX Transit Corridor Project FEIS/EIR and converted to tons per quarter based on a 5-day workweek.

LAX/LAWA West Aircraft Maintenance Area Project
Draft EIR Air Quality Analysis
Cumulative Emissions

Cumulative Construction Project Peak Quarterly Emissions Estimates

Project No.	Concurrent Construction Project	Start Date	End Date	Estimated Total Construction Cost ² (millions)	Fine Particulate Matter (PM2.5) Estimator Quarterly Emissions (tons per quarter)												Peak Quarter (Year/Quarter)	Tons per Quarter (Short Tons)			
					Year 2018			Year 2015			Year 2010			Year 2007					Year 2018		
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			Q1	Q2	Q3
N/A ¹	West Aircraft Maintenance Area Project	01/14	12/18	\$175.00	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	-		
1	Runway Safety Area (RSA) Improvements-South Airfield ³	02/14	02/15	\$106.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0002		
2	Runway Safety Area (RSA) Improvements-North Airfield ⁴	06/14	06/19	\$139.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0002		
3	LAX Bradley West Project - Remaining Work ⁵	11/13	12/17	\$683.70	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0011		
4	T-3 Connector (Part of BWP, but listed separate due to schedule) ⁶	07/19	01/22	\$175.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0011		
5	North Terminals Major Renovation (T-3) ⁷	08/13	08/17	\$380.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0001		
6	South Terminals Major Renovation (T-5 through T-8) ⁸	11/11	02/18	\$665.00	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0001		
7	Midfield Satellite Concourse: Phase 1 - North Concourse Project ⁹	07/14	07/19	\$666.50	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0011		
8	Central Utility Plant Replacement Project - Remaining Work ¹⁰	01/14	02/20	\$945.50	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.0009		
9	Miscellaneous Projects/Improvements ¹¹	01/15	12/22	N/A ¹	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0018		
10	LAX Northside Area Development ¹²	06/15	06/25	\$16,391.00	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	-		
11	LAX Master Plan Alt. D/SPAS Alt. 3 ¹³	06/15	06/25	N/A ¹	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	-		
12	Metro Crenshaw / LAX Transit Corridor and Station ¹³	12/15	04/19	N/A ¹	2.6	2.6	3.4	3.4	3.5	13.7	13.7	14.3	14.2	14.2	14.2	14.2	13.4	13.4	14.3		
Total from Other Construction Projects					2.9	2.9	3.7	3.7	3.7	13.8	13.7	14.3	14.2	14.2	14.2	14.4	13.4	13.4	14.4		
Total Cumulative Construction Projects					2.9	2.9	3.7	3.7	3.7	13.8	13.7	14.3	14.2	14.2	14.2	14.4	13.4	13.4	14.4		

Notes:

- N/A = Not Applicable
- Estimated total construction costs for related projects based on Los Angeles International Airport, Capital Improvement Projects (CIP) List (June 18, 2013).
- Construction emissions based on Ricardo & Associates Preliminary Calculations (August 6, 2013).
- Construction emissions for the Bradley West Project are based on the generally similar nature of improvements (i.e., construction costs and associated emissions) of RSA, North project and 1,398 linear greater than those of the RSA-South project).
- Emissions estimates reflect the ratio of total project costs to the total project emissions as applied to cost of the remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Tables 4.4.8 and 4.4.11 (total project emissions data), May 2009.
- Emissions estimates based on same approach as described above for LAX Bradley West Project - Remaining Work.
- Emissions estimates for all terminal renovation projects based on the emission rates associated with the United Airlines (UA) T-7 Improvements Project, as presented in Table II-2 of the United Airlines T-7 Initial Study (March 2013), given that the nature of construction activity associated with terminal/concourse renovations would be generally comparable to those of the UAL project. The subject emissions rates of the UAL project were applied to terminal renovation projects based on cost ratios (i.e., emissions per million dollars of construction costs).
- Emissions estimates for the Midfield Satellite Concourse: Phase 1 Project based on the same emission rates as for the Bradley West Project, given the generally similar nature of both projects, as applied proportionally to the total estimated construction cost of the Midfield Satellite Concourse: Phase 1 Project.
- Emissions estimates reflect the ratio of total project costs to the total project emissions as applied to cost of the remaining improvements, based on Los Angeles International Airport, Bradley West Project Draft Environmental Impact Report (DEIR), Table 4.3.9 (total project emissions data), September 2013.
- Emissions estimates based on average of terminal improvements projects, utilities/infrastructure improvements projects, and airfield operations area (AOA) improvements projects, as applied based on total construction cost.
- Emissions estimates based on Los Angeles International Airport, Northside Area Development Project Draft Environmental Impact Report (DEIR), Table 6.10.3 (total project emissions data), September 2013.
- As of this date, LAWA had considered nine development alternatives for the LAX-Specific Plan Amendment Study (SPAS), and a combination of Alternatives 1 and 9 was approved; however, the implementation of that alternative cannot occur without future review and approval by FAA. As such, it is assumed for the purposes of this analysis that the LAX Master Plan Alternative D is currently approved, and was included in the SPAS analysis as Alternative 3, is implemented. The SPAS EIR indicates that construction of SPAS-related development, if approved, would occur between 2015 and 2025; however, there currently is no detailed construction schedule or construction phasing program. The SPAS EIR provides a general estimate of average daily construction emissions for the overall 11-year development duration. Emissions are based on the estimate of average daily construction emissions converted to tons implemented. The SPAS EIR indicates that construction of SPAS-related development, if approved, would occur between 2015 and 2025; however, there currently is no detailed construction schedule or construction phasing program.
- Los Angeles County Metropolitan Transportation Authority, Crenshaw/LAX Transit Corridor, Final EIS/Final EIR, August 2011. Detailed construction information was not available at the time of this analysis. Estimated emissions based on maximum daily construction emissions presented in the Crenshaw/LAX Transit Corridor Project FEIS/FEIR and converted to tons per quarter based on a 5-day workweek.

Appendix B.5

Operations – Criteria Pollutant and Greenhouse Gas Emissions Calculations and Operational HHRA

- Operational Criteria Pollutant and Greenhouse Gas Emissions Calculations
- Operational HHRA

**Attachment 1
LAX West Aircraft Maintenance Area
Criteria Pollutant and Greenhouse Gas Emissions Calculations**

Project Data Analysis Year 2013 2018 Future 365 Days per year

# Aircraft per Day	Airplane Design Group	Movement	Existing Path	Project Path	Difference	Travel Method	Distance per Trip (mi)
8	V-VI	AM arrival -> RAD -> PM departure	T-2 to Qantas Hangar	T-2 to WAMA	Qantas Hangar to WAMA	Tow-V	1.65
6	V-VI	AM arrival -> RAD -> PM departure	T-6 to Taxiway R	T-6 to WAMA	RON/RAD to WAMA	Tow-V	1.00
2	III-IV	Multi-day maintenance	T-6 to United/Delta Hangar	T-6 to WAMA	<--Difference between 2 distances	Tow-IV	1.00
4	III-IV	PM arrival -> RON -> AM departure	T-2	T-2 to WAMA	T-2 to WAMA	Tow-IV	2.40
2	III-IV	PM arrival -> RON -> AM departure	T-2	T-2 to WAMA	T-2 to WAMA	Taxi	2.40
2	III-IV	PM arrival -> RON -> AM departure	T-6	T-6 to WAMA	T-6 to WAMA	Taxi	1.75
2	III-IV	Multi-day maintenance	T-6 to United/Delta Hangar	T-6 to WAMA	<--Difference between 2 distances	Taxi	1.00

From Taxiing Assumptions_12 July 2013_clean.docx

Total mi
13.2
6
2
9.6
4.8
3.5
2
10.3
11.6
19.2

Taxi
Tow-IV
Tow-V

EDMS Input
Boeing 737-300 /767-300 Series
Engine CF6-80A2
Taxi Out 6.0588235 min
Departure 2190 per year
0.621371 mile/kilometer
1.15078 mph/knot

Travel Method	Airplane Design Group	# Aircraft per Day	Aircraft Model/GSE Type	Taxi/Tug Speed (mph)	Total Distance (mi/day)	Taxi/Tug Time (s/day)
Taxi	III-IV	6	Boeing 737-300 /767-300 Series	17	10.3	2,181
Tow	III-IV	6	Wide body/Towbarless	15	11.6	2,784
Tow	V-VI	14	Wide body/Towbarless	15	19.2	4,608

Aircraft model assignment for ADG III based on Ricardo & Associates noise analysis for this project. Assumed taxi speed of 15 knots.
Engine assigned based on LAX SPAS AQ/GHG analysis engine assignment.
Tug speed from Goldhofer Aircraft Tractors Brochure (max speed 32 km/h, reduced by 20% for crossing delays) <http://www.goldhofer.de/gh-en/airport-technology/airport-technology.php>

Aircraft Type	Engine	Fuel Flow kg/s	CO g/kg	VOC g/kg	NOX g/kg	PM10 g/kg	PM2.5 g/kg	SOx g/kg	CO2 g/kg	CH4 g/gal	N2O g/gal	THC g/kg	NMHC g/kg	TOG g/kg
Boeing 737-300 Series	CFM56-3-B1	0.117	35.375	2.697	3.657	0.165	0.165	1.292	3.155	0.27	0.31	2.345	2.711	2.711
Boeing 757-300 Series	RB211-535E4B F	0.202	18.757	0.166	4.294	0.109	0.109	1.292	3.155	0.27	0.31	0.144	0.166	0.166
Boeing 767-300 Series	CF6-80A2	0.160	28.999	7.428	3.188	0.242	0.242	1.292	3.155	0.27	0.31	6.458	7.467	7.467
	Maximum Emission Rate	0.202	35.375	7.428	4.294	0.242	0.242	1.292	3.155	0.27	0.31	6.458	7.467	7.467

EDMS model default engine type for Boeing 737-300 series and 757-300 series chosen. Engine type for Boeing 767-300 series consistent with LAX Specific Plan Amendment Study air quality analysis.
Higher of the emission rates between Boeing 737-300 series, Boeing 757-300 series, and Boeing 767-300 series used in emission calculations.
Emission factors from EDMS v5.1.4 and 2013 Climate Registry Default Emission Factors (CH4 and N2O for Aviation Fuel)

Fuel Density	g/cm3	kg/gal
Jet A	0.8	3.03

Jet Fuel MSDS: http://www.isocorp.com/itellen/group2/corppcomm/documents/itsocorp_documents/msds/jetfuel.pdf

Aircraft Tug Emission Factors	Model Year	Size hp	Load Factor	CO g/hp/hr	HC g/hp/hr	NOx g/hp/hr	PM g/hp/hr	SO2 g/hp/hr	CO2 g/hp/hr	CH4 g/hp/hr	N2O g/hp/hr
Ground Support Equipment	2005	400	0.536	1.104	0.164	4.049	0.111	0.006	563.454	0.039	0.000

GSE type from 2013 LAX GSE inventory.
Emission factors from OFFROAD2007 and 2011 In-Use Offroad Emissions Inventory

LAX West Aircraft Maintenance Area
Criteria Pollutant and Greenhouse Gas Emissions Calculations

Daily Emissions

Emission Source	Fuel Flow kg/day	CO lb/day	VOC lb/day	NOx lb/day	PM10 lb/day	PM2.5 lb/day	SO2 lb/day	CO2 g/day	CH4 g/day	N2O g/day
ADG III-IV Taxi	441.62	34.44	7.23	4.18	0.24	0.24	1.26	3,072	39.35	45.18
ADG III-IV Tow		0.40	0.06	1.48	0.04	0.04	0.00	93.422	6.52	0.00
ADG V-VI Tow		0.67	0.10	2.45	0.07	0.06	0.00	154.630	10.80	0.00
Total		35.51	7.39	8.11	0.34	0.33	1.26	251,124	56.67	45.18
Previous values:		21.01	4.35	6.35	0.24	0.23	0.73	249,830	40.10	26.16

Annual Emissions

ADG	Fuel Flow kg/yr	CO tpy	VOC tpy	NOx tpy	PM10 tpy	PM2.5 tpy	SO2 tpy	CO2 MT/yr	CH4 MT/yr	N2O MT/yr	GHG MTCO2e/yr
ADG III-IV Taxi	161,192	6.29	1.32	0.76	0.04	0.04	0.23	1.12	0.01	0.02	6.53
ADG III-IV Tow		0.07	0.01	0.27	0.01	0.01	0.00	34.10	0.00	0.00	34.15
ADG V-VI Tow		0.12	0.02	0.45	0.01	0.01	0.00	56.44	0.00	0.00	56.52
Total		6.48	1.35	1.48	0.06	0.06	0.23	91.66	0.02	0.02	97.21
Previous values:		3.83	0.79	1.16	0.04	0.04	0.13	91.19	0.01	0.01	94.46

Unit Conversions

- 453.592 gram/pound
- 2,000 pound/ton
- 1,000,000 grams/metric ton
- 1000 gram/kilogram
- 60 minutes/hour
- 60 seconds/minute
- 1000 cubic centimeter/liter
- 0.264 gallon/liter

Global Warming Potential

CO2	CH4	N2O
1	21	310

IPCC, 1996. Second Assessment Report.

THC lb/day	NMHC lb/day	TOG lb/day
6.288	7.270	7.270
6.29	7.27	7.27

THC tpy	NMHC tpy	TOG tpy
1.147	1.327	1.327
1.15	1.33	1.33

Appendix B.5

Operations – Criteria Pollutant and Greenhouse Gas Emissions Calculations and Operational HHRA

- Operational Criteria Pollutant and Greenhouse Gas Emissions Calculations

TIER 2 SCREENING RISK ASSESSMENT REPORT

Application deemed complete date: 09/09/13

A/N:
Fac:

2. Tier 2 Data

MET Factor	0.66
4 hr	0.94
6 or 7 hrs	0.77

Dispersion Factors tables

5	For Chronic X/Q
7	For Acute X/Q

Dilution Factors (ug/m3)/(tons/yr)

Receptor	X/Q	X/Qmax
Residential	0.38	19.3
Commercial	0.38	19.3

Adjustment and Intake Factors

	AFann	DBR	EVF
Residential	1	302	0.96
Worker	1	149	0.58

4. Emission Calculations

Compound	uncontrolled		controlled		R2 (lb/yr)	R2 (ton/yr)
	R1 (lb/hr)	R2 (lb/hr)	R1 (lb/hr)	R2 (lb/yr)		
Diesel PM from diesel-fueled internal combustion eng	4.48E-03	4.48E-03	4.48E-03	39.1076761	0.019553838	0.019553838
Acetaldehyde	1.29E-02	1.29E-02	1.29E-02	113.04829	0.056524145	0.056524145
Acrolein	7.42E-03	7.42E-03	7.42E-03	64.8069436	0.032403472	0.032403472
Benzene (including benzene from gasoline)	5.09E-03	5.09E-03	5.09E-03	44.4836554	0.022241828	0.022241828
Butadiene, 1,3-	5.11E-03	5.11E-03	5.11E-03	44.6424311	0.022321216	0.022321216
Ethyl benzene	5.27E-04	5.27E-04	5.27E-04	4.60449497	0.002302247	0.002302247
Formaldehyde	3.73E-02	3.73E-02	3.73E-02	325.754788	0.162877394	0.162877394
Hexane (n-)						
Methanol (methyl alcohol)	5.47E-03	5.47E-03	5.47E-03	47.7650197	0.02388251	0.02388251
Methyl ethyl ketone						
Styrene (vinyl benzene)	9.36E-04	9.36E-04	9.36E-04	8.17694797	0.004088474	0.004088474
Naphthalene	1.64E-03	1.64E-03	1.64E-03	14.3162746	0.007158137	0.007158137
Propylene	1.37E-02	1.37E-02	1.37E-02	119.981495	0.059990748	0.059990748
Toluene (methyl benzene)	1.94E-03	1.94E-03	1.94E-03	16.9889987	0.008494499	0.008494499
Xylenes (isomers and mixtures)	1.36E-03	1.36E-03	1.36E-03	11.8552514	0.005927626	0.005927626
Arsenic and arsenic compounds (inorganic)						
Cadmium and cadmium compounds						
Chlorine						
Chromium, hexavalent						
Copper and copper compounds						
Lead and lead compounds (inorganic, including elem						
Manganese and manganese compounds	1.67E-06	1.67E-06	1.67E-06	0.01459582	7.29791E-06	7.29791E-06
Mercury and mercury compounds (inorganic)						
Nickel & nickel compounds (except nickel oxide):						
Selenium and selenium compounds, other than hydro						
Vanadium (fume or dust)*						
Total	9.79E-02	9.79E-02	9.79E-02	8.56E+02	4.28E-01	4.28E-01

A/N: [] Application deemed complete date: 09/09/13 []

TIER 2 RESULTS

5a. MICR

MICR = CP (mg/(kg-day))⁻¹ * Q (ton/yr) * (X/Q) * AFann * MET * DBR * EVF * 1E-6* MP

Compound	Residential	Commercial
Diesel PM from diesel-fueled internal combustion eng	1.56E-06	3.05E-07
Acetaldehyde	4.11E-08	8.03E-09
Acrolein	1.62E-07	3.16E-08
Benzene (including benzene from gasoline)	9.74E-07	1.90E-07
Butadiene, 1,3-	1.46E-09	2.84E-10
Ethyl benzene	2.49E-07	4.86E-08
Formaldehyde		
Hexane (n-)		
Methanol (methyl alcohol)		
Methyl ethyl ketone		
Styrene (vinyl benzene)	6.25E-08	1.22E-08
Naphthalene		
Propylene		
Toluene (methyl benzene)		
Xylenes (isomers and mixtures)		
Arsenic and arsenic compounds (inorganic)		
Cadmium and cadmium compounds		
Chlorine		
Chromium, hexavalent		
Copper and copper compounds		
Lead and lead compounds (inorganic, including elem		
Manganese and manganese compounds		
Mercury and mercury compounds (inorganic)		
Nickel & nickel compounds (except nickel oxide):		
Selenium and selenium compounds, other than hydro		
Vanadium (fume or dust)*		
Total	3.05E-06	5.96E-07

5b. Cancer Burden	YES
X/Q for one-in-a-million:	0.1244582442
Distance (meter)	992.04
Area (km ²):	3.09E+00
Population:	21,631
Cancer Burden:	6.60E-02

6. Hazard Index

$HIC = [Q(\text{ton/yr}) * (X/Q) * MET * MP] / \text{Chronic REL}$

Target Organs	Chronic	Chronic Pass/Fail
Alimentary system (liver) - AL	2.89E-07	Pass
Bones and teeth - BN		Pass
Cardiovascular system - CV		Pass
Developmental - DEV	1.02E-04	Pass
Endocrine system - END	2.89E-07	Pass
Eye		Pass
Hematopoietic system - HEM	9.30E-05	Pass
Immune system - IMM		Pass
Kidney - KID	2.89E-07	Pass
Nervous system - NS	1.24E-04	Pass
Reproductive system - REP	2.80E-04	Pass
Respiratory system - RES	2.91E-02	Pass
Skin		Pass

A/N:

Application deemed complete date:

6b. Hazard Index Chronic

$$HIC = [Q(\text{ton/yr}) * (X(Q)) * \text{MET} * \text{MP}] / \text{Chronic REL}$$

Compound	HIC - Residential												
	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Diesel PM from diesel-fueled internal combustion eng													
Acetaldehyde												9.81E-04	
Acrolein												1.01E-04	
Benzene (including benzene from gasoline)				9.30E-05						9.30E-05	2.80E-04	2.32E-02	
Butadiene, 1,3-				2.89E-07	2.89E-07								
Ethyl benzene	2.89E-07												
Formaldehyde													4.54E-03
Hexane (n-)				1.50E-06									
Methanol (methyl alcohol)										1.14E-06			
Methyl ethyl ketone													
Styrene (vinyl benzene)													
Naphthalene													
Propylene													
Toluene (methyl benzene)													
Xylenes (isomers and mixtures)				7.10E-06						7.10E-06			
Arsenic and arsenic compounds (inorganic)										2.12E-06			
Cadmium and cadmium compounds													
Chlorine													
Chromium, hexavalent													
Copper and copper compounds													
Lead and lead compounds (inorganic, including elem													
Manganese and manganese compounds													
Mercury and mercury compounds (inorganic)													
Nickel & nickel compounds (except nickel oxide):										2.03E-05			
Selenium and selenium compounds, other than hydro													
Vanadium (fume or dust)*													
Total	2.89E-07			1.02E-04	2.89E-07				2.89E-07	1.24E-04	2.80E-04	2.91E-02	

A/N:

Application deemed complete date:

6b. Hazard Index Chronic (cont.)

Compound	HIC - Commercial												
	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Diesel PM from diesel-fueled internal combustion engines													
Acetaldehyde												9.81E-04	
Acrolein												1.01E-04	
Benzene (including benzene from gasoline)				9.30E-05			9.30E-05			9.30E-05	2.80E-04	2.32E-02	
Butadiene, 1,3-													
Ethyl benzene	2.89E-07			2.89E-07	2.89E-07				2.89E-07				
Formaldehyde												4.54E-03	
Hexane (n-)													
Methanol (methyl alcohol)													
Methyl ethyl ketone				1.50E-06						1.14E-06		1.99E-04	
Styrene (vinyl benzene)												5.02E-06	
Naphthalene												7.10E-06	
Propylene												2.12E-06	
Toluene (methyl benzene)													
Xylenes (isomers and mixtures)				7.10E-06						7.10E-06			
Arsenic and arsenic compounds (inorganic)										2.12E-06			
Cadmium and cadmium compounds													
Chlorine													
Chromium, hexavalent													
Copper and copper compounds													
Lead and lead compounds (inorganic, including elemental lead)													
Manganese and manganese compounds													
Mercury and mercury compounds (inorganic)										2.03E-05			
Nickel & nickel compounds (except nickel oxide):													
Selenium and selenium compounds, other than hydro-selenic acid													
Vanadium (fume or dust)*													
Total	2.89E-07			1.02E-04	2.89E-07		9.30E-05		2.89E-07	1.24E-04	2.80E-04	2.91E-02	

Appendix B.5

Operations – Criteria Pollutant and Greenhouse Gas Emissions Calculations and Operational HHRA

- Operational HHRA

TIER 2 SCREENING RISK ASSESSMENT REPORT

A/N:
Fac:

Application deemed complete date 09/09/13

2. Tier 2 Data

MET Factor	0.66
4 hr	0.94
6 or 7 hrs	0.77

Dispersion Factors tables

5	For Chronic X/Q	
7	For Acute X/Q	

Dilution Factors (ug/m3)/(tons/yr)

	X/Q	X/Qmax
Receptor	0.38	19.3
Residential	0.38	19.3
Commercial	0.38	19.3

Adjustment and Intake Factors

	AFann	DBR	EVF
Residential	1	302	0.96
Worker	1	149	0.38

3. Rule 1401 Compound Data

Compound	R1 - uncontrolled (lbs/hr)	R2 - controlled (lbs/hr)	REL Acute
Diesel PM from diesel-fueled internal combustion engines	4.48E-03	4.48E-03	
Acetaldehyde	1.35E-02	1.35E-02	470
Acrolein	7.42E-03	7.42E-03	2.5
Benzene (including benzene from gasoline)	5.24E-03	5.24E-03	1300
Butadiene, 1,3-	5.12E-03	5.12E-03	
Ethyl benzene	5.50E-04	5.50E-04	
Formaldehyde	3.84E-02	3.84E-02	55
Hexane (n-)	1.21E-05	1.21E-05	
Methanol (methyl alcohol)	5.47E-03	5.47E-03	28000
Methyl ethyl ketone	1.12E-04	1.12E-04	13000
Styrene (vinyl benzene)	9.41E-04	9.41E-04	21000
Naphthalene	1.65E-03	1.65E-03	
Propylene	1.39E-02	1.39E-02	
Toluene (methyl benzene)	2.06E-03	2.06E-03	37000
Xylenes (isomers and mixtures)	1.44E-03	1.44E-03	22000
Arsenic and arsenic compounds (inorganic)	8.95E-09	8.95E-09	0.2
Cadmium and cadmium compounds	1.30E-07	1.30E-07	
Chlorine	1.39E-07	1.39E-07	210
Chromium, hexavalent	4.48E-09	4.48E-09	
Copper and copper compounds	2.87E-07	2.87E-07	100
Lead and lead compounds (inorganic, including elements)	4.48E-08	4.48E-08	
Manganese and manganese compounds	1.92E-06	1.92E-06	
Mercury and mercury compounds (inorganic)	3.13E-08	3.13E-08	0.6
Nickel & nickel compounds (except nickel oxide):	4.03E-08	4.03E-08	6
Selenium and selenium compounds, other than hydro:	3.58E-08	3.58E-08	
Vanadium (fume or dust)*	4.48E-09	4.48E-09	

4. Emission Calculations

Compound	uncontrolled		controlled		R2 (lb/yr)	R2 (ton/yr)
	RI (lb/yr)	R2 (lb/yr)	RI (lb/yr)	R2 (lb/yr)		
Diesel PM from diesel-fueled internal combustion engines	4.48E-03	4.48E-03	4.48E-03	39.107676	0.019553838	0.019553838
Acetaldehyde	1.35E-02	1.35E-02	1.35E-02	117.89673	0.058948364	0.058948364
Acrolein	7.42E-03	7.42E-03	7.42E-03	64.806944	0.032403472	0.032403472
Benzene (including benzene from gasoline)	5.24E-03	5.24E-03	5.24E-03	45.802958	0.022901479	0.022901479
Butadiene, 1,3-	5.12E-03	5.12E-03	5.12E-03	44.767765	0.022383882	0.022383882
Ethyl benzene	5.50E-04	5.50E-04	5.50E-04	4.8089869	0.002404493	0.002404493
Formaldehyde	3.84E-02	3.84E-02	3.84E-02	335.45826	0.16772913	0.16772913
Hexane (n-)	1.21E-05	1.21E-05	1.21E-05	0.1055442	5.27721E-05	5.27721E-05
Methanol (methyl alcohol)	5.47E-03	5.47E-03	5.47E-03	47.784809	0.023892405	0.023892405
Methyl ethyl ketone	1.12E-04	1.12E-04	1.12E-04	0.976284	0.000488142	0.000488142
Styrene (vinyl benzene)	9.41E-04	9.41E-04	9.41E-04	8.216527	0.004108264	0.004108264
Naphthalene	1.65E-03	1.65E-03	1.65E-03	14.375643	0.007187822	0.007187822
Propylene	1.39E-02	1.39E-02	1.39E-02	121.69659	0.060848294	0.060848294
Toluene (methyl benzene)	2.06E-03	2.06E-03	2.06E-03	17.958686	0.008979343	0.008979343
Xylenes (isomers and mixtures)	1.44E-03	1.44E-03	1.44E-03	12.547885	0.006273943	0.006273943
Arsenic and arsenic compounds (inorganic)	8.95E-09	8.95E-09	8.95E-09	7.822E-05	3.91077E-08	3.91077E-08
Cadmium and cadmium compounds	1.30E-07	1.30E-07	1.30E-07	0.0011341	5.67061E-07	5.67061E-07
Chlorine	1.39E-07	1.39E-07	1.39E-07	0.0012123	6.06169E-07	6.06169E-07
Chromium, hexavalent	4.48E-09	4.48E-09	4.48E-09	3.911E-05	1.95538E-08	1.95538E-08
Copper and copper compounds	2.87E-07	2.87E-07	2.87E-07	0.0025029	1.25145E-06	1.25145E-06
Lead and lead compounds (inorganic, including elemental lead)	4.48E-08	4.48E-08	4.48E-08	0.0003911	1.95538E-07	1.95538E-07
Manganese and manganese compounds	1.92E-06	1.92E-06	1.92E-06	0.0167858	8.39292E-06	8.39292E-06
Mercury and mercury compounds (inorganic)	3.13E-08	3.13E-08	3.13E-08	0.0002738	1.36877E-07	1.36877E-07
Nickel & nickel compounds (except nickel oxide):	4.03E-08	4.03E-08	4.03E-08	0.000352	1.75985E-07	1.75985E-07
Selenium and selenium compounds, other than hydro-	3.58E-08	3.58E-08	3.58E-08	0.0003129	1.56431E-07	1.56431E-07
Vanadium (fume or dust)*	4.48E-09	4.48E-09	4.48E-09	3.911E-05	1.95538E-08	1.95538E-08
Total	1.00E-01	1.00E-01	1.00E-01	8.76E+02	4.38E-01	4.38E-01

A/N: Application deemed complete date: 09/09/13

6. Hazard Index

$HIA = [Q(lb/hr) * (X/Q)_{max}] * AF / Acute REL$

Target Organs	Acute	Acute Pass/Fail
Alimentary system (liver) - AL		Pass
Bones and teeth - BN		Pass
Cardiovascular system - CV	8.64E-07	Pass
Developmental - DEV	8.08E-05	Pass
Endocrine system - END		Pass
Eye	7.13E-02	Pass
Hematopoietic system - HEM	7.78E-05	Pass
Immune system - IMM	7.80E-05	Pass
Kidney - KID		Pass
Nervous system - NS	6.71E-06	Pass
Reproductive system - REP	7.89E-05	Pass
Respiratory system - RES	5.78E-02	Pass
Skin		Pass

A/N:

Application deemed complete date

$$\text{HIA} = [\text{Q}(\text{lb/hr}) * (\text{X/Q})\text{max}] * \text{AF} / \text{Acute REL}$$

HIA - Residential

Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Diesel PM from diesel-fueled internal combustion engines										
Acetaldehyde				5.54E-04					5.54E-04	
Acrolein				5.73E-02					5.73E-02	
Benzene (including benzene from gasoline)			7.78E-05		7.78E-05					
Butadiene, 1,3-				1.35E-02						
Ethyl benzene										
Formaldehyde										
Hexane (n-)										
Methanol (methyl alcohol)				1.66E-07			3.77E-06		1.66E-07	
Methyl ethyl ketone				8.64E-07					8.64E-07	
Styrene (vinyl benzene)										
Naphthalene										
Propylene										
Toluene (methyl benzene)			1.07E-06	1.07E-06			1.07E-06		1.07E-06	
Xylenes (isomers and mixtures)				1.26E-06					1.26E-06	
Arsenic and arsenic compounds (inorganic)		8.64E-07	8.64E-07				8.64E-07			
Cadmium and cadmium compounds										
Chlorine				1.28E-08					1.28E-08	
Chromium, hexavalent										
Copper and copper compounds										
Lead and lead compounds (inorganic, including elements)										
Manganese and manganese compounds										
Mercury and mercury compounds (inorganic)			1.01E-06							
Nickel & nickel compounds (except nickel oxide):										
Selenium and selenium compounds, other than hydro-										
Vanadium (fume or dust)*										
Total		8.64E-07	8.08E-05	7.13E-02	7.78E-05	7.80E-05	6.71E-06	7.89E-05	5.78E-02	

Compound	HIA - Commercial									
	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Diesel PM from diesel-fueled internal combustion engines										
Acetaldehyde				5.54E-04 5.73E-02	7.78E-05				5.54E-04 5.73E-02	
Acrolein										
Benzene (including benzene from gasoline)			7.78E-05					7.78E-05		
Butadiene, 1,3-										
Ethyl benzene				1.35E-02						
Formaldehyde										
Hexane (n-)										
Methanol (methyl alcohol)				1.66E-07 8.64E-07			3.77E-06		1.66E-07 8.64E-07	
Methyl ethyl ketone										
Styrene (vinyl benzene)										
Naphthalene										
Propylene										
Toluene (methyl benzene)			1.07E-06	1.07E-06 1.26E-06			1.07E-06	1.07E-06	1.07E-06 1.26E-06	
Xylenes (isomers and mixtures)										
Arsenic and arsenic compounds (inorganic)		8.64E-07	8.64E-07				8.64E-07			
Cadmium and cadmium compounds										
Chlorine				1.28E-08					1.28E-08	
Chromium, hexavalent										
Copper and copper compounds									5.53E-08	
Lead and lead compounds (inorganic, including elemental lead)										
Manganese and manganese compounds										
Mercury and mercury compounds (inorganic)			1.01E-06					1.01E-06		
Nickel & nickel compounds (except nickel oxide):										
Selenium and selenium compounds, other than hydrogen selenide										
Vanadium (fume or dust)*										
Total		8.64E-07	8.08E-05	7.13E-02	7.78E-05	7.80E-05	6.71E-06	7.89E-05	5.78E-02	

