

APPENDIX A

Air Quality and Greenhouse Gas Technical Information

APPENDIX A-1

Air Quality and Greenhouse Gas Calculations

LAX

Terminal 1.5 Construction Emissions

Maximum Daily Unmitigated Construction Emissions, lbs/day						
Year	ROG	NOx	CO	SO2	PM10	PM2.5
2017	2.81 2.82	35.46 35.92	25.36 26.92	0.06	7.79 7.85	4.78 4.86
2018	4.01 3.86	28.27 25.91	29.31 29.26	0.06	7.56 7.57	4.58 4.63
2019	43.17	25.79 23.71	27.99 28.03	0.06	3.02 2.92	1.67 1.59
Max	43.17	35.46 35.92	29.31 29.26	0.06	7.79 7.85	4.78 4.86
SCAQMD CEQA Threshold	75.00	100.00	550.00	150.00	150.00	55.00
Significant?	No	No	No	No	No	No

Maximum Annual Unmitigated Construction Emissions, tons/year						
Year	ROG	NOx	CO	SO2	PM10	PM2.5
2017	0.21	2.38	1.81	0.00	0.24	0.15
2018	0.52 0.49	3.72 3.39	3.90 3.78	0.01	0.48 0.47	0.28 0.26
2019	1.46	0.58 0.57	0.62	0.00	0.05	0.04
Max	1.46	3.72 3.39	3.90 3.78	0.01	0.48 0.47	0.28 0.26
General Conformity de minimis Threshold	10.00	10.00	100.00	100.00	100.00	70.00
Significant?	No	No	No	No	No	No

Maximum Annual Unmitigated Construction Emissions, MT/year				
Year	CO2	CH4	N2O	CO2e
2017	285.68	0.05	0.00	286.66
2018	610.60 585.49	0.08 0.07	0.00	612.21 586.93
2019	90.52 89.75	0.02	0.00	90.93 90.16
Total (MT)	986.81 960.92	0.14	0.00	989.80 963.75
SCAQMD CEQA GHG Industrial Project Threshold	10000.00			
Significant?	No			

LAX Terminal 1.5 Full Mech Mezzanine

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	427.58	1000sqft	2.07	427,580.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	11			Operational Year	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW hr)	1227.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage based on building footprint of 90,000 sq ft.

Construction Phase - Construction Schedule: Jun 2017 - Jul 2019. Phase I includes demolition, site prep/grading and utility work. Phase II includes building construction, paving, and coating.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - No graders used during site prep (site is essentially level). Excavator used to dig out basement.

Trips and VMT -

Grading - Disturbed acreage based on building footprint of 90,000 sq ft.

Architectural Coating - No coatings on exterior surfaces. Interior surface area for coating was estimated from LAWA plan and elevation drawings for T1.5 dated 4/6/2016, and assumption that 50% of wall and ceiling area would be coated.

Vehicle Trips - No operational mobile emission calculations.

Road Dust - No operational fugitive road dust emission calculations.

Area Coating - Interior surface area for coating based on LAWA plan and elevation drawings dated 4/6/2016. No exterior surface coating.

Landscape Equipment - No landscaping at Terminal 1.5.

Water And Wastewater -

Solid Waste -

Area Mitigation - Use ultra-low VOC content coatings for non-residential interior surfaces.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	190,740.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	572,220.00	240,194.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_Nonresidential_Interior	572220	240194
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	0	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblConstructionPhase	NumDays	10.00	65.00
tblConstructionPhase	NumDays	220.00	265.00
tblConstructionPhase	NumDays	20.00	67.00
tblConstructionPhase	NumDays	6.00	23.00
tblConstructionPhase	NumDays	10.00	66.00

tblConstructionPhase	NumDays	3.00	66.00
tblConstructionPhase	PhaseEndDate	7/12/2019	7/14/2019
tblConsumerProducts	ROG_EF	1.98E-05	2E-07
tblGrading	AcresOfGrading	11.50	2.07
tblGrading	AcresOfGrading	66.00	2.07
tblGrading	MaterialExported	0.00	26,500.00
tblGrading	MaterialImported	0.00	26,500.00
tblLandUse	LotAcreage	9.82	2.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Preparation
tblProjectCharacteristics	OperationalYear	2014	2019
tblRoadDust	MaterialMoistureContent	0.5	12
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	RoadSiltLoading	0.1	0
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	ST_TR	2.37	0.00
tblVehicleTrips	SU_TR	0.98	0.00
tblVehicleTrips	WD_TR	11.01	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										MT/yr					
2017	0.2124	2.3763	1.8061	3.1600e-003	0.1303	0.1092	0.2395	0.0519	0.1013	0.1531	0.0000	285.6845	285.6845	0.0467	0.0000	286.6649
2018	0.4949	3.3936	3.7761	7.2000e-003	0.2920	0.1743	0.4663	0.0980	0.1666	0.2646	0.0000	585.4863	585.4863	0.0686	0.0000	586.9260
2019	1.4586	0.5707	0.6210	1.0800e-003	0.0209	0.0328	0.0537	5.5700e-003	0.0307	0.0363	0.0000	89.7517	89.7517	0.0193	0.0000	90.1574
Total	2.1658	6.3405	6.2032	0.0114	0.4432	0.3163	0.7595	0.1555	0.2986	0.4540	0.0000	960.9225	960.9225	0.1346	0.0000	963.7483

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	Demolition	6/1/2017	9/1/2017	5	67	
2	Site Preparation	Site Preparation	9/2/2017	12/4/2017	5	66	
3	Grading	Grading	12/5/2017	1/4/2018	5	23	
4	Building Construction	Building Construction	1/5/2018	1/10/2019	5	265	
5	Paving	Paving	1/11/2019	4/12/2019	5	66	
6	Architectural Coating	Architectural Coating	4/13/2019	7/14/2019	5	65	

Acres of Grading (Site Preparation Phase): 2.07

Acres of Grading (Grading Phase): 2.07

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 240,194; Non-Residential Outdoor: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Excavators	1	7.00	162	0.38
Site Preparation	Graders	0	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	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
Demolition	5	13.00	0.00	161.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	3,313.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	122.00	63.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	24.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0174	0.0000	0.0174	2.6400e-003	0.0000	2.6400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0912	0.8906	0.6992	8.2000e-004		0.0538	0.0538		0.0503	0.0503	0.0000	74.6842	74.6842	0.0190	0.0000	75.0821
Total	0.0912	0.8906	0.6992	8.2000e-004	0.0174	0.0538	0.0713	2.6400e-003	0.0503	0.0530	0.0000	74.6842	74.6842	0.0190	0.0000	75.0821

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3900e-003	0.0218	0.0174	6.0000e-005	1.3800e-003	3.1000e-004	1.6800e-003	3.8000e-004	2.8000e-004	6.6000e-004	0.0000	5.4021	5.4021	4.0000e-005	0.0000	5.4030
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	1.7000e-003	2.5100e-003	0.0262	6.0000e-005	4.7700e-003	4.0000e-005	4.8200e-003	1.2700e-003	4.0000e-005	1.3100e-003	0.0000	4.4822	4.4822	2.4000e-004	0.0000	4.4873
Total	3.0900e-003	0.0244	0.0435	1.2000e-004	6.1500e-003	3.5000e-004	6.5000e-003	1.6500e-003	3.2000e-004	1.9700e-003	0.0000	9.8843	9.8843	2.8000e-004	0.0000	9.8903

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0900e-003	0.0000	4.0900e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0625	0.7424	0.5045	7.3000e-004		0.0339	0.0339		0.0312	0.0312	0.0000	68.1200	68.1200	0.0209	0.0000	68.5583
Total	0.0625	0.7424	0.5045	7.3000e-004	4.0900e-003	0.0339	0.0380	5.7000e-004	0.0312	0.0318	0.0000	68.1200	68.1200	0.0209	0.0000	68.5583

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0286	0.4493	0.3572	1.2400e-003	0.0284	6.2900e-003	0.0346	7.7800e-003	5.7800e-003	0.0136	0.0000	111.1633	111.1633	8.2000e-004	0.0000	111.1806
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	1.0300e-003	1.5200e-003	0.0159	4.0000e-005	2.8900e-003	3.0000e-005	2.9200e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.7171	2.7171	1.5000e-004	0.0000	2.7202
Total	0.0296	0.4508	0.3730	1.2800e-003	0.0313	6.3200e-003	0.0376	8.5500e-003	5.8000e-003	0.0144	0.0000	113.8804	113.8804	9.7000e-004	0.0000	113.9009

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0704	0.0000	0.0704	0.0382	0.0000	0.0382	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0256	0.2675	0.1802	2.0000e-004		0.0148	0.0148		0.0136	0.0136	0.0000	18.1378	18.1378	5.5600e-003	0.0000	18.2545
Total	0.0256	0.2675	0.1802	2.0000e-004	0.0704	0.0148	0.0851	0.0382	0.0136	0.0518	0.0000	18.1378	18.1378	5.5600e-003	0.0000	18.2545

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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
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	3.7000e-004	5.5000e-004	5.7100e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.9778	0.9778	5.0000e-005	0.0000	0.9789
Total	3.7000e-004	5.5000e-004	5.7100e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.9778	0.9778	5.0000e-005	0.0000	0.9789

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0704	0.0000	0.0704	0.0382	0.0000	0.0382	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7500e-003	0.0492	0.0354	4.0000e-005		2.6700e-003	2.6700e-003		2.4500e-003	2.4500e-003	0.0000	3.7546	3.7546	1.1700e-003	0.0000	3.7792
Total	4.7500e-003	0.0492	0.0354	4.0000e-005	0.0704	2.6700e-003	0.0730	0.0382	2.4500e-003	0.0406	0.0000	3.7546	3.7546	1.1700e-003	0.0000	3.7792

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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
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	7.0000e-005	1.0000e-004	1.0900e-003	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1983	0.1983	1.0000e-005	0.0000	0.1985
Total	7.0000e-005	1.0000e-004	1.0900e-003	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1983	0.1983	1.0000e-005	0.0000	0.1985

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3727	2.6420	2.0128	3.2000e-003		0.1608	0.1608		0.1541	0.1541	0.0000	270.1245	270.1245	0.0581	0.0000	271.3436

Total	0.3727	2.6420	2.0128	3.2000e-003		0.1608	0.1608		0.1541	0.1541	0.0000	270.1245	270.1245	0.0581	0.0000	271.3436
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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
Vendor	0.0623	0.6201	0.8738	1.7700e-003	0.0497	9.3300e-003	0.0590	0.0142	8.5800e-003	0.0228	0.0000	155.9731	155.9731	1.1600e-003	0.0000	155.9974
Worker	0.0550	0.0821	0.8530	2.1800e-003	0.1718	1.5400e-003	0.1733	0.0456	1.4200e-003	0.0471	0.0000	155.4357	155.4357	8.1700e-003	0.0000	155.6073
Total	0.1173	0.7023	1.7268	3.9500e-003	0.2215	0.0109	0.2323	0.0598	0.0100	0.0698	0.0000	311.4089	311.4089	9.3300e-003	0.0000	311.6047

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0102	0.0751	0.0608	1.0000e-004		4.3400e-003	4.3400e-003		4.1600e-003	4.1600e-003	0.0000	8.3453	8.3453	1.7300e-003	0.0000	8.3817
Total	0.0102	0.0751	0.0608	1.0000e-004		4.3400e-003	4.3400e-003		4.1600e-003	4.1600e-003	0.0000	8.3453	8.3453	1.7300e-003	0.0000	8.3817

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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
Vendor	1.8400e-003	0.0178	0.0263	5.0000e-005	1.5500e-003	2.8000e-004	1.8200e-003	4.4000e-004	2.5000e-004	7.0000e-004	0.0000	4.7555	4.7555	4.0000e-005	0.0000	4.7563
Worker	1.5700e-003	2.3400e-003	0.0243	7.0000e-005	5.3500e-003	5.0000e-005	5.3900e-003	1.4200e-003	4.0000e-005	1.4600e-003	0.0000	4.6487	4.6487	2.4000e-004	0.0000	4.6537
Total	3.4100e-003	0.0201	0.0506	1.2000e-004	6.9000e-003	3.3000e-004	7.2100e-003	1.8600e-003	2.9000e-004	2.1600e-003	0.0000	9.4042	9.4042	2.8000e-004	0.0000	9.4099

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Off-Road	0.0406	0.4097	0.3861	5.8000e-004		0.0238	0.0238		0.0220	0.0220	0.0000	51.5585	51.5585	0.0160	0.0000	51.8943
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0406	0.4097	0.3861	5.8000e-004		0.0238	0.0238		0.0220	0.0220	0.0000	51.5585	51.5585	0.0160	0.0000	51.8943

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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
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	1.5900e-003	2.3800e-003	0.0247	7.0000e-005	5.4200e-003	5.0000e-005	5.4700e-003	1.4400e-003	4.0000e-005	1.4800e-003	0.0000	4.7154	4.7154	2.4000e-004	0.0000	4.7204
Total	1.5900e-003	2.3800e-003	0.0247	7.0000e-005	5.4200e-003	5.0000e-005	5.4700e-003	1.4400e-003	4.0000e-005	1.4800e-003	0.0000	4.7154	4.7154	2.4000e-004	0.0000	4.7204

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3916					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.6600e-003	0.0597	0.0598	1.0000e-004		4.1800e-003	4.1800e-003		4.1800e-003	4.1800e-003	0.0000	8.2981	8.2981	7.0000e-004	0.0000	8.3128
Total	1.4003	0.0597	0.0598	1.0000e-004		4.1800e-003	4.1800e-003		4.1800e-003	4.1800e-003	0.0000	8.2981	8.2981	7.0000e-004	0.0000	8.3128

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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
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	2.5100e-003	3.7500e-003	0.0389	1.1000e-004	8.5500e-003	7.0000e-005	8.6200e-003	2.2700e-003	7.0000e-005	2.3400e-003	0.0000	7.4303	7.4303	3.8000e-004	0.0000	7.4382
Total	2.5100e-003	3.7500e-003	0.0389	1.1000e-004	8.5500e-003	7.0000e-005	8.6200e-003	2.2700e-003	7.0000e-005	2.3400e-003	0.0000	7.4303	7.4303	3.8000e-004	0.0000	7.4382

LAX Terminal 1.5 Full Mech Mezzanine

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	427.58	1000sqft	2.07	427,580.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	11			Operational Year	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW hr)	1227.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage based on building footprint of 90,000 sq ft.

Construction Phase - Construction Schedule: Jun 2017 - Jul 2019. Phase I includes demolition, site prep/grading and utility work. Phase II includes building construction, paving, and coating.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - No graders used during site prep (site is essentially level). Excavator used to dig out basement.

Trips and VMT -

Grading - Disturbed acreage based on building footprint of 90,000 sq ft.

Architectural Coating - No coatings on exterior surfaces. Interior surface area for coating was estimated from LAWA plan and elevation drawings for T1.5 dated 4/6/2016, and assumption that 50% of wall and ceiling area would be coated.

Vehicle Trips - No operational mobile emission calculations.

Road Dust - No operational fugitive road dust emission calculations.

Area Coating - Interior surface area for coating based on LAWA plan and elevation drawings dated 4/6/2016. No exterior surface coating.

Landscape Equipment - No landscaping at Terminal 1.5.

Water And Wastewater -

Solid Waste -

Area Mitigation - Use ultra-low VOC content coatings for non-residential interior surfaces.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	190,740.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	572,220.00	240,194.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_Nonresidential_Interior	572220	240194
tblAreaMitigation	UseLowVOCPaintNonresidentialExterior	0	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInterior	250	50
tblConstructionPhase	NumDays	10.00	65.00
tblConstructionPhase	NumDays	220.00	265.00
tblConstructionPhase	NumDays	20.00	67.00
tblConstructionPhase	NumDays	6.00	23.00
tblConstructionPhase	NumDays	10.00	66.00
tblConstructionPhase	NumDays	3.00	66.00
tblConstructionPhase	PhaseEndDate	7/12/2019	7/14/2019
tblConsumerProducts	ROG_EF	1.98E-05	2E-07

tblGrading	AcresOfGrading	11.50	2.07
tblGrading	AcresOfGrading	66.00	2.07
tblGrading	MaterialExported	0.00	26,500.00
tblGrading	MaterialImported	0.00	26,500.00
tblLandUse	LotAcreage	9.82	2.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Preparation
tblProjectCharacteristics	OperationalYear	2014	2019
tblRoadDust	MaterialMoistureContent	0.5	12
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	RoadSiltLoading	0.1	0
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	ST_TR	2.37	0.00
tblVehicleTrips	SU_TR	0.98	0.00
tblVehicleTrips	WD_TR	11.01	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2017	2.8137	35.4612	25.3572	0.0609	6.2293	1.6166	7.7854	3.3502	1.5118	4.7817	0.0000	6,086.9778	6,086.9778	0.7295	0.0000	6,102.2980
2018	3.7972	25.7422	28.3755	0.0564	6.2293	1.3354	7.5636	3.3502	1.2768	4.5777	0.0000	5,050.3720	5,050.3720	0.6500	0.0000	5,064.0215
2019	43.1651	23.5582	27.1391	0.0563	1.7569	1.1651	2.9219	0.4736	1.1139	1.5875	0.0000	4,950.9289	4,950.9289	0.5522	0.0000	4,962.5244
Total	49.7760	84.7616	80.8718	0.1736	14.2155	4.1171	18.2708	7.1739	3.9026	10.9469	0.0000	16,088.2788	16,088.2788	1.9317	0.0000	16,128.8439

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	Demolition	6/1/2017	9/1/2017	5	67	
2	Site Preparation	Site Preparation	9/2/2017	12/4/2017	5	66	
3	Grading	Grading	12/5/2017	1/4/2018	5	23	
4	Building Construction	Building Construction	1/5/2018	1/10/2019	5	265	
5	Paving	Paving	1/11/2019	4/12/2019	5	66	
6	Architectural Coating	Architectural Coating	4/13/2019	7/14/2019	5	65	

Acres of Grading (Site Preparation Phase): 2.07

Acres of Grading (Grading Phase): 2.07

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 240,194; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Excavators	1	7.00	162	0.38
Site Preparation	Graders	0	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	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
Demolition	5	13.00	0.00	161.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	3,313.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	122.00	63.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	24.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5206	0.0000	0.5206	0.0788	0.0000	0.0788			0.0000			0.0000
Off-Road	2.7216	26.5855	20.8712	0.0245		1.6062	1.6062		1.5022	1.5022		2,457.4682	2,457.4682	0.6235		2,470.5620
Total	2.7216	26.5855	20.8712	0.0245	0.5206	1.6062	2.1268	0.0788	1.5022	1.5811		2,457.4682	2,457.4682	0.6235		2,470.5620

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day				
Hauling	0.0400	0.6187	0.4580	1.7900e-003	0.0419	9.1100e-003	0.0510	0.0115	8.3800e-003	0.0198		177.9320	177.9320	1.3100e-003	177.9596
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	0.0520	0.0659	0.8171	1.8900e-003	0.1453	1.3200e-003	0.1466	0.0385	1.2100e-003	0.0398		153.7936	153.7936	8.0400e-003	153.9624
Total	0.0921	0.6846	1.2751	3.6800e-003	0.1872	0.0104	0.1976	0.0500	9.5900e-003	0.0596		331.7256	331.7256	9.3500e-003	331.9219

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1241	0.0000	0.1241	0.0173	0.0000	0.0173			0.0000			0.0000
Off-Road	1.8932	22.4964	15.2863	0.0223		1.0281	1.0281		0.9458	0.9458		2,275.4386	2,275.4386	0.6972		2,290.0796
Total	1.8932	22.4964	15.2863	0.0223	0.1241	1.0281	1.1521	0.0173	0.9458	0.9632		2,275.4386	2,275.4386	0.6972		2,290.0796

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8361	12.9243	9.5680	0.0375	0.8743	0.1903	1.0647	0.2394	0.1751	0.4145		3,716.8970	3,716.8970	0.0274		3,717.4723
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	0.0320	0.0406	0.5028	1.1600e-003	0.0894	8.1000e-004	0.0902	0.0237	7.5000e-004	0.0245		94.6422	94.6422	4.9500e-003		94.7461
Total	0.8681	12.9648	10.0708	0.0386	0.9637	0.1912	1.1549	0.2631	0.1758	0.4390		3,811.5392	3,811.5392	0.0323		3,812.2184

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1175	0.0000	6.1175	3.3205	0.0000	3.3205			0.0000			0.0000
Off-Road	2.6973	28.1608	18.9679	0.0206		1.5550	1.5550		1.4306	1.4306		2,104.5737	2,104.5737	0.6448		2,118.1153
Total	2.6973	28.1608	18.9679	0.0206	6.1175	1.5550	7.6726	3.3205	1.4306	4.7512		2,104.5737	2,104.5737	0.6448		2,118.1153

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										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	0.0400	0.0507	0.6285	1.4500e-003	0.1118	1.0100e-003	0.1128	0.0296	9.3000e-004	0.0306		118.3028	118.3028	6.1800e-003		118.4326
Total	0.0400	0.0507	0.6285	1.4500e-003	0.1118	1.0100e-003	0.1128	0.0296	9.3000e-004	0.0306		118.3028	118.3028	6.1800e-003		118.4326

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1175	0.0000	6.1175	3.3205	0.0000	3.3205			0.0000			0.0000
Off-Road	2.3737	24.6088	17.7193	0.0205		1.3333	1.3333		1.2266	1.2266		2,069.3914	2,069.3914	0.6442		2,082.9202
Total	2.3737	24.6088	17.7193	0.0205	6.1175	1.3333	7.4508	3.3205	1.2266	4.5471		2,069.3914	2,069.3914	0.6442		2,082.9202

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										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	0.0360	0.0460	0.5711	1.4500e-003	0.1118	9.8000e-004	0.1128	0.0296	9.1000e-004	0.0306		113.9736	113.9736	5.7400e-003		114.0942
Total	0.0360	0.0460	0.5711	1.4500e-003	0.1118	9.8000e-004	0.1128	0.0296	9.1000e-004	0.0306		113.9736	113.9736	5.7400e-003		114.0942

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9004	20.5600	15.6637	0.0249		1.2511	1.2511		1.1992	1.1992		2,317.2089	2,317.2089	0.4980		2,327.6664
Total	2.9004	20.5600	15.6637	0.0249		1.2511	1.2511		1.1992	1.1992		2,317.2089	2,317.2089	0.4980		2,327.6664

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										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	0.4572	4.6208	5.7443	0.0138	0.3931	0.0723	0.4654	0.1119	0.0665	0.1784		1,342.6855	1,342.6855	9.8000e-003	1,342.8913
Worker	0.4396	0.5614	6.9675	0.0177	1.3637	0.0120	1.3756	0.3617	0.0111	0.3727		1,390.4777	1,390.4777	0.0701	1,391.9491
Total	0.8968	5.1822	12.7118	0.0315	1.7568	0.0843	1.8411	0.4735	0.0776	0.5511		2,733.1632	2,733.1632	0.0799	2,734.8404

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5471	18.7802	15.2049	0.0249		1.0846	1.0846		1.0399	1.0399		2,299.7816	2,299.7816	0.4771		2,309.8005
Total	2.5471	18.7802	15.2049	0.0249		1.0846	1.0846		1.0399	1.0399		2,299.7816	2,299.7816	0.4771		2,309.8005

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										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	0.4340	4.2632	5.5362	0.0138	0.3932	0.0688	0.4619	0.1119	0.0633	0.1751		1,315.1492	1,315.1492	9.5800e-003		1,315.3505
Worker	0.4040	0.5147	6.3981	0.0177	1.3637	0.0117	1.3753	0.3617	0.0108	0.3725		1,335.9982	1,335.9982	0.0655		1,337.3735
Total	0.8379	4.7780	11.9343	0.0314	1.7569	0.0804	1.8373	0.4735	0.0741	0.5476		2,651.1474	2,651.1474	0.0751		2,652.7239

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2310	12.4141	11.7009	0.0176		0.7225	0.7225		0.6658	0.6658		1,722.2285	1,722.2285	0.5342		1,733.4458
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2310	12.4141	11.7009	0.0176		0.7225	0.7225		0.6658	0.6658		1,722.2285	1,722.2285	0.5342		1,733.4458

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										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	0.0497	0.0633	0.7867	2.1700e-003	0.1677	1.4300e-003	0.1691	0.0445	1.3300e-003	0.0458		164.2621	164.2621	8.0500e-003		164.4312
Total	0.0497	0.0633	0.7867	2.1700e-003	0.1677	1.4300e-003	0.1691	0.0445	1.3300e-003	0.0458		164.2621	164.2621	8.0500e-003		164.4312

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.8192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		281.9473
Total	43.0856	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		281.9473

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										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	0.0795	0.1013	1.2587	3.4700e-003	0.2683	2.3000e-003	0.2706	0.0711	2.1300e-003	0.0733		262.8193	262.8193	0.0129		263.0899
Total	0.0795	0.1013	1.2587	3.4700e-003	0.2683	2.3000e-003	0.2706	0.0711	2.1300e-003	0.0733		262.8193	262.8193	0.0129		263.0899

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		

Total	0.00	0.00	0.00		
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4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	77	19	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.530902	0.057841	0.178699	0.124790	0.039063	0.006298	0.016951	0.033908	0.002496	0.003149	0.003689	0.000536	0.001678

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169
NaturalGas Unmitigated	0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	12804	0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169
Total		0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	12,804	0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169
Total		0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3633	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989
Unmitigated	0.8522	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7625					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0855					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1800e-003	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989
Total	0.8522	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2736					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0855					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1800e-003	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989
Total	0.3633	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

LAX Terminal 1.5 Full Mech Mezzanine
Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	427.58	1000sqft	2.07	427,580.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	11			Operational Year	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MW hr)	1227.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage based on building footprint of 90,000 sq ft.

Construction Phase - Construction Schedule: Jun 2017 - Jul 2019. Phase I includes demolition, site prep/grading and utility work. Phase II includes building construction, paving, and coating.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - No graders used during site prep (site is essentially level). Excavator used to dig out basement.

Trips and VMT -

Grading - Disturbed acreage based on building footprint of 90,000 sq ft.

Architectural Coating - No coatings on exterior surfaces. Interior surface area for coating was estimated from LAWA plan and elevation drawings for T1.5 dated 4/6/2016, and assumption that 50% of wall and ceiling area would be coated.

Vehicle Trips - No operational mobile emission calculations.

Road Dust - No operational fugitive road dust emission calculations.

Area Coating - Interior surface area for coating based on LAWA plan and elevation drawings dated 4/6/2016. No exterior surface coating.

Landscape Equipment - No landscaping at Terminal 1.5.

Water And Wastewater -

Solid Waste -

Area Mitigation - Use ultra-low VOC content coatings for non-residential interior surfaces.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	190,740.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	572,220.00	240,194.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	0
tblAreaCoating	Area_Nonresidential_Interior	572220	240194
tblAreaMitigation	UseLowVOCPaintNonresidentialExterior	0	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInterior	250	50
tblConstructionPhase	NumDays	10.00	65.00
tblConstructionPhase	NumDays	220.00	265.00
tblConstructionPhase	NumDays	20.00	67.00
tblConstructionPhase	NumDays	6.00	23.00
tblConstructionPhase	NumDays	10.00	66.00
tblConstructionPhase	NumDays	3.00	66.00
tblConstructionPhase	PhaseEndDate	7/12/2019	7/14/2019
tblConsumerProducts	ROG_EF	1.98E-05	2E-07

tblGrading	AcresOfGrading	11.50	2.07
tblGrading	AcresOfGrading	66.00	2.07
tblGrading	MaterialExported	0.00	26,500.00
tblGrading	MaterialImported	0.00	26,500.00
tblLandUse	LotAcreage	9.82	2.07
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Preparation
tblProjectCharacteristics	OperationalYear	2014	2019
tblRoadDust	MaterialMoistureContent	0.5	12
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	RoadSiltLoading	0.1	0
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	ST_TR	2.37	0.00
tblVehicleTrips	SU_TR	0.98	0.00
tblVehicleTrips	WD_TR	11.01	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2017	2.8178	35.9195	26.9229	0.0607	6.2293	1.6167	7.7854	3.3502	1.5119	4.7817	0.0000	6,072.9268	6,072.9268	0.7299	0.0000	6,088.2546
2018	3.8559	25.9146	29.2638	0.0553	6.2293	1.3361	7.5636	3.3502	1.2775	4.5777	0.0000	4,960.9224	4,960.9224	0.6500	0.0000	4,974.5718
2019	43.1679	23.7145	28.0325	0.0552	1.7569	1.1657	2.9226	0.4736	1.1145	1.5881	0.0000	4,864.6302	4,864.6302	0.5525	0.0000	4,876.2322
Total	49.8415	85.5486	84.2191	0.1712	14.2155	4.1184	18.2715	7.1739	3.9038	10.9475	0.0000	15,898.4794	15,898.4794	1.9323	0.0000	15,939.0586

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	Demolition	6/1/2017	9/1/2017	5	67	
2	Site Preparation	Site Preparation	9/2/2017	12/4/2017	5	66	
3	Grading	Grading	12/5/2017	1/4/2018	5	23	
4	Building Construction	Building Construction	1/5/2018	1/10/2019	5	265	
5	Paving	Paving	1/11/2019	4/12/2019	5	66	
6	Architectural Coating	Architectural Coating	4/13/2019	7/14/2019	5	65	

Acres of Grading (Site Preparation Phase): 2.07

Acres of Grading (Grading Phase): 2.07

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 240,194; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Excavators	1	7.00	162	0.38
Site Preparation	Graders	0	8.00	174	0.41
Site Preparation	Scrapers	1	8.00	361	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	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
Demolition	5	13.00	0.00	161.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	3,313.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	122.00	63.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	24.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5206	0.0000	0.5206	0.0788	0.0000	0.0788			0.0000			0.0000
Off-Road	2.7216	26.5855	20.8712	0.0245		1.6062	1.6062		1.5022	1.5022		2,457.4682	2,457.4682	0.6235		2,470.5620
Total	2.7216	26.5855	20.8712	0.0245	0.5206	1.6062	2.1268	0.0788	1.5022	1.5811		2,457.4682	2,457.4682	0.6235		2,470.5620

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day				
Hauling	0.0422	0.6404	0.5346	1.7900e-003	0.0419	9.1300e-003	0.0510	0.0115	8.4000e-003	0.0199		177.5140	177.5140	1.3300e-003	177.5419
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	0.0540	0.0731	0.7641	1.7800e-003	0.1453	1.3200e-003	0.1466	0.0385	1.2100e-003	0.0398		145.1496	145.1496	8.0400e-003	145.3184
Total	0.0962	0.7135	1.2987	3.5700e-003	0.1872	0.0105	0.1976	0.0500	9.6100e-003	0.0596		322.6636	322.6636	9.3700e-003	322.8603

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1241	0.0000	0.1241	0.0173	0.0000	0.0173			0.0000			0.0000
Off-Road	1.8932	22.4964	15.2863	0.0223		1.0281	1.0281		0.9458	0.9458		2,275.4386	2,275.4386	0.6972		2,290.0796
Total	1.8932	22.4964	15.2863	0.0223	0.1241	1.0281	1.1521	0.0173	0.9458	0.9632		2,275.4386	2,275.4386	0.6972		2,290.0796

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8812	13.3781	11.1663	0.0374	0.8743	0.1908	1.0651	0.2394	0.1755	0.4149		3,708.1653	3,708.1653	0.0278		3,708.7482
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	0.0332	0.0450	0.4702	1.1000e-003	0.0894	8.1000e-004	0.0902	0.0237	7.5000e-004	0.0245		89.3228	89.3228	4.9500e-003		89.4267
Total	0.9144	13.4231	11.6366	0.0385	0.9637	0.1916	1.1553	0.2631	0.1762	0.4394		3,797.4882	3,797.4882	0.0327		3,798.1749

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1175	0.0000	6.1175	3.3205	0.0000	3.3205			0.0000			0.0000
Off-Road	2.6973	28.1608	18.9679	0.0206		1.5550	1.5550		1.4306	1.4306		2,104.5737	2,104.5737	0.6448		2,118.1153
Total	2.6973	28.1608	18.9679	0.0206	6.1175	1.5550	7.6726	3.3205	1.4306	4.7512		2,104.5737	2,104.5737	0.6448		2,118.1153

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										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	0.0416	0.0562	0.5878	1.3700e-003	0.1118	1.0100e-003	0.1128	0.0296	9.3000e-004	0.0306		111.6535	111.6535	6.1800e-003		111.7834
Total	0.0416	0.0562	0.5878	1.3700e-003	0.1118	1.0100e-003	0.1128	0.0296	9.3000e-004	0.0306		111.6535	111.6535	6.1800e-003		111.7834

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1175	0.0000	6.1175	3.3205	0.0000	3.3205			0.0000			0.0000
Off-Road	2.3737	24.6088	17.7193	0.0205		1.3333	1.3333		1.2266	1.2266		2,069.3914	2,069.3914	0.6442		2,082.9202
Total	2.3737	24.6088	17.7193	0.0205	6.1175	1.3333	7.4508	3.3205	1.2266	4.5471		2,069.3914	2,069.3914	0.6442		2,082.9202

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										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	0.0373	0.0510	0.5318	1.3700e-003	0.1118	9.8000e-004	0.1128	0.0296	9.1000e-004	0.0306		107.5592	107.5592	5.7400e-003		107.6798
Total	0.0373	0.0510	0.5318	1.3700e-003	0.1118	9.8000e-004	0.1128	0.0296	9.1000e-004	0.0306		107.5592	107.5592	5.7400e-003		107.6798

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9004	20.5600	15.6637	0.0249		1.2511	1.2511		1.1992	1.1992		2,317.2089	2,317.2089	0.4980		2,327.6664
Total	2.9004	20.5600	15.6637	0.0249		1.2511	1.2511		1.1992	1.1992		2,317.2089	2,317.2089	0.4980		2,327.6664

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										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	0.5002	4.7321	7.1126	0.0137	0.3931	0.0730	0.4662	0.1119	0.0672	0.1791		1,331.4916	1,331.4916	0.0101		1,331.7038
Worker	0.4553	0.6225	6.4874	0.0167	1.3637	0.0120	1.3756	0.3617	0.0111	0.3727		1,312.2219	1,312.2219	0.0701		1,313.6934
Total	0.9555	5.3546	13.6001	0.0304	1.7568	0.0850	1.8418	0.4735	0.0783	0.5518		2,643.7135	2,643.7135	0.0802		2,645.3972

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5471	18.7802	15.2049	0.0249		1.0846	1.0846		1.0399	1.0399		2,299.7816	2,299.7816	0.4771		2,309.8005
Total	2.5471	18.7802	15.2049	0.0249		1.0846	1.0846		1.0399	1.0399		2,299.7816	2,299.7816	0.4771		2,309.8005

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										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	0.4739	4.3636	6.8878	0.0137	0.3932	0.0694	0.4626	0.1119	0.0638	0.1757		1,304.1228	1,304.1228	9.8900e-003		1,304.3306
Worker	0.4181	0.5707	5.9398	0.0167	1.3637	0.0117	1.3753	0.3617	0.0108	0.3725		1,260.7258	1,260.7258	0.0655		1,262.1011
Total	0.8919	4.9343	12.8276	0.0303	1.7569	0.0811	1.8379	0.4735	0.0747	0.5482		2,564.8486	2,564.8486	0.0754		2,566.4317

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2310	12.4141	11.7009	0.0176		0.7225	0.7225		0.6658	0.6658		1,722.2285	1,722.2285	0.5342		1,733.4458
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.2310	12.4141	11.7009	0.0176		0.7225	0.7225		0.6658	0.6658		1,722.2285	1,722.2285	0.5342		1,733.4458

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										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	0.0514	0.0702	0.7303	2.0500e-003	0.1677	1.4300e-003	0.1691	0.0445	1.3300e-003	0.0458		155.0073	155.0073	8.0500e-003		155.1764
Total	0.0514	0.0702	0.7303	2.0500e-003	0.1677	1.4300e-003	0.1691	0.0445	1.3300e-003	0.0458		155.0073	155.0073	8.0500e-003		155.1764

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.8192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		281.9473
Total	43.0856	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		281.9473

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										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	0.0822	0.1123	1.1685	3.2800e-003	0.2683	2.3000e-003	0.2706	0.0711	2.1300e-003	0.0733		248.0116	248.0116	0.0129		248.2822
Total	0.0822	0.1123	1.1685	3.2800e-003	0.2683	2.3000e-003	0.2706	0.0711	2.1300e-003	0.0733		248.0116	248.0116	0.0129		248.2822

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		

Total	0.00	0.00	0.00		
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4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	77	19	4

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.530902	0.057841	0.178699	0.124790	0.039063	0.006298	0.016951	0.033908	0.002496	0.003149	0.003689	0.000536	0.001678

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169
NaturalGas Unmitigated	0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	12804	0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169
Total		0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	12,804	0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169
Total		0.1381	1.2553	1.0544	7.5300e-003		0.0954	0.0954		0.0954	0.0954		1,506.3495	1,506.3495	0.0289	0.0276	1,515.5169

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3633	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989
Unmitigated	0.8522	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7625					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0855					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1800e-003	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989
Total	0.8522	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2736					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0855					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.1800e-003	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989
Total	0.3633	4.1000e-004	0.0441	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0936	0.0936	2.5000e-004		0.0989

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Vegetation

LAX

Terminal 1.5 Total Painted Surface Area

Summary of Painted Surface Area by level for Wall/Ceiling (sqft)

For use in fugitive VOC calculations due to painting

Basement (Building Support)	0 sqft
Arrivals	38,220 sqft
Departures	43,790 sqft
Concourse	71,088 sqft
Mezzanine (Lower)	45,863 sqft
Mezzanine (Upper)	41,234 sqft
Total	240,194 sqft
	26,688 sqyd

Surface areas of the Building Support (Basement), Main Electrical/Generator Room/MPOE/Pump Room/CBIS (Arrivals), and Mechanical Space (Upper Mezzanine) are not coated, per LAWA, 4/19/2016.

Assumes 50% of remaining surface areas of walls and Ceiling are painted dry wall, per LAWA, 4/6/2016.

LAX	Wall Height (ft) = 18					
Terminal 1.5 Basement Painted Area		Length (ft)	Area (sqft)	46,130 sqft	Total	
Building Support Space =245+85+220+205+5		760 -->	13,680		0 sqft	
Ceiling =(220 ft x 90 ft) + 0.5 * (220 ft x 115 ft)		-->	32,450		Without Basement	
					Building Support	

LAX

Wall Height (ft) = 14

Terminal 1.5 Arrivals Painted Area

	Length (ft)	Area (sqft)
Baggage Claim A+2*BB+CC+PP+4*W+K+M+J+B+HH+U+L+I	685 -->	9,590
Storage/Maintenance/Electrical Rooms 2*JJ+EE+TT+3*KK+2*LL+4*NN+2*MM+2*OO+CC+PP+QQ+DD+FF	1317.5 -->	18,445
Seating/Flex Space North E+F	202.5 -->	2,835
Seating/Flex Space South E+H	177.5 -->	2,485
Luggage Sort S+R+2*P+2*Q+Z+Y+5*O+3*N+5*L-5*M+2*V-2*W+U+T	1112.5 -->	15,575
Small Stair North 2*C+2*E	75 -->	1,050
Small Stair South 2*C+2*E	75 -->	1,050
Stair North 2*FF+2*EE	120 -->	1,680
Stair South 4*X+2*M+2*Y	225 -->	3,150
Bathrooms 2*PP+2*RR+2*BB+2*DD+7*SS	300 -->	4,200
Office North A+AA+BB+GG+EE-UU	312.5 -->	4,375
Office Adjacent Bathroom 2*CC+2*DD+2*BB	235 -->	3,290
Large Office Adjacent Luggage Sort 2*U+2*V	295 -->	4,130
Small Office Adjacent Luggage Sort 2K+2L	110 -->	1,540
Office South 2*I+2*J	140 -->	1,960
Central Stair 2*HH+14*II	285 -->	3,990
Ceiling (540 ft x 110 ft) - (50 ft x 30 ft)		57,900
Luggage Sort (Main Room) S+P+R+O+U+T	630 -->	8,820

Total
137,245 sqft **76,440 sqft**

Without Luggage Sort (Main Room) and Electrical / Generator / Pump / M.P.O.E. Rooms

	length on paper (mm)	Lenth (ft)
A	57	142.5
B	10	25
C	10	25
D	3	7.5
E	5	12.5
F	76	190
G	47	117.5
H	66	165
I	11	27.5
J	9	22.5
K	5	12.5
L	17	42.5
M	6	15
N	5	12.5
O	7	17.5
P	36	90
Q	12	30
R	27	67.5
S	89	222.5
T	43	107.5
U	50	125
V	9	22.5
W	3	7.5
X	9	22.5
Y	21	52.5
Z	2	5
AA	46	115
BB	9	22.5
CC	33	82.5
DD	5	12.5
EE	15	37.5
FF	9	22.5
GG	2	5
HH	22	55
II	5	12.5
JJ	27	67.5
KK	24	60
LL	16	40
MM	22	55
NN	8	20
OO	62	155
PP	24	60
QQ	6	15
RR	8	20
SS	4	10
TT	77	192.5
UU	4	10

LAX

Wall Height (ft) = 18.5

Total

Terminal 1.5 Departures Painted Area

Length (ft) **Area (sqft)**87,580 sqft **87,580 sqft**

Baggage Check North Q+N+V+S	235 -->	4,348
Baggage Check South L+K+I+N	207.5 -->	3,839
Walking Area 4*T+4*S+2*J+4*I+U+2*G+F+E+D+C+B+W	570 -->	10,545
Central Stair 2*N+2*O+12*R+10*P	310 -->	5,735
North Waiting Area A+H	207.5 -->	3,839
Small Stair North See Concourse Sheet	80 -->	1,480
Small Stair South "	80 -->	1,480
Stair North "	245 -->	4,533
Stair South "	345 -->	6,383
Women's Room 2*M+2*N	100 -->	1,850
Men's room 2*M+2*N	100 -->	1,850
Ceiling (540 ft x 80 ft) - (50 ft x 30 ft)		41,700

*length on paper (mm)**Length (ft)*

A	78	195
B	42	105
C	10	25
D	59	147.5
E	1	2.5
F	3	7.5
G	11	27.5
H	5	12.5
I	5	12.5
J	7	17.5
K	3	7.5
L	65	162.5
M	10	25
N	10	25
O	9	22.5
P	5	12.5
Q	76	190
R	3	7.5
S	5	12.5
T	4	10
U	3	7.5
V	3	7.5
W	18	45

LAX

Wall Height (ft) = 18

Total

Terminal 1.5 Concourse Painted Area

Length (ft) **Area (sqft)**142,175 sqft **142,175 sqft**

TSA North A+2*B+3*C+D+E-H+2*F+G+I

605 --> 10,890

TSA South X+2*V+2*U-HH+II+2*JJ+2*KK+Y-LL+2*MM

528.75 --> 9,518

Entry North J+K+5*L+N+M+H

187.5 --> 3,375

Entry South 2*J+4*CC+NN+OO

180 --> 3,240

To Terminals Walkway W+E+C+2*CC+AA+BB+2*U+X+Y+Z

895 --> 16,110

Small Stair North 2*O+2*J

80 --> 1,440

Small Stair South "

80 --> 1,440

Stair North 2*P+4*Q

245 --> 4,410

Stair South 2*R+2*T+6*S

345 --> 6,210

Bathrooms Center 4*U+4*V

160 --> 2,880

Central Stair FF+GG+DD+EE+HH+D+V+2*AA+10*CC+BB

881.25 --> 15,863

Ceiling (540 ft x 120 ft) - (100 ft x 80 ft)

66,800

*length on paper (mm)**Lenth (ft)*

A	74	185
B	26	65
C	7	17.5
D	9	22.5
E	45	112.5
F	19	47.5
G	11	27.5
H	11	27.5
I	3	7.5
J	11	27.5
K	18	45
L	5	12.5
M	3	7.5
N	7	17.5
O	5	12.5
P	31	77.5
Q	9	22.5
R	37	92.5
S	9	22.5
T	5	12.5
U	8	20
V	8	20
W	212	530
X	7	17.5
Y	21	52.5
Z	9	22.5
AA	28	70
BB	3	7.5
CC	5	12.5
DD	11	27.5
EE	12	30
FF	100	250
GG	100	250
HH	3.5	8.75
II	69	172.5
JJ	27	67.5
KK	10	25
LL	8	20
MM	10	25
NN	23	57.5
OO	7	17.5

LAX

Wall Height (ft) = 10

Total

Terminal 1.5 Mezzanine (Lower) Painted Area

Length (ft) **Area (sqft)**91,725 sqft **91,725 sqft**

Typical Office & Buidling Support Space EE+LL+2*PP+2*NN+MM+2*OO+2*FF+GG+HH+II+JJ+KK

1522.5 --> 15,225

APM Core Below 2*M+2*T+2*U+12*P

630 --> 6,300

Stair North 2*B+4*C

255 --> 2,550

Stair South 2*D+6*C+4*CC

390 --> 3,900

Small Stair North 2*F-2*J+2*G

75 --> 750

Small Stair South 2*X+2*DD

80 --> 800

Ceiling (540 ft x 130 ft) - (100 ft x 80 ft)

62,200

length on paper (mm)**Lenth (ft)**

A	198	495
B	31	77.5
C	10	25
D	36	90
E	40	100
F	13	32.5
G	5	12.5
H	6	15
I	80	200
J	3	7.5
K	3	7.5
L	7	17.5
M	33	82.5
N	6	15
O	25	62.5
P	5	12.5
Q	6	15
R	72	180
S	3	7.5
T	41	102.5
U	22	55
V	4	10
W	40	100
X	5	12.5
Y	14	35
Z	11	27.5
AA	69	172.5
BB	6	15
CC	6	15
DD	11	27.5
EE	80	200
FF	11	27.5
GG	9	22.5
HH	40	100
II	217	542.5
JJ	40	100
KK	14	35
LL	70	175
MM	29	72.5
NN	6	15
OO	5	12.5
PP	33	82.5

LAX

Wall Height (ft) = 14

Terminal 1.5 Mezzanine (Upper) Painted Area

Total

117,503 ft² **82,468 ft²**
 Without
 Mechanical
 Space

	Length (ft)	Area (sqft)
Typical Office & Buidling Support Space E+F+G+H+I+A+2*L+M+N+O+P+Q+R+S	1261.25 -->	17,658
APM Core Below 2*M+2*T+2*U+12*P	615 -->	8,610
Mechanical Space P+O-U+Q+R+S+V+W+Y+Z+AA+M+BB	702.5 -->	9,835
Stair North 2*B+4*C	255 -->	3,570
Stair South 2*D+6*C+4*CC	390 -->	5,460
Small Stair North 2*F-2*J+2*G	75 -->	1,050
Small Stair South 2*X+2*DD	80 -->	1,120
Ceiling (540 ft x 130 ft)		70,200

	length on paper (mm)	Lenth (ft)
A	198	495
B	31	77.5
C	10	25
D	36	90
E	40	100
F	13	32.5
G	5	12.5
H	6	15
I	80	200
J	3	7.5
K	3	7.5
L	7	17.5
M	33	82.5
N	5.5	13.75
O	25	62.5
P	4.5	11.25
Q	6	15
R	72	180
S	2.5	6.25
T	41	102.5
U	22	55
V	20	50
W	40	100
X	5	12.5
Y	14	35
Z	11	27.5
AA	69	172.5
BB	6	15
CC	6	15
DD	11	27.5

APPENDIX A-2

Comparison of Emissions from On-Site Rock Crushing and Off-Site Hauling

LAX Terminal 1.5 - Rock Crusher Analysis

Emissions comparison of rock crushing versus hauling of demolished material

<u>Hauling of Material:</u>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>
	ROG	NOx	CO	SO2	PM10 Total	CO2e
	1.78	27.89	22.26	0.08	2.15	7,620.44

<u>Crushing of Material:</u>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>
	ROG	NOx	CO	SO2	PM10 Total	CO2e
	2.06	5.82	21.22	0.02	5.86	3,609.22

<u>Crushing minus Hauling:</u>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>	<i>lbs</i>
	ROG	NOx	CO	SO2	PM10 Total	CO2e
	0.28	-22.08	-1.05	-0.05	3.71	-4,011.22

LAX Terminal 1.5 - Rock Crusher Analysis

Hauling of Crushable Demolished Material

All information from Terminal 1.5 Final Initial Study / Mitigated Negative Declaration, Appendix A, November 2016.

Total Emissions of Hauling Trips associated with All Demolished Material*

	ROG	NOx	CO	SO2	PM10 Total	CO2e
Total Tons (metric tons for CO2e):	0.0014	0.0218	0.0174	0.0001	0.0017	5.4030
Total Pounds:	2.78	43.60	34.80	0.12	3.36	11,911.56

* Demolished material consists of both concrete and non-concrete material. Only concrete is able to be processed in the on-site rock processor.

Number of Hauling Trips associated with Demolished Material

Number of Trips associated with All Demolished Material:	161	
Depth of Crushable Material:	24	Inches
Area of Crushable Material:	2459	Square Yards
Total Volume of Crushable Material:	1,639.33	Cubic Yards
Capacity of Haul Trucks:	16	Cubic Yards
Number of Trips associated with Crushable Material:	103	Trips

Total Emissions of Hauling Trips associated with Crushable Material

	ROG	NOx	CO	SO2	PM10 Total	CO2e
Total Tons (metric tons for CO2e):	0.00	0.01	0.01	0.00	0.00	3.46
Total Pounds:	1.78	27.89	22.26	0.08	2.15	7,620.44

LAX Terminal 1.5 - Rock Crusher Analysis

Processing of Crushable Demolished Material

Emission Factors Associated with the Rock Processor Operations

Emissions Factors for Rock Processing	
Source	Controlled Emission Factors (lb PM10 / ton processed)
Primary Crushers	5.40E-04
Secondary Crushers	5.40E-04
Tertiary Crushers	5.40E-04
Screening	7.40E-04
Conveyor Trasfer Point 1	4.60E-05
Conveyor Trasfer Point 2	4.60E-05
Total of Rock Processor Sources:	2.45E-03

Source: AP-42 Emission Factors for Crushed Stone Processing and Pulverized Materials from Chapter 11, Table11.19.2-2 for Crushed Stone Processing and Pulverized Materials

Criteria Pollutant Emission Factors for Loaders Associated with the Rock Processor Operations

	ROG	CO	NOx	SOx	PM10
Pounds / Hour:	0.1493	0.421	1.5357	0.0017	0.0563

Source: AQMD CEQA Air Quality Handbook. Available at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors>

Greenhouse Gas Pollutant Emission Factors for Loaders Associated with the Rock Processor Operations

CY	Code	Equipment	Fuel	MaxHP	Activity (hr/day)	CO2e (Tons / Day)	CO2e (Pounds / Hour)
2010	2270002060	Rubber Tired Loaders	D	500	25.5	3.0216	261.2363

Source: CDM Smith, OFFROAD2007 output

Details Associated with Rock Processor Operations

1,639.33 Cubic Yards of Crushable Demolished Material
1.2642 Tons per Cubic Yard of Material ¹
150 Tons of material processed per hour ²
13.8 Hours of Rock Processor Operation Associated with Project Demand

1. Source: CalEEMod User Manual Appendix A: <http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2>, Page 11

2. Source: AP-42 Emission Factors for Crushed Stone Processing and Pulverized Materials from Chapter 11, Table11.19.2-2 for Crushed Stone Processing and Pulverized Materials

Total Emissions Associated with the Rock Processing Operations (Loaders & Processing)

	ROG	CO	NOx	SOx	PM10	CO2e
Total Tons (metric tons for CO2e):	0.00	0.00	0.01	0.00	0.00	1.80
Total Pounds:	2.06	5.82	21.22	0.02	5.86	3,609.22

Construction-Related Emissions with Implementation of
Standard Control Measures

Construction-Related Emissions with Implementation of Standard Control Measures

As demonstrated in the Final Initial Study/Mitigated Negative Declaration (IS/MND), implementation of the Terminal 1.5 project would not result in any significant impacts to air quality. Table 3 of the Final IS/MND shows that construction emissions of criteria pollutants would be below the South Coast Air Quality Management District's (SCAQMD) thresholds for all pollutants (see Attachment B of this Final IS/MND). Nevertheless, as discussed in the Final IS/MND, LAWA is committed to implementing standard control measures, which would serve to reduce construction-related emissions associated with the proposed project. Implementation of the recommended standard control measures would result in emission reductions compared to uncontrolled emissions. In order to determine the effectiveness of the recommended measures, controlled emissions (i.e., emissions with implementation of the standard control measures) have been calculated.

The recommended standard control measure for construction-related air quality emissions is provided below. Calculations of controlled emissions follow, along with a discussion of the assumptions upon which these calculations are based.

- **LAX-AQ-1. Construction-Related Air Quality Standard Control Measures.**

Table 1 includes specific measures to reduce fugitive dust emissions and exhaust emissions from on-road and off-road mobile and stationary sources used in construction.

Table 1 Construction-Related Air Quality Standard Control Measures		
Measure Number	Measure	Type of Measure
1a	Post a publicly visible sign(s) with the telephone number and person to contact regarding dust complaints; this person shall respond and take corrective action within 24 hours.	Fugitive Dust
1b	Prior to final occupancy, the contractor shall demonstrate that all ground surfaces are covered or treated sufficiently to minimize fugitive dust emissions.	Fugitive Dust
1c	All roadways, driveways, sidewalks, etc., being installed as part of the project should be completed as soon as practical; in addition, building pads should be laid as soon as practical after grading.	Fugitive Dust
1d	Prohibit idling or queuing of diesel-fueled vehicles and equipment in excess of five minutes. This requirement will be included in specifications for any LAX projects requiring on-site construction. Exemptions may be granted for safety-related and operational reasons, as defined by CARB or as approved by LAWA.	On-Road and Off-Road Mobile

Table 1
Construction-Related Air Quality Standard Control Measures

Measure Number	Measure	Type of Measure
1e	All diesel-fueled equipment used for construction will be outfitted with the best available emission control devices, where technologically feasible, primarily to reduce emissions of diesel particulate matter (PM), including fine PM (PM _{2.5}), and secondarily, to reduce emissions of NO _x . This requirement shall apply to diesel-fueled off-road equipment (such as construction machinery), diesel-fueled on-road vehicles (such as trucks), and stationary diesel-fueled engines (such as electric generators). (It is unlikely that this measure will apply to equipment with Tier 4 engines.) The emission control devices utilized in construction equipment shall be verified or certified by CARB or USEPA for use in on-road or off-road vehicles or engines. For multi-year construction projects, a reassessment shall be conducted annually to determine what constitutes a best available emissions control device.	Mobile and Stationary
1f	Pave all construction access roads at least 100 feet onto the site from the main road.	Fugitive Dust
1g	To the extent feasible, have construction employees' work/commute during off-peak hours.	On-Road Mobile
1h	Make access available for on-site lunch trucks during construction, as feasible and consistent with requirements pertaining to airport security, to minimize off-site worker vehicle trips.	On-Road Mobile
1i	Utilize on-site rock crushing facility during construction, when feasible, to reuse rock/concrete and minimize off-site truck haul trips.	Stationary Point Source Controls
1j	Every effort shall be made to utilize grid-based electric power at any construction site, where feasible. Grid-based power can be from a direct hookup or a tie in to electricity from power poles. If diesel- or gasoline-fueled generators are necessary, generators using "clean burning diesel" fuel and exhaust emission controls shall be utilized.	Stationary Point Source Controls
1k	Suspend use of all construction equipment during a second-stage smog alert in the immediate vicinity of LAX.	Mobile and Stationary
1l	Prohibit tampering with construction equipment to increase horsepower or to defeat emission control devices.	Mobile and Stationary
1m	The contractor or builder shall designate a person or persons to ensure the implementation of all components of the construction-related measure through direct inspections, record reviews, and investigations of complaints.	Administrative
1n	Locate rock-crushing operations and construction material stockpiles for all LAX-related construction in areas away from LAX-adjacent residents, to the extent possible, to reduce impacts from emissions of fugitive dust.	Stationary Point Source Controls

Table 1
Construction-Related Air Quality Standard Control Measures

Measure Number	Measure	Type of Measure
1o	On-road medium-duty and larger diesel-powered trucks used on LAX construction projects with a gross vehicle weight rating of at least 14,001 pounds shall, at a minimum, comply with USEPA 2010 on-road emissions standards for PM10 and NOx. Contractor requirements to utilize such on-road haul trucks or the next cleanest vehicle available will be subject to the provisions of LAWA Air Quality Control Measure 1q below.	On-Road Mobile
1p	All off-road diesel-powered construction equipment greater than 50 horsepower shall meet, at a minimum, USEPA Tier 4 (final) off-road emissions standards. Contractor requirements to utilize Tier 4 (final) equipment or next cleanest equipment available will be subject to the provisions of LAWA Air Quality Control Measure 1q below.	Off-Road Mobile
1q	The on-road haul truck and off-road construction equipment requirements set forth in Air Quality Standard Control Measures 1o and 1p above shall apply unless any of the following circumstances exist and the Contractor provides a written finding consistent with project contract requirements that: - o The Contractor does not have the required types of on-road haul trucks or off-road construction equipment within its current available inventory and intends to meet the requirements of the Measures 1o and 1p as to a particular vehicle or piece of equipment by leasing or short-term rental, and the Contractor has attempted in good faith and due diligence to lease the vehicle or equipment that would comply with these measures, but that vehicle or equipment is not available for lease or short-term rental within 120 miles of the project site, and the Contractor has submitted documentation to LAWA showing that the requirements of this exception provision (Measure 1q) apply. - o The Contractor has been awarded funding by SCAQMD or another agency that would provide some or all of the cost to retrofit, repower, or purchase a piece of equipment or vehicle, but the funding has not yet been provided due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and due diligence to lease or short-term rent the equipment or vehicle that would comply with Measures 1o and 1p, but that equipment or vehicle is not available for lease or short-term rental within 120 miles of the project site, and the Contractor has submitted documentation to LAWA showing that the requirements of this exception provision (Measure 1q) apply. - o Contractor has ordered a piece of equipment or vehicle to be used on the construction project in compliance with Measures 1o and 1p at least 60 days before that equipment or vehicle is needed at the	On-Road and Off-Road Mobile

Table 1
Construction-Related Air Quality Standard Control Measures

Measure Number	Measure	Type of Measure
	project site, but that equipment or vehicle has not yet arrived due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and due diligence to lease or short-term rent a piece of equipment or vehicle to meet the requirements of Measures 1o and 1p, but that equipment or vehicle is not available for lease or short-term rental within 120 miles of the project, and the Contractor has submitted documentation to LAWA showing that the requirements of this exception provision (Measure 1q) apply. - o Construction-related diesel equipment or vehicle will be used on the project site for fewer than 20 calendar days per calendar year. The Contractor shall not consecutively use different equipment or vehicles that perform the same or a substantially similar function in an attempt to use this exception (Measure 1q) to circumvent the intent of Measures 1o and 1p. - o Documentation of good faith efforts and due diligence regarding the above exceptions shall include written record(s) of inquiries (i.e., phone log[s]) to at least three (3) leasing/rental companies that provide construction-related on-road trucks of the type specified in Measure 1o above (i.e., medium-duty and larger diesel-powered trucks with a gross vehicle weight rating of at least 14,001 pounds) or diesel-powered off-road construction equipment such as the types to be used by the Contractor, documenting the availability/unavailability of the required types of trucks/equipment. LAWA will, from time-to-time, conduct independent research and verification of the availability of such vehicles and equipment for lease/rent within a 120-mile radius of LAX, which may be used in reviewing the acceptability of the Contractor's good faith efforts and due diligence. In any of the situations described above, the Contractor/ Subcontractor shall provide the next cleanest piece of equipment or vehicle as provided by the step down schedules in Table A for Off-Road Equipment and Table B for On-Road Equipment. Nothing in the above shall require an emissions control device (i.e., VDECS) that does not meet Occupational Safety and Health Act (OSHA) standards.	

Table 1
Construction-Related Air Quality Standard Control Measures

Measure Number	Measure			Type of Measure
	Table A Off-Road Compliance Step Down Schedule*			
	Compliance Alternative	Engine Standard	CARB-verified DECS (VDECS)	
	1	Tier 4 interim	N/A**	
	2	Tier 3	Level 3	
	3	Tier 2	Level 3	
	4	Tier 1	Level 3	
	5	Tier 2	Level 2	
	6	Tier 2	Level 1	
	7	Tier 3	Uncontrolled	
	8	Tier 2	Uncontrolled	
	9	Tier 1	Level 2	
	** Tier 4 (interim or final) or 2007 model year equipment not already supplied with a factory-equipped diesel particulate filter shall be outfitted with Level 3 VDECS.			
	Equipment less than Tier 1, Level 2 shall not be permitted.			
	Table B On-Road Compliance Step Down Schedule*			
	Compliance Alternative	Engine Model Year	CARB-verified DECS (VDECS)	
	1	2007	N/A**	
	2	2004	Level 3	
	3	1998	Level 3	
	4	2004	Uncontrolled	
	5	1998	Uncontrolled	
	** 2007 Model Year equipment not already supplied with a factory-equipped diesel particulate filter shall be outfitted with Level 3 VDECS.			
	Equipment with a model year earlier than Model Year 1998 shall not be permitted.			

Table 1 Construction-Related Air Quality Standard Control Measures		
Measure Number	Measure	Type of Measure
	* How to use Table A and Table B: For example, if Compliance Alternative #1 is required by this policy but Contractor cannot obtain an off-road vehicle that meets the Tier 4 interim standard (Compliance Alternative #1 in Table A) and meets one of the above exceptions, then Contractor shall use a vehicle that meets the next compliance alternative (Compliance Alternative #2) which is a Tier 3 engine standard equipped with a Level 3 VDECS. Should Contractor not be able to supply a vehicle with a Tier 3 engine equipped with a Level 3 VDECS in accordance with Compliance Alternative #2 and has satisfied the requirements of one of the above exceptions as to Contractor's ability to obtain a vehicle meeting Compliance Alternative #2, Contractor shall then supply a vehicle meeting the next compliance alternative (Compliance Alternative #3), and so on. If Contractor is proposing an exemption for on-road equipment, the step down schedule in Table B should be used. Contractor must demonstrate that it has satisfied one of the exceptions listed above before it can use a subsequent Compliance Alternative. The goal of this requirement is to ensure that Contractor has exercised due diligence in supplying the cleanest fleet available. Nothing in the above shall require an emissions control device (i.e., VDECS) that does not meet OSHA standards.	

As noted in Table 1, LAX-AQ-1 includes numerous specific actions to reduce fugitive dust emissions and exhaust emissions from on-road and off-road mobile and stationary sources used in construction. Some of these measures are administrative in nature and would not achieve quantifiable emission reductions, such as posting publicly visible signs with contact information for reporting dust complaints. Some of the measures would result in emission reductions whose effects would be difficult to measure, such as installing the building pad as soon as practical after grading and making lunch trucks available onsite during construction. For the measures whose effectiveness would be difficult to quantify, no estimate of their air quality benefit (i.e., emission reductions) is made in this analysis. However, the effectiveness of other measures can be quantified. Specifically, emissions reductions following implementation of LAX-AQ-1 measures 1e, 1o, and 1p, which include specific requirements pertaining to construction vehicles and construction equipment, have been calculated. The methodology associated with these calculations is outlined below.

Standard Control Measure LAX-AQ-1 measures 1e, 1o, and 1p would require the use of newer models of construction equipment and heavy duty trucks that have low-emission engines (measures 1o and 1p) or be equipped with emissions control devices (measure 1e). Implementation

of these control measures would result in substantial emission reductions compared to fleet-wide average emissions for heavy-duty construction equipment and trucks in the southern California region. In order to provide a conservative estimate of mitigated emission reductions, and in order to account for a lack of availability of equipment at times, implementation of Standard Control Measure LAX-AQ-1 assumed that an additional 25 percent of the on-road trucks targeted in measure 1o (relative to the EMFAC2014 default assumptions) would meet the USEPA 2010 on-road emissions standards for VOC, NO₂, PM₁₀, and PM_{2.5}. Similarly, the mitigated off-road construction equipment fleet targeted in measure 1p was assumed to be 30 percent USEPA Tier 3 compliant, 35 percent Tier 4 Interim compliant, and 35 percent Tier 4 Final compliant. Moreover, 50 percent of the USEPA Tier 3 compliant equipment referred to in measure 1e was assumed to be fitted with Level 3 VDECS diesel particulate filters. Compliance with the USEPA Tier 3 and Tier 4 off-road emissions standards would also result in substantial reduction in emissions of VOC, NO_x, PM₁₀ and PM_{2.5} compared to fleet-wide average emissions for heavy-duty construction equipment. The estimated combined effect of these control measures is shown in **Table 2** below.

Table 2 Construction Emissions Summary – Criteria Pollutants						
	Maximum Daily Emissions (pounds per day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Maximum Uncontrolled Daily Emissions	44	36	30	<1	8	5
Maximum Controlled Daily Emissions	42	18	29	<1	6	3
SCAQMD Construction Threshold	75	100	550	150	150	55

Source: CDM Smith 2016.

In addition to the SCAQMD thresholds, the 1990 amendments to federal Clean Air Act Section 176 require the U.S. Environmental Protection Agency (USEPA) to promulgate rules to ensure that federal actions conform to the appropriate state implementation plan (SIP). These rules, known together as the General Conformity Rule (40 CFR Part 93), establish the procedures and criteria for determining whether certain federal actions conform to the SIP. For purposes of determining the applicability of the General Conformity Rule to federal actions associated with the proposed project, controlled emissions were compared to the General Conformity *de minimis* threshold for ozone (measured by NO_x and VOC, ozone precursor pollutants), for which the South Coast Air Basin (SCAB) is in extreme nonattainment; for particulate matter less than or equal to 2.5 microns (µm) in diameter (PM_{2.5}), for which the SCAB is in nonattainment;¹ and for CO and PM₁₀ for which the SCAB is a maintenance area. The results are shown in **Table 3**.

¹ Classified as moderate nonattainment for 2012 NAAQS and serious nonattainment for 2006 NAAQS.

Table 3 General Conformity Rule Applicability					
	Maximum Emissions (tons per year)				
	NO _x	VOC	CO	PM10	PM2.5
Maximum Uncontrolled Emissions	3.4	1.5	3.8	0.5	0.3
Maximum Controlled Emissions	2.1	1.4	3.7	0.4	0.2
<i>De Minimis</i> Threshold for SCAB	10	10	100	100	100
Exceed Threshold?	No	No	No	No	No

Source: CDM Smith 2016.

Construction-Related Emissions with Implementation of Standard Control Measures

Terminal 1.5 Project: Uncontrolled Emissions, tons per year							
Year	VOC	NO _x	CO	SO ₂	Total PM10	Total PM2.5	CO2e
2017	0.2	2.4	1.8	0.0	0.2	0.2	286.7
2018	0.5	3.4	3.8	0.0	0.5	0.3	586.9
2019	1.5	0.6	0.6	0.0	0.1	0.0	90.2

**Backup calculations for uncontrolled emissions are provided in LAX Terminal 1.5 Project Final Initial Study/Mitigated Negative Declaration, Appendix A-1, November 2016.*

Terminal 1.5 Project: Emissions including LAWA Standard Control Measures, tons per year							
Year	VOC	NO _x	CO	SO ₂	Total PM10	Total PM2.5	CO2e
2017	0.1	1.2	1.8	0.0	0.2	0.1	288.6
2018	0.3	2.1	3.7	0.0	0.4	0.2	589.6
2019	1.4	0.3	0.6	0.0	0.0	0.0	90.2

Construction-Related Emissions with Implementation of Standard Control Measures

Terminal 1.5 Project: Uncontrolled Emissions, peak lbs/day							
Year	VOC	NO _x	CO	SO ₂	Total PM10	Total PM2.5	CO2e
2017	2.8	35.9	26.9	0.1	7.8	4.8	6,102.3
2018	3.9	25.9	29.3	0.1	7.6	4.6	5,064.0
2019	43.2	23.7	28.0	0.1	2.9	1.6	4,962.5

**Backup calculations for uncontrolled emissions are provided in LAX Terminal 1.5 Project Final Initial Study/Mitigated Negative Declaration, Appendix A-1, November 2016.*

**Emissions are higher of Daily Summer and Winter Emissions used for each Pollutant/Year Combination*

Terminal 1.5 Project: Emissions including LAWA Standard Control Measures, peak lbs/day							
Year	VOC	NO _x	CO	SO ₂	Total PM10	Total PM2.5	CO2e
2017	1.3	17.6	26.6	0.1	5.0	2.3	6,144.1
2018	2.1	16.3	28.9	0.1	5.7	2.7	5,086.7
2019	42.0	11.6	28.0	0.1	1.6	0.6	4,966.9

**Since peak days for each source type do not match up exactly, final controlled values (in lbs/day) were calculated by scaling using annual reduction percentages rather than as a summation of controlled sources.*

Construction-Related Emissions with Implementation of Standard Control Measures

Emissions Reductions due to LAWA Standard Control Measures Compared with CalEEMod Default Emission Factors

Phase	Days	Start	End	Days 2017	Days 2018	Days 2019	% of OFFROAD Emissions 2017	% of OFFROAD Emissions 2018	% of OFFROAD Emissions 2019
Demolition	67	06/01/2017	09/01/2017	67			44%	0%	0%
Site Preparation	66	09/02/2017	12/04/2017	66			43%	0%	0%
Grading	23	12/05/2017	01/04/2018	20	4		13%	2%	0%
Building Construction	265	01/05/2018	01/10/2019		258	8	0%	98%	6%
Paving	66	01/11/2019	04/12/2019			66	0%	0%	47%
Architectural Coating	65	04/13/2019	07/14/2019			65	0%	0%	47%

Percent Emission Reductions due to LAWA Standard Control Measures							
Reductions by Year for OFFROAD Emission Sources				ROG	NOx	CO	SO2
2017				65.5%	64.5%	0.0%	0.0%
2018				61.8%	47.3%	0.0%	0.0%
2019				68.2%	53.5%	0.0%	0.0%

By Phase Percent Emission Reduction																									
OFFROAD Phase Breakdown	Daily Hours (#veh * hours/day)	Uncontrolled OFFROAD Emission Rates							LAWA Standard Control Measures Equivalent Emission Rates (30% Tier 3, 35% Tier 4 Interim, and 35% Tier 4 Final)							Hour-Weighted Percent of Uncontrolled Emissions (LAWA Standard Control Measures / Uncontrolled OFFROAD Emission Rates)							Year of Uncontrolled Emissions Rate	HP	EPA Tier
		ROG	NOx	CO	SO2	PM10	PM2.5	CO2e	ROG	NOx	CO	SO2	PM10	PM2.5	CO2e	ROG	NOx	CO	SO2	PM10	PM2.5	CO2e			
Demolition																									
Concrete/Industrial Saws	8	0.0012	0.0090	0.0079	0.0000	0.0007	0.0006	1.2861	0.0003	0.0044	0.0079	0.0000	0.0001	0.0001	1.2861	26.85%	48.35%	100.00%	100.00%	21.01%	21.01%	100.00%	2017	81	99
Rubber Tired Dozers	8	0.0013	0.0173	0.0052	0.0000	0.0008	0.0007	1.2867	0.0003	0.0033	0.0052	0.0000	0.0001	0.0001	1.2867	24.48%	18.91%	100.00%	100.00%	9.90%	9.90%	100.00%	2017	255	299
Tractors/Loaders/Backhoes	24	0.0010	0.0109	0.0083	0.0000	0.0008	0.0008	1.2842	0.0003	0.0044	0.0083	0.0000	0.0001	0.0001	1.2842	34.89%	39.84%	100.00%	100.00%	16.47%	16.47%	100.00%	2017	97	99
Total Phase Fleet																31.20%	37.35%	100.00%	100.00%	16.06%	16.06%	100.00%			
Site Preparation																									
Excavators	7	0.0006	0.0086	0.0074	0.0000	0.0004	0.0004	1.2799	0.0003	0.0040	0.0074	0.0000	0.0001	0.0001	1.2799	49.00%	47.05%	100.00%	100.00%	24.97%	24.97%	100.00%	2017	162	174
Graders	0	0.0015	0.0183	0.0074	0.0000	0.0010	0.0010	1.2840	0.0003	0.0040	0.0074	0.0000	0.0001	0.0001	1.2840	21.13%	22.14%	100.00%	100.00%	10.33%	10.33%	100.00%	2017	174	174
Scrapers	8	0.0009	0.0132	0.0037	0.0000	0.0005	0.0005	1.2801	0.0003	0.0033	0.0037	0.0000	0.0001	0.0001	1.2801	35.98%	24.80%	100.00%	100.00%	14.74%	14.74%	100.00%	2017	361	600
Tractors/Loaders/Backhoes	7	0.0010	0.0109	0.0083	0.0000	0.0008	0.0008	1.2842	0.0003	0.0044	0.0083	0.0000	0.0001	0.0001	1.2842	34.89%	39.84%	100.00%	100.00%	16.47%	16.47%	100.00%	2017	97	99
Total Phase Fleet																39.78%	36.66%	100.00%	100.00%	18.55%	18.55%	100.00%			
Grading																									
Graders	8	0.0015	0.0183	0.0074	0.0000	0.0010	0.0010	1.2840	0.0003	0.0040	0.0074	0.0000	0.0001	0.0001	1.2840	21.13%	22.14%	100.00%	100.00%	10.33%	10.33%	100.00%	2017	174	174
Rubber Tired Dozers	8	0.0013	0.0173	0.0052	0.0000	0.0008	0.0007	1.2867	0.0003	0.0033	0.0052	0.0000	0.0001	0.0001	1.2867	24.48%	18.91%	100.00%	100.00%	9.90%	9.90%	100.00%	2017	255	299
Tractors/Loaders/Backhoes	14	0.0010	0.0109	0.0083	0.0000	0.0008	0.0008	1.2842	0.0003	0.0044	0.0083	0.0000	0.0001	0.0001	1.2842	34.89%	39.84%	100.00%	100.00%	16.47%	16.47%	100.00%	2017	97	99
Total Phase Fleet																28.44%	25.53%	100.00%	100.00%	12.40%	12.11%	100.00%			
Building Construction																									
Cranes	8	0.0011	0.0157	0.0028	0.0000	0.0007	0.0007	1.2766	0.0003	0.0033	0.0028	0.0000	0.0001	0.0001	1.2766	28.11%	20.81%	100.00%	100.00%	11.05%	11.05%	100.00%	2018	226	299
Forklifts	14	0.0012	0.0121	0.0074	0.0000	0.0010	0.0009	1.2750	0.0003	0.0044	0.0074	0.0000	0.0001	0.0001	1.2750	28.71%	35.91%	100.00%	100.00%	13.97%	13.97%	100.00%	2018	89	99
Generator Sets	8	0.0006	0.0060	0.0064	0.0000	0.0003	0.0002	1.2696	0.0003	0.0044	0.0064	0.0000	0.0001	0.0001	1.2696	53.31%	73.23%	100.00%	100.00%	53.66%	53.66%	100.00%	2018	84	99
Tractors/Loaders/Backhoes	6	0.0008	0.0097	0.0072	0.0000	0.0007	0.0006	1.2752	0.0003	0.0044	0.0072	0.0000	0.0001	0.0001	1.2752	40.13%	44.96%	100.00%	100.00%	19.51%	19.51%	100.00%	2018	97	99
Welders	24	0.0008	0.0063	0.0068	0.0000	0.0003	0.0003	1.2741	0.0003	0.0044	0.0068	0.0000	0.0001	0.0001	1.2741	41.99%	69.15%	100.00%	100.00%	44.35%	44.35%	100.00%	2018	46	99
Total Phase Fleet																38.36%	53.07%	100.00%	100.00%	31.58%	31.58%	100.00%			
Paving																									
Cement and Mortar Mixers	8	0.0015	0.0091	0.0077	0.0000	0.0004	0.0003	1.2921	0.0003	0.0044	0.0077	0.0000	0.0001	0.0001	1.2921	22.75%	47.73%	100.00%	100.00%	38.35%	38.35%	100.00%	2019	9	99
Pavers	8	0.0006	0.0082	0.0074	0.0000	0.0004	0.0004	1.2871	0.0003	0.0040	0.0074	0.0000	0.0001	0.0001	1.2871	50.24%	49.11%	100.00%	100.00%	25.94%	25.94%	100.00%	2019	125	174
Paving Equipment	8	0.0005	0.0069	0.0074	0.0000	0.0003	0.0003	1.2866	0.0003	0.0040	0.0074	0.0000	0.0001	0.0001	1.2866	58.91%	58.83%	100.00%	100.00%	30.71%	30.71%	100.00%	2019	130	174
Rollers	16	0.0009	0.0103	0.0071	0.0000	0.0007	0.0007	1.2791	0.0003	0.0044	0.0071	0.0000	0.0001	0.0001	1.2791	37.36%	42.33%	100.00%	100.00%	19.40%	19.40%	100.00%	2019	80	99
Tractors/Loaders/Backhoes	8	0.0007	0.0088	0.0072	0.0000	0.0006	0.0006	1.2734	0.0003	0.0044	0.0072	0.0000	0.0001	0.0001	1.2734	44.63%	49.67%	100.00%	100.00%	22.49%	22.49%	100.00%	2019	97	99
Total Phase Fleet																41.88%	48.33%	100.00%	100.00%	26.05%	26.05%	100.00%			
Architectural Coating																									
Air Compressors	6	0.0016	0.0100	0.0078	0.0000	0.0005	0.0005	1.2958	0.0003	0.0044	0.0078	0.0000	0.0001	0.0001	1.2958	20.78%	43.76%	100.00%	100.00%	27.71%	27.71%	100.00%	2019	78	99
Total Phase Fleet																20.78%	43.76%	100.00%	100.00%	27.71%	27.71%	100.00%			

Construction-Related Emissions with Implementation of Standard Control Measures

OFFROAD2007 - Emissions Inventory

OFFROAD2007 - Emissions Inventory					hours/day	tons/day	tons/day	tons/day	tons/day	tons/day	tons/day	tons/day	tons/day	tons/day	tons/day	lb/hp-hr	lb/hp-hr	lb/hp-hr	lb/hp-hr	lb/hp-hr	lb/hp-hr	lb/hp-hr	lb/hp-hr	lb/hp-hr	lb/hp-hr	lb/hp-hr	lb/hp-hr
CY	Equipment	Fuel	MaxHP	Activity	ROG Exhaust:	CO Exhaust	NOX Exhaust	CO2 Exhaust	SO2 Exhaust	PM Exhaust	N2O Exhaust	CH4 Exhaust	AvgHP	Load Factor	ROG Exhaust:	CO Exhaust	NOX Exhaust	CO2 Exhaust	SO2 Exhaust	PM Exhaust	N2O Exhaust	CH4 Exhaust	CO2e				
2017	Scrapers	D	500	1.79E+01	2.32E-03	8.54E-03	1.83E-02	2.87E+00	2.82E-05	6.94E-04	0.00E+00	2.09E-04	356	0.72	1.01E-03	3.73E-03	7.97E-03	1.25E+00	1.23E-05	3.03E-04	0.00E+00	9.13E-05	1.28E+00				
2017	Excavators	D	175	1.74E+02	7.82E-03	5.77E-02	5.05E-02	9.74E+00	1.10E-04	2.69E-03	0.00E+00	7.05E-04	157	0.57	1.01E-03	7.42E-03	6.49E-03	1.25E+00	1.41E-05	3.46E-04	0.00E+00	9.07E-05	1.28E+00				
2017	Concrete/Industrial Saws	D	120	5.96E-01	2.18E-05	1.40E-04	1.59E-04	2.21E-02	2.59E-07	1.15E-05	0.00E+00	1.96E-06	81	0.73	1.24E-03	7.93E-03	9.02E-03	1.25E+00	1.47E-05	6.53E-04	0.00E+00	1.12E-04	1.29E+00				
2017	Graders	D	175	5.09E+01	2.91E-03	1.86E-02	2.00E-02	3.15E+00	3.54E-05	1.11E-03	0.00E+00	2.63E-04	162	0.61	1.16E-03	7.38E-03	7.94E-03	1.25E+00	1.41E-05	4.40E-04	0.00E+00	1.05E-04	1.28E+00				
2017	Rubber Tired Dozers	D	500	1.03E+01	1.37E-03	5.61E-03	1.08E-02	1.36E+00	1.34E-05	4.36E-04	0.00E+00	1.23E-04	358	0.59	1.26E-03	5.16E-03	9.90E-03	1.25E+00	1.23E-05	4.01E-04	0.00E+00	1.13E-04	1.29E+00				
2017	Tractors/Loaders/Backhoes	D	120	3.64E+02	8.75E-03	6.26E-02	5.87E-02	9.41E+00	1.10E-04	3.98E-03	0.00E+00	7.89E-04	75	0.55	1.17E-03	8.34E-03	7.82E-03	1.25E+00	1.47E-05	5.30E-04	0.00E+00	1.05E-04	1.28E+00				
2018	Cranes	D	250	1.58E+01	6.22E-04	1.99E-03	4.91E-03	8.85E-01	9.96E-06	1.68E-04	0.00E+00	5.61E-05	208	0.43	8.80E-04	2.81E-03	6.95E-03	1.25E+00	1.41E-05	2.38E-04	0.00E+00	7.94E-05	1.28E+00				
2018	Tractors/Loaders/Backhoes	D	175	2.76E+01	9.24E-04	8.04E-03	5.89E-03	1.40E+00	1.57E-05	3.02E-04	0.00E+00	8.34E-05	147	0.55	8.30E-04	7.22E-03	5.29E-03	1.25E+00	1.41E-05	2.72E-04	0.00E+00	7.49E-05	1.28E+00				
2018	Forklifts	D	175	3.39E+01	6.23E-04	5.59E-03	3.63E-03	9.49E-01	1.07E-05	1.84E-04	0.00E+00	5.62E-05	149	0.3	8.22E-04	7.38E-03	4.79E-03	1.25E+00	1.41E-05	2.43E-04	0.00E+00	7.42E-05	1.27E+00				
2018	Generator Sets	D	175	3.04E+00	1.07E-04	1.10E-03	1.02E-03	2.15E-01	2.42E-06	4.40E-05	0.00E+00	9.66E-06	153	0.74	6.22E-04	6.42E-03	5.95E-03	1.25E+00	1.41E-05	2.56E-04	0.00E+00	5.62E-05	1.27E+00				
2018	Welders	D	175	2.55E-01	7.89E-06	6.80E-05	6.29E-05	1.25E-02	1.41E-07	3.09E-06	0.00E+00	7.11E-07	174	0.45	7.90E-04	6.82E-03	6.30E-03	1.25E+00	1.41E-05	3.09E-04	0.00E+00	7.13E-05	1.27E+00				
2019	Pavers	D	175	9.19E+00	5.98E-04	3.50E-03	4.12E-03	5.89E-01	6.63E-06	2.32E-04	0.00E+00	5.39E-05	165	0.62	1.27E-03	7.44E-03	8.76E-03	1.25E+00	1.41E-05	4.92E-04	0.00E+00	1.15E-04	1.29E+00				
2019	Rollers	D	175	2.06E+01	8.66E-04	6.30E-03	6.15E-03	1.11E+00	1.25E-05	3.33E-04	0.00E+00	7.82E-05	154	0.56	9.75E-04	7.09E-03	6.93E-03	1.25E+00	1.41E-05	3.75E-04	0.00E+00	8.80E-05	1.28E+00				
2019	Paving Equipment	D	175	2.15E+00	1.09E-04	6.41E-04	7.56E-04	1.09E-01	1.22E-06	4.26E-05	0.00E+00	9.82E-06	152	0.53	1.25E-03	7.39E-03	8.71E-03	1.25E+00	1.41E-05	4.91E-04	0.00E+00	1.13E-04	1.29E+00				
2019	Tractors/Loaders/Backhoes	D	175	2.80E+01	8.62E-04	8.16E-03	5.18E-03	1.42E+00	1.59E-05	2.61E-04	0.00E+00	7.78E-05	147	0.55	7.63E-04	7.22E-03	4.58E-03	1.25E+00	1.41E-05	2.31E-04	0.00E+00	6.88E-05	1.27E+00				
2019	Cement and Mortar Mixers	D	15	2.66E+00	9.76E-06	5.12E-05	6.11E-05	8.39E-03	1.30E-07	2.40E-06	0.00E+00	8.81E-07	9	0.56	1.46E-03	7.65E-03	9.13E-03	1.25E+00	1.95E-05	3.58E-04	0.00E+00	1.32E-04	1.29E+00				
2019	Air Compressors	D	15	9.51E-01	4.37E-06	2.13E-05	2.73E-05	3.43E-03	5.34E-08	1.36E-06	0.00E+00	3.94E-07	12	0.48	1.60E-03	7.79E-03	9.96E-03	1.25E+00	1.95E-05	4.95E-04	0.00E+00	1.44E-04	1.30E+00				

*Source: Load Factors from Equip.csv, core file of OFFROAD2007

Construction-Related Emissions with Implementation of Standard Control Measures

OFFROAD2011 - Emissions Inventory		tons/year		tons/year	tons/year	hours/year	LoadFactor	lb/hp-hr	lb/hp-hr	lb/hp-hr	Load Factors from OFFROAD2011 Emission Inventory database	
CalendarYear	Equipment Type	Horsepower	BaseNOx	BasePM	BaseHC	BaseActivity		NOx	PM	ROG	EquipmentTypeID	Adj ARB LF
2017	Excavators	175	149.1814092	7.421939219	11.16226666	622185.8228	146.0400891	0.3819	0.008598	0.000428	0.000643	
2017	Graders	175	188.0709282	10.6420202	15.35726153	340383.5767	147.9468912	0.4087	0.018276	0.001034	0.001492	A/C Tug Narrow Body 0.536
2017	Rubber Tired Dozers	500	127.4253968	5.964755827	9.480491462	105186.3791	354.0519878	0.3953	0.017311	0.00081	0.001288	A/C Tug Wide Body 0.536
2017	Scrapers	500	726.7570896	29.94142401	48.2320217	598432.9072	381.3492235	0.4824	0.013203	0.000544	0.000876	Baggage Tug 0.3685
2017	Tractors/Loaders/Backhoes	120	932.9595953	71.03441041	81.07286264	5598019.924	82.65053625	0.3685	0.010944	0.000833	0.000951	Belt Loader 0.335
2018	Cranes	250	90.63926544	4.181319097	6.461573621	184297.983	217	0.2881	0.015733	0.000726	0.001122	Bobtail 0.3685
2018	Tractors/Loaders/Backhoes	120	862.8524285	62.5787054	73.56380739	5842812.443	82.65053625	0.3685	0.009698	0.000703	0.000827	Cargo Loader 0.335
2018	Forklifts	120	376.9424526	30.49777543	35.88604559	3751161.268	82.36823864	0.201	0.012139	0.000982	0.001156	Cargo Tractor 0.3618
2019	Pavers	175	20.48449145	1.024196047	1.560658602	75716.07747	158.1345178	0.4154	0.008237	0.000412	0.000628	Forklift (GSE) 0.201
2019	Paving Equipment	175	6.953418183	0.351695492	0.541125933	38373.48331	148.4060606	0.3551	0.006877	0.000348	0.000535	Lift (GSE) 0.335
2019	Rollers	120	62.26482428	4.277424888	5.368538091	371008.0618	86.86181818	0.3752	0.010299	0.000708	0.000888	Other GSE 0.335
2019	Tractors/Loaders/Backhoes	120	814.0206093	56.60194023	68.9403915	6089804.788	82.65053625	0.3685	0.008778	0.00061	0.000743	Bore/Drill Rigs 0.5025
												Cranes 0.2881
												Crawler Tractors 0.4288
												Excavators 0.3819
												Graders 0.4087
												Off-Highway Tractors 0.4355
												Off-Highway Trucks 0.3819
												Other Construction Equipment 0.4154
												Pavers 0.4154
												Paving Equipment 0.3551
												Rollers 0.3752
												Rough Terrain Forklifts 0.402
												Rubber Tired Dozers 0.3953
												Rubber Tired Loaders 0.3618
												Scrapers 0.4824
												Skid Steer Loaders 0.3685
												Surfacing Equipment 0.3015
												Tractors/Loaders/Backhoes 0.3685
												Trenchers 0.5025
												Aerial Lifts 0.3082
												Forklifts 0.201
												Other General Industrial Equipmen 0.3417
												Other Material Handling Equipmen 0.3953
												Drill Rig (Mobile) 0.5025
												Workover Rig (Mobile) 0.5025
												Sweepers/Scrubbers 0.4556
												Passenger Stand 0.3953

Construction-Related Emissions with Implementation of Standard Control Measures

EPA tier emission factors lookup

EPA OFFROAD Tiers Lookup		lb/hp-hr	lb/hp-hr	lb/hp-hr
Tier	MaxHP	NOx	ROG	PM
LAWA Emission Rate	99	0.004360	0.000332	0.000137
LAWA Emission Rate	174	0.004045	0.000315	0.000107
LAWA Emission Rate	299	0.003274	0.000315	0.000080
LAWA Emission Rate	600	0.003274	0.000315	0.000080

453.592 grams per pound

Tier Data		
NOx	ROG	PM
5.32	0.28	0.3
4.655	0.245	0.22
4.655	0.245	0.15
4.56	0.24	0.15
3.325	0.175	0.3
2.85	0.15	0.22
2.85	0.15	0.15
2.85	0.15	0.15
0.3	0.14	0.015
0.3	0.14	0.015
0.3	0.14	0.015
0.3	0.14	0.015
2.5	0.14	0.015
2.5	0.14	0.015
1.5	0.14	0.015
1.5	0.14	0.015

Override T4	1
% T3	30%
% T4 Interim	35%
% T4	35%

Tier 3 PM Trap Reduction
42.500%

NMHC+Nox Assumed 95% NOx (NMHC+NOx)

Tier 2	99	-->	-->
Tier 2	174	-->	-->
Tier 2	299	-->	-->
Tier 2	600	-->	-->
Tier 3	99	-->	-->
Tier 3	174	-->	-->
Tier 3	299	-->	-->
Tier 3	600	-->	-->
Tier 4	99		
Tier 4	174		
Tier 4	299		
Tier 4	600		
Tier 4 int	99		
Tier 4 int	174		
Tier 4 int	299		
Tier 4 int	600		

5.6
4.9
4.9
4.8
3.5
3
3
3

Construction-Related Emissions with Implementation of Standard Control Measures

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: Sub-Area

Region: Los Angeles (SC)

Calendar Year: 2017

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Percent of Aggregated Model Year versus Model Year 2010:

<i>ROG_RUNEX</i>	<i>CO_RUNEX</i>	<i>NOx_RUNEX</i>	<i>CO2_RUNEX</i>	<i>PM10_RUNEX</i>	<i>PM2_5_RUNEX</i>	<i>SOx_RUNEX</i>
100.46%	78.49%	110.35%	106.74%	38.98%	38.98%	106.74%

<i>Region</i>	<i>CalYr</i>	<i>VehClass</i>	<i>MdlYr</i>	<i>Speed</i>	<i>Fuel</i>	<i>ROG_RUNEX</i>	<i>CO_RUNEX</i>	<i>NOx_RUNEX</i>	<i>CO2_RUNEX</i>	<i>PM10_RUNEX</i>	<i>PM2_5_RUNEX</i>	<i>SOx_RUNEX</i>
Los Angeles (SC)		2017 T7 single constructior	Aggregated	Aggregated	DSL	0.201044148	0.749739097	6.460738927	1682.272798	0.071755046	0.068650955	0.016049669
<i>Region</i>	<i>CalYr</i>	<i>VehClass</i>	<i>MdlYr</i>	<i>Speed</i>	<i>Fuel</i>	<i>ROG_RUNEX</i>	<i>CO_RUNEX</i>	<i>NOx_RUNEX</i>	<i>CO2_RUNEX</i>	<i>PM10_RUNEX</i>	<i>PM2_5_RUNEX</i>	<i>SOx_RUNEX</i>
Los Angeles (SC)		2020 T7 single constructior		2010 Aggregated	DSL	0.201971332	0.588469246	7.129262247	1795.666096	0.027967349	0.026757494	0.017131494

