

APPENDIX A
Air Quality/Greenhouse Gas Data

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Annual

**City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement
Los Angeles-South Coast County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	12.57	1000sqft	0.29	12,570.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics -

Land Use -

Construction Phase - Anticipated construction phasing

Off-road Equipment - Anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Trips and VMT - distance to disposal site

Demolition -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstructionPhase	NumDays	100.00	50.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	10.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.0250e-003	0.00
tblFleetMix	MCY	4.9150e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.2500e-004	0.00

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tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.3910e-003	0.00
tblFleetMix	SBUS	6.7200e-004	0.00
tblFleetMix	UBUS	2.4690e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblTripsAndVMT	WorkerTripLength	14.70	31.00
tblTripsAndVMT	WorkerTripNumber	23.00	20.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00
tblTripsAndVMT	WorkerTripNumber	20.00	8.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2019	5-31-2019	0.8736	0.8736
2	6-1-2019	8-31-2019	0.0811	0.0811
		Highest	0.8736	0.8736

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	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					
Area	1.0000e-003	0.0000	1.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-003	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	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					
Area	1.0000e-003	0.0000	1.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-003	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2019	3/14/2019	5	10	
2	Grading	Grading	3/16/2019	3/29/2019	5	10	
3	Building Construction	Building Construction	4/1/2019	6/7/2019	5	50	
4	Paving	Paving	4/1/2019	4/12/2019	5	10	
5	Architectural Coating	Architectural Coating	6/8/2019	6/14/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 754 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Other Construction Equipment	2	7.00	172	0.42
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Signal Boards	2	8.00	6	0.82
Demolition	Skid Steer Loaders	1	7.00	65	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Other Construction Equipment	1	7.00	172	0.42
Grading	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Signal Boards	2	7.00	6	0.82

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Grading	Skid Steer Loaders	1	7.00	65	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Bore/Drill Rigs	1	7.00	221	0.50
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Excavators	1	7.00	158	0.38
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Other Construction Equipment	2	7.00	172	0.42
Building Construction	Signal Boards	2	7.00	6	0.82
Building Construction	Skid Steer Loaders	1	7.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Graders	1	7.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	2	7.00	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	9	20.00	0.00	89.00	31.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	5.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Water Exposed Area

Clean Paved Roads

3.2 Demolition - 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					
Fugitive Dust					9.6300e-003	0.0000	9.6300e-003	1.4600e-003	0.0000	1.4600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1101	0.0937	1.5000e-004		6.2200e-003	6.2200e-003		5.9100e-003	5.9100e-003	0.0000	13.0207	13.0207	2.7000e-003	0.0000	13.0883
Total	0.0117	0.1101	0.0937	1.5000e-004	9.6300e-003	6.2200e-003	0.0159	1.4600e-003	5.9100e-003	7.3700e-003	0.0000	13.0207	13.0207	2.7000e-003	0.0000	13.0883

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3.2 Demolition - 2019

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	4.2000e-004	0.0141	2.9900e-003	4.0000e-005	7.6000e-004	5.0000e-005	8.2000e-004	2.1000e-004	5.0000e-005	2.6000e-004	0.0000	3.4652	3.4652	2.4000e-004	0.0000	3.4713
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.4000e-004	8.4000e-004	9.0000e-003	2.0000e-005	2.3100e-003	2.0000e-005	2.3300e-003	6.1000e-004	2.0000e-005	6.3000e-004	0.0000	2.1977	2.1977	7.0000e-005	0.0000	2.1995
Total	1.3600e-003	0.0149	0.0120	6.0000e-005	3.0700e-003	7.0000e-005	3.1500e-003	8.2000e-004	7.0000e-005	8.9000e-004	0.0000	5.6629	5.6629	3.1000e-004	0.0000	5.6708

Mitigated 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					3.7600e-003	0.0000	3.7600e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1101	0.0937	1.5000e-004		6.2200e-003	6.2200e-003		5.9100e-003	5.9100e-003	0.0000	13.0207	13.0207	2.7000e-003	0.0000	13.0883
Total	0.0117	0.1101	0.0937	1.5000e-004	3.7600e-003	6.2200e-003	9.9800e-003	5.7000e-004	5.9100e-003	6.4800e-003	0.0000	13.0207	13.0207	2.7000e-003	0.0000	13.0883

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3.2 Demolition - 2019

Mitigated 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	4.2000e-004	0.0141	2.9900e-003	4.0000e-005	7.3000e-004	5.0000e-005	7.8000e-004	2.0000e-004	5.0000e-005	2.5000e-004	0.0000	3.4652	3.4652	2.4000e-004	0.0000	3.4713
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.4000e-004	8.4000e-004	9.0000e-003	2.0000e-005	2.1900e-003	2.0000e-005	2.2100e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.1977	2.1977	7.0000e-005	0.0000	2.1995
Total	1.3600e-003	0.0149	0.0120	6.0000e-005	2.9200e-003	7.0000e-005	2.9900e-003	7.8000e-004	7.0000e-005	8.5000e-004	0.0000	5.6629	5.6629	3.1000e-004	0.0000	5.6708

3.3 Grading - 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					
Fugitive Dust					3.7600e-003	0.0000	3.7600e-003	2.0700e-003	0.0000	2.0700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2000e-003	0.0783	0.0665	1.0000e-004		4.4900e-003	4.4900e-003		4.2300e-003	4.2300e-003	0.0000	9.0520	9.0520	2.1200e-003	0.0000	9.1050
Total	8.2000e-003	0.0783	0.0665	1.0000e-004	3.7600e-003	4.4900e-003	8.2500e-003	2.0700e-003	4.2300e-003	6.3000e-003	0.0000	9.0520	9.0520	2.1200e-003	0.0000	9.1050

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3.3 Grading - 2019

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	3.8000e-004	3.1000e-004	3.4000e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7900	0.7900	3.0000e-005	0.0000	0.7907
Total	3.8000e-004	3.1000e-004	3.4000e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7900	0.7900	3.0000e-005	0.0000	0.7907

Mitigated 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					1.4700e-003	0.0000	1.4700e-003	8.1000e-004	0.0000	8.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2000e-003	0.0783	0.0665	1.0000e-004		4.4900e-003	4.4900e-003		4.2300e-003	4.2300e-003	0.0000	9.0520	9.0520	2.1200e-003	0.0000	9.1050
Total	8.2000e-003	0.0783	0.0665	1.0000e-004	1.4700e-003	4.4900e-003	5.9600e-003	8.1000e-004	4.2300e-003	5.0400e-003	0.0000	9.0520	9.0520	2.1200e-003	0.0000	9.1050

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3.3 Grading - 2019

Mitigated 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	3.8000e-004	3.1000e-004	3.4000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7900	0.7900	3.0000e-005	0.0000	0.7907
Total	3.8000e-004	3.1000e-004	3.4000e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7900	0.7900	3.0000e-005	0.0000	0.7907

3.4 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	0.0565	0.6067	0.4655	8.6000e-004		0.0306	0.0306		0.0282	0.0282	0.0000	76.5858	76.5858	0.0238	0.0000	77.1812
Total	0.0565	0.6067	0.4655	8.6000e-004		0.0306	0.0306		0.0282	0.0282	0.0000	76.5858	76.5858	0.0238	0.0000	77.1812

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3.4 Building Construction - 2019

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	2.1000e-004	5.9100e-003	1.6200e-003	1.0000e-005	3.1000e-004	4.0000e-005	3.5000e-004	9.0000e-005	4.0000e-005	1.3000e-004	0.0000	1.2503	1.2503	8.0000e-005	0.0000	1.2524
Worker	6.3000e-004	5.2000e-004	5.6700e-003	1.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.3167	1.3167	5.0000e-005	0.0000	1.3178
Total	8.4000e-004	6.4300e-003	7.2900e-003	2.0000e-005	1.6800e-003	5.0000e-005	1.7300e-003	4.5000e-004	5.0000e-005	5.0000e-004	0.0000	2.5670	2.5670	1.3000e-004	0.0000	2.5702

Mitigated 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	0.0565	0.6067	0.4655	8.6000e-004		0.0306	0.0306		0.0282	0.0282	0.0000	76.5857	76.5857	0.0238	0.0000	77.1811
Total	0.0565	0.6067	0.4655	8.6000e-004		0.0306	0.0306		0.0282	0.0282	0.0000	76.5857	76.5857	0.0238	0.0000	77.1811

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3.4 Building Construction - 2019

Mitigated 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	2.1000e-004	5.9100e-003	1.6200e-003	1.0000e-005	3.0000e-004	4.0000e-005	3.4000e-004	9.0000e-005	4.0000e-005	1.2000e-004	0.0000	1.2503	1.2503	8.0000e-005	0.0000	1.2524
Worker	6.3000e-004	5.2000e-004	5.6700e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.3167	1.3167	5.0000e-005	0.0000	1.3178
Total	8.4000e-004	6.4300e-003	7.2900e-003	2.0000e-005	1.6000e-003	5.0000e-005	1.6500e-003	4.4000e-004	5.0000e-005	4.8000e-004	0.0000	2.5670	2.5670	1.3000e-004	0.0000	2.5702

3.5 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	tons/yr										MT/yr					
Off-Road	6.2800e-003	0.0680	0.0438	9.0000e-005		3.1400e-003	3.1400e-003		2.9000e-003	2.9000e-003	0.0000	7.3963	7.3963	2.1900e-003	0.0000	7.4512
Paving	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.6600e-003	0.0680	0.0438	9.0000e-005		3.1400e-003	3.1400e-003		2.9000e-003	2.9000e-003	0.0000	7.3963	7.3963	2.1900e-003	0.0000	7.4512

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3.5 Paving - 2019

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	2.0000e-004	1.7000e-004	1.8200e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4213	0.4213	1.0000e-005	0.0000	0.4217
Total	2.0000e-004	1.7000e-004	1.8200e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4213	0.4213	1.0000e-005	0.0000	0.4217

Mitigated 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	6.2800e-003	0.0680	0.0438	9.0000e-005		3.1400e-003	3.1400e-003		2.9000e-003	2.9000e-003	0.0000	7.3963	7.3963	2.1900e-003	0.0000	7.4512
Paving	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.6600e-003	0.0680	0.0438	9.0000e-005		3.1400e-003	3.1400e-003		2.9000e-003	2.9000e-003	0.0000	7.3963	7.3963	2.1900e-003	0.0000	7.4512

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3.5 Paving - 2019

Mitigated 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	2.0000e-004	1.7000e-004	1.8200e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.4213	0.4213	1.0000e-005	0.0000	0.4217
Total	2.0000e-004	1.7000e-004	1.8200e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.4213	0.4213	1.0000e-005	0.0000	0.4217

3.6 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	1.7500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5500e-003	0.0107	0.0107	2.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	1.4894	1.4894	1.3000e-004	0.0000	1.4925
Total	3.3000e-003	0.0107	0.0107	2.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	1.4894	1.4894	1.3000e-004	0.0000	1.4925

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3.6 Architectural Coating - 2019

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	1.0000e-005	1.0000e-005	1.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0263	0.0263	0.0000	0.0000	0.0264
Total	1.0000e-005	1.0000e-005	1.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0263	0.0263	0.0000	0.0000	0.0264

Mitigated 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	1.7500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5500e-003	0.0107	0.0107	2.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	1.4894	1.4894	1.3000e-004	0.0000	1.4925
Total	3.3000e-003	0.0107	0.0107	2.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	1.4894	1.4894	1.3000e-004	0.0000	1.4925

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3.6 Architectural Coating - 2019

Mitigated 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	1.0000e-005	1.0000e-005	1.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0263	0.0263	0.0000	0.0000	0.0264
Total	1.0000e-005	1.0000e-005	1.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0263	0.0263	0.0000	0.0000	0.0264

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	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					
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	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	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Annual

5.2 Energy by Land Use - NaturalGas

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	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

No Hearths Installed

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	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					
Mitigated	1.0000e-003	0.0000	1.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Unmitigated	1.0000e-003	0.0000	1.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004

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	tons/yr										MT/yr					
Architectural Coating	1.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Total	1.0000e-003	0.0000	1.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004

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6.2 Area by SubCategory

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	tons/yr										MT/yr					
Architectural Coating	1.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Total	1.0000e-003	0.0000	1.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

**City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement
Los Angeles-South Coast County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	12.57	1000sqft	0.29	12,570.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

Project Characteristics -

Land Use -

Construction Phase - Anticipated construction phasing

Off-road Equipment - Anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Trips and VMT - distance to disposal site

Demolition -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstructionPhase	NumDays	100.00	50.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	10.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.0250e-003	0.00
tblFleetMix	MCY	4.9150e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.2500e-004	0.00

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.3910e-003	0.00
tblFleetMix	SBUS	6.7200e-004	0.00
tblFleetMix	UBUS	2.4690e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblTripsAndVMT	WorkerTripLength	14.70	31.00
tblTripsAndVMT	WorkerTripNumber	23.00	20.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00
tblTripsAndVMT	WorkerTripNumber	20.00	8.00

2.0 Emissions Summary

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	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					
Area	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	5.5300e-003	1.0000e-005	1.3000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005	0.0000	2.9400e-003

Mitigated Operational

	ROG	NOx	CO	SO2	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					
Area	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	5.5300e-003	1.0000e-005	1.3000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005	0.0000	2.9400e-003

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2019	3/14/2019	5	10	
2	Grading	Grading	3/16/2019	3/29/2019	5	10	
3	Building Construction	Building Construction	4/1/2019	6/7/2019	5	50	
4	Paving	Paving	4/1/2019	4/12/2019	5	10	
5	Architectural Coating	Architectural Coating	6/8/2019	6/14/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 754 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Other Construction Equipment	2	7.00	172	0.42
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Signal Boards	2	8.00	6	0.82
Demolition	Skid Steer Loaders	1	7.00	65	0.37

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Other Construction Equipment	1	7.00	172	0.42
Grading	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Signal Boards	2	7.00	6	0.82
Grading	Skid Steer Loaders	1	7.00	65	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Bore/Drill Rigs	1	7.00	221	0.50
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Excavators	1	7.00	158	0.38
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Other Construction Equipment	2	7.00	172	0.42
Building Construction	Signal Boards	2	7.00	6	0.82
Building Construction	Skid Steer Loaders	1	7.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Graders	1	7.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	2	7.00	78	0.48

Trips and VMT

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

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	9	20.00	0.00	89.00	31.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	5.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 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					
Fugitive Dust					1.9259	0.0000	1.9259	0.2916	0.0000	0.2916			0.0000			0.0000
Off-Road	2.3479	22.0283	18.7458	0.0299		1.2431	1.2431		1.1826	1.1826		2,870.5770	2,870.5770	0.5957		2,885.4685
Total	2.3479	22.0283	18.7458	0.0299	1.9259	1.2431	3.1690	0.2916	1.1826	1.4742		2,870.5770	2,870.5770	0.5957		2,885.4685

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

3.2 Demolition - 2019

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	0.0836	2.7259	0.5812	7.1100e-003	0.1556	0.0100	0.1656	0.0427	9.5700e-003	0.0522		769.4155	769.4155	0.0530		770.7402
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	0.1835	0.1475	1.9344	5.0800e-003	0.4712	3.9200e-003	0.4751	0.1249	3.6100e-003	0.1286		506.2894	506.2894	0.0170		506.7147
Total	0.2672	2.8734	2.5155	0.0122	0.6268	0.0139	0.6408	0.1676	0.0132	0.1808		1,275.7049	1,275.7049	0.0700		1,277.4548

Mitigated 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					0.7511	0.0000	0.7511	0.1137	0.0000	0.1137			0.0000			0.0000
Off-Road	2.3479	22.0283	18.7458	0.0299		1.2431	1.2431		1.1826	1.1826	0.0000	2,870.5770	2,870.5770	0.5957		2,885.4685
Total	2.3479	22.0283	18.7458	0.0299	0.7511	1.2431	1.9942	0.1137	1.1826	1.2963	0.0000	2,870.5770	2,870.5770	0.5957		2,885.4685

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

3.2 Demolition - 2019

Mitigated 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	0.0836	2.7259	0.5812	7.1100e-003	0.1486	0.0100	0.1586	0.0409	9.5700e-003	0.0505		769.4155	769.4155	0.0530		770.7402
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	0.1835	0.1475	1.9344	5.0800e-003	0.4466	3.9200e-003	0.4505	0.1189	3.6100e-003	0.1225		506.2894	506.2894	0.0170		506.7147
Total	0.2672	2.8734	2.5155	0.0122	0.5952	0.0139	0.6091	0.1598	0.0132	0.1730		1,275.7049	1,275.7049	0.0700		1,277.4548

3.3 Grading - 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					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.6395	15.6607	13.2949	0.0208		0.8984	0.8984		0.8468	0.8468		1,995.6252	1,995.6252	0.4673		2,007.3065
Total	1.6395	15.6607	13.2949	0.0208	0.7528	0.8984	1.6511	0.4138	0.8468	1.2606		1,995.6252	1,995.6252	0.4673		2,007.3065

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

3.3 Grading - 2019

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	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992
Total	0.0749	0.0551	0.7233	1.8300e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		181.9429	181.9429	6.2500e-003		182.0992

Mitigated 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					0.2936	0.0000	0.2936	0.1614	0.0000	0.1614			0.0000			0.0000
Off-Road	1.6395	15.6607	13.2949	0.0208		0.8984	0.8984		0.8468	0.8468	0.0000	1,995.6252	1,995.6252	0.4673		2,007.3065
Total	1.6395	15.6607	13.2949	0.0208	0.2936	0.8984	1.1919	0.1614	0.8468	1.0082	0.0000	1,995.6252	1,995.6252	0.4673		2,007.3065

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

3.3 Grading - 2019

Mitigated 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	0.0749	0.0551	0.7233	1.8300e-003	0.1589	1.4500e-003	0.1604	0.0423	1.3300e-003	0.0437		181.9429	181.9429	6.2500e-003		182.0992
Total	0.0749	0.0551	0.7233	1.8300e-003	0.1589	1.4500e-003	0.1604	0.0423	1.3300e-003	0.0437		181.9429	181.9429	6.2500e-003		182.0992

3.4 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	2.2614	24.2671	18.6201	0.0345		1.2248	1.2248		1.1287	1.1287		3,376.8546	3,376.8546	1.0501		3,403.1061
Total	2.2614	24.2671	18.6201	0.0345		1.2248	1.2248		1.1287	1.1287		3,376.8546	3,376.8546	1.0501		3,403.1061

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

3.4 Building Construction - 2019

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	8.3100e-003	0.2315	0.0614	5.2000e-004	0.0128	1.4800e-003	0.0143	3.6900e-003	1.4100e-003	5.1000e-003		55.7629	55.7629	3.5700e-003		55.8523
Worker	0.0250	0.0184	0.2411	6.1000e-004	0.0559	4.8000e-004	0.0564	0.0148	4.4000e-004	0.0153		60.6476	60.6476	2.0800e-003		60.6997
Total	0.0333	0.2498	0.3025	1.1300e-003	0.0687	1.9600e-003	0.0707	0.0185	1.8500e-003	0.0204		116.4106	116.4106	5.6500e-003		116.5520

Mitigated 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	2.2614	24.2671	18.6201	0.0345		1.2248	1.2248		1.1287	1.1287	0.0000	3,376.8546	3,376.8546	1.0501		3,403.1061
Total	2.2614	24.2671	18.6201	0.0345		1.2248	1.2248		1.1287	1.1287	0.0000	3,376.8546	3,376.8546	1.0501		3,403.1061

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

3.4 Building Construction - 2019

Mitigated 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	8.3100e-003	0.2315	0.0614	5.2000e-004	0.0123	1.4800e-003	0.0137	3.5500e-003	1.4100e-003	4.9600e-003		55.7629	55.7629	3.5700e-003		55.8523
Worker	0.0250	0.0184	0.2411	6.1000e-004	0.0530	4.8000e-004	0.0535	0.0141	4.4000e-004	0.0146		60.6476	60.6476	2.0800e-003		60.6997
Total	0.0333	0.2498	0.3025	1.1300e-003	0.0652	1.9600e-003	0.0672	0.0177	1.8500e-003	0.0195		116.4106	116.4106	5.6500e-003		116.5520

3.5 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	1.2558	13.6017	8.7561	0.0171		0.6273	0.6273		0.5806	0.5806		1,630.6060	1,630.6060	0.4837		1,642.6983
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3318	13.6017	8.7561	0.0171		0.6273	0.6273		0.5806	0.5806		1,630.6060	1,630.6060	0.4837		1,642.6983

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

3.5 Paving - 2019

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	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		97.0362	97.0362	3.3300e-003		97.1196
Total	0.0400	0.0294	0.3857	9.7000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		97.0362	97.0362	3.3300e-003		97.1196

Mitigated 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	1.2558	13.6017	8.7561	0.0171		0.6273	0.6273		0.5806	0.5806	0.0000	1,630.6060	1,630.6060	0.4837		1,642.6983
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3318	13.6017	8.7561	0.0171		0.6273	0.6273		0.5806	0.5806	0.0000	1,630.6060	1,630.6060	0.4837		1,642.6983

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

3.5 Paving - 2019

Mitigated 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	0.0400	0.0294	0.3857	9.7000e-004	0.0848	7.7000e-004	0.0855	0.0226	7.1000e-004	0.0233		97.0362	97.0362	3.3300e-003		97.1196
Total	0.0400	0.0294	0.3857	9.7000e-004	0.0848	7.7000e-004	0.0855	0.0226	7.1000e-004	0.0233		97.0362	97.0362	3.3300e-003		97.1196

3.6 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	0.6990					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6217	4.2826	4.2964	6.9300e-003		0.3005	0.3005		0.3005	0.3005		656.7121	656.7121	0.0555		658.0988
Total	1.3207	4.2826	4.2964	6.9300e-003		0.3005	0.3005		0.3005	0.3005		656.7121	656.7121	0.0555		658.0988

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3.6 Architectural Coating - 2019

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	5.0000e-003	3.6700e-003	0.0482	1.2000e-004	0.0112	1.0000e-004	0.0113	2.9600e-003	9.0000e-005	3.0500e-003		12.1295	12.1295	4.2000e-004		12.1399
Total	5.0000e-003	3.6700e-003	0.0482	1.2000e-004	0.0112	1.0000e-004	0.0113	2.9600e-003	9.0000e-005	3.0500e-003		12.1295	12.1295	4.2000e-004		12.1399

Mitigated 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	0.6990					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6217	4.2826	4.2964	6.9300e-003		0.3005	0.3005		0.3005	0.3005	0.0000	656.7121	656.7121	0.0555		658.0988
Total	1.3207	4.2826	4.2964	6.9300e-003		0.3005	0.3005		0.3005	0.3005	0.0000	656.7121	656.7121	0.0555		658.0988

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

3.6 Architectural Coating - 2019

Mitigated 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	5.0000e-003	3.6700e-003	0.0482	1.2000e-004	0.0106	1.0000e-004	0.0107	2.8200e-003	9.0000e-005	2.9100e-003		12.1295	12.1295	4.2000e-004		12.1399
Total	5.0000e-003	3.6700e-003	0.0482	1.2000e-004	0.0106	1.0000e-004	0.0107	2.8200e-003	9.0000e-005	2.9100e-003		12.1295	12.1295	4.2000e-004		12.1399

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	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
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

5.2 Energy by Land Use - NaturalGas

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	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	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Unmitigated	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003

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	9.6000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2000e-004	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Total	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

6.2 Area by SubCategory

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	9.6000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2000e-004	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Total	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003

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 Stationary Equipment

Fire Pumps and Emergency Generators

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

**City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement
Los Angeles-South Coast County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	12.57	1000sqft	0.29	12,570.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

Project Characteristics -

Land Use -

Construction Phase - Anticipated construction phasing

Off-road Equipment - Anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Trips and VMT - distance to disposal site

Demolition -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstructionPhase	NumDays	100.00	50.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	10.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.0250e-003	0.00
tblFleetMix	MCY	4.9150e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.2500e-004	0.00

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.3910e-003	0.00
tblFleetMix	SBUS	6.7200e-004	0.00
tblFleetMix	UBUS	2.4690e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblTripsAndVMT	WorkerTripLength	14.70	31.00
tblTripsAndVMT	WorkerTripNumber	23.00	20.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00
tblTripsAndVMT	WorkerTripNumber	20.00	8.00

2.0 Emissions Summary

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	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					
Area	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	5.5300e-003	1.0000e-005	1.3000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005	0.0000	2.9400e-003

Mitigated Operational

	ROG	NOx	CO	SO2	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					
Area	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	5.5300e-003	1.0000e-005	1.3000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005	0.0000	2.9400e-003

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2019	3/14/2019	5	10	
2	Grading	Grading	3/16/2019	3/29/2019	5	10	
3	Building Construction	Building Construction	4/1/2019	6/7/2019	5	50	
4	Paving	Paving	4/1/2019	4/12/2019	5	10	
5	Architectural Coating	Architectural Coating	6/8/2019	6/14/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 754 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Other Construction Equipment	2	7.00	172	0.42
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Signal Boards	2	8.00	6	0.82
Demolition	Skid Steer Loaders	1	7.00	65	0.37

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Other Construction Equipment	1	7.00	172	0.42
Grading	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Signal Boards	2	7.00	6	0.82
Grading	Skid Steer Loaders	1	7.00	65	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Bore/Drill Rigs	1	7.00	221	0.50
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Excavators	1	7.00	158	0.38
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Other Construction Equipment	2	7.00	172	0.42
Building Construction	Signal Boards	2	7.00	6	0.82
Building Construction	Skid Steer Loaders	1	7.00	65	0.37
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Graders	1	7.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	2	7.00	78	0.48

Trips and VMT

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

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	9	20.00	0.00	89.00	31.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	5.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 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					
Fugitive Dust					1.9259	0.0000	1.9259	0.2916	0.0000	0.2916			0.0000			0.0000
Off-Road	2.3479	22.0283	18.7458	0.0299		1.2431	1.2431		1.1826	1.1826		2,870.5770	2,870.5770	0.5957		2,885.4685
Total	2.3479	22.0283	18.7458	0.0299	1.9259	1.2431	3.1690	0.2916	1.1826	1.4742		2,870.5770	2,870.5770	0.5957		2,885.4685

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

3.2 Demolition - 2019

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	0.0857	2.7623	0.6205	6.9900e-003	0.1556	0.0102	0.1658	0.0427	9.7500e-003	0.0524		756.3662	756.3662	0.0550		757.7414
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	0.2083	0.1634	1.7480	4.7800e-003	0.4712	3.9200e-003	0.4751	0.1249	3.6100e-003	0.1286		476.5250	476.5250	0.0159		476.9234
Total	0.2941	2.9257	2.3684	0.0118	0.6268	0.0141	0.6409	0.1676	0.0134	0.1810		1,232.8912	1,232.8912	0.0709		1,234.6648

Mitigated 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					0.7511	0.0000	0.7511	0.1137	0.0000	0.1137			0.0000			0.0000
Off-Road	2.3479	22.0283	18.7458	0.0299		1.2431	1.2431		1.1826	1.1826	0.0000	2,870.5770	2,870.5770	0.5957		2,885.4685
Total	2.3479	22.0283	18.7458	0.0299	0.7511	1.2431	1.9942	0.1137	1.1826	1.2963	0.0000	2,870.5770	2,870.5770	0.5957		2,885.4685

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

3.2 Demolition - 2019

Mitigated 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	0.0857	2.7623	0.6205	6.9900e-003	0.1486	0.0102	0.1587	0.0409	9.7500e-003	0.0507		756.3662	756.3662	0.0550		757.7414
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	0.2083	0.1634	1.7480	4.7800e-003	0.4466	3.9200e-003	0.4505	0.1189	3.6100e-003	0.1225		476.5250	476.5250	0.0159		476.9234
Total	0.2941	2.9257	2.3684	0.0118	0.5952	0.0141	0.6093	0.1598	0.0134	0.1732		1,232.8912	1,232.8912	0.0709		1,234.6648

3.3 Grading - 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					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.6395	15.6607	13.2949	0.0208		0.8984	0.8984		0.8468	0.8468		1,995.6252	1,995.6252	0.4673		2,007.3065
Total	1.6395	15.6607	13.2949	0.0208	0.7528	0.8984	1.6511	0.4138	0.8468	1.2606		1,995.6252	1,995.6252	0.4673		2,007.3065

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

3.3 Grading - 2019

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	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670
Total	0.0831	0.0610	0.6637	1.7200e-003	0.1677	1.4500e-003	0.1691	0.0445	1.3300e-003	0.0458		171.3196	171.3196	5.8900e-003		171.4670

Mitigated 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					0.2936	0.0000	0.2936	0.1614	0.0000	0.1614			0.0000			0.0000
Off-Road	1.6395	15.6607	13.2949	0.0208		0.8984	0.8984		0.8468	0.8468	0.0000	1,995.625 2	1,995.625 2	0.4673		2,007.306 5
Total	1.6395	15.6607	13.2949	0.0208	0.2936	0.8984	1.1919	0.1614	0.8468	1.0082	0.0000	1,995.625 2	1,995.625 2	0.4673		2,007.306 5

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

3.3 Grading - 2019

Mitigated 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	0.0831	0.0610	0.6637	1.7200e-003	0.1589	1.4500e-003	0.1604	0.0423	1.3300e-003	0.0437		171.3196	171.3196	5.8900e-003		171.4670
Total	0.0831	0.0610	0.6637	1.7200e-003	0.1589	1.4500e-003	0.1604	0.0423	1.3300e-003	0.0437		171.3196	171.3196	5.8900e-003		171.4670

3.4 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	2.2614	24.2671	18.6201	0.0345		1.2248	1.2248		1.1287	1.1287		3,376.8546	3,376.8546	1.0501		3,403.1061
Total	2.2614	24.2671	18.6201	0.0345		1.2248	1.2248		1.1287	1.1287		3,376.8546	3,376.8546	1.0501		3,403.1061

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3.4 Building Construction - 2019

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	8.6700e-003	0.2318	0.0677	5.1000e-004	0.0128	1.5000e-003	0.0143	3.6900e-003	1.4300e-003	5.1200e-003		54.2554	54.2554	3.8100e-003		54.3507
Worker	0.0277	0.0203	0.2212	5.7000e-004	0.0559	4.8000e-004	0.0564	0.0148	4.4000e-004	0.0153		57.1065	57.1065	1.9600e-003		57.1557
Total	0.0364	0.2521	0.2889	1.0800e-003	0.0687	1.9800e-003	0.0707	0.0185	1.8700e-003	0.0204		111.3620	111.3620	5.7700e-003		111.5064

Mitigated 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	2.2614	24.2671	18.6201	0.0345		1.2248	1.2248		1.1287	1.1287	0.0000	3,376.8546	3,376.8546	1.0501		3,403.1061
Total	2.2614	24.2671	18.6201	0.0345		1.2248	1.2248		1.1287	1.1287	0.0000	3,376.8546	3,376.8546	1.0501		3,403.1061

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3.4 Building Construction - 2019

Mitigated 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	8.6700e-003	0.2318	0.0677	5.1000e-004	0.0123	1.5000e-003	0.0138	3.5500e-003	1.4300e-003	4.9900e-003		54.2554	54.2554	3.8100e-003		54.3507
Worker	0.0277	0.0203	0.2212	5.7000e-004	0.0530	4.8000e-004	0.0535	0.0141	4.4000e-004	0.0146		57.1065	57.1065	1.9600e-003		57.1557
Total	0.0364	0.2521	0.2889	1.0800e-003	0.0652	1.9800e-003	0.0672	0.0177	1.8700e-003	0.0195		111.3620	111.3620	5.7700e-003		111.5064

3.5 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	1.2558	13.6017	8.7561	0.0171		0.6273	0.6273		0.5806	0.5806		1,630.6060	1,630.6060	0.4837		1,642.6983
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3318	13.6017	8.7561	0.0171		0.6273	0.6273		0.5806	0.5806		1,630.6060	1,630.6060	0.4837		1,642.6983

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

3.5 Paving - 2019

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	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		91.3705	91.3705	3.1400e-003		91.4491
Total	0.0443	0.0325	0.3540	9.2000e-004	0.0894	7.7000e-004	0.0902	0.0237	7.1000e-004	0.0244		91.3705	91.3705	3.1400e-003		91.4491

Mitigated 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	1.2558	13.6017	8.7561	0.0171		0.6273	0.6273		0.5806	0.5806	0.0000	1,630.6060	1,630.6060	0.4837		1,642.6983
Paving	0.0760					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3318	13.6017	8.7561	0.0171		0.6273	0.6273		0.5806	0.5806	0.0000	1,630.6060	1,630.6060	0.4837		1,642.6983

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

3.5 Paving - 2019

Mitigated 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	0.0443	0.0325	0.3540	9.2000e-004	0.0848	7.7000e-004	0.0855	0.0226	7.1000e-004	0.0233		91.3705	91.3705	3.1400e-003		91.4491
Total	0.0443	0.0325	0.3540	9.2000e-004	0.0848	7.7000e-004	0.0855	0.0226	7.1000e-004	0.0233		91.3705	91.3705	3.1400e-003		91.4491

3.6 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	0.6990					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6217	4.2826	4.2964	6.9300e-003		0.3005	0.3005		0.3005	0.3005		656.7121	656.7121	0.0555		658.0988
Total	1.3207	4.2826	4.2964	6.9300e-003		0.3005	0.3005		0.3005	0.3005		656.7121	656.7121	0.0555		658.0988

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

3.6 Architectural Coating - 2019

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	5.5400e-003	4.0700e-003	0.0443	1.1000e-004	0.0112	1.0000e-004	0.0113	2.9600e-003	9.0000e-005	3.0500e-003		11.4213	11.4213	3.9000e-004		11.4311
Total	5.5400e-003	4.0700e-003	0.0443	1.1000e-004	0.0112	1.0000e-004	0.0113	2.9600e-003	9.0000e-005	3.0500e-003		11.4213	11.4213	3.9000e-004		11.4311

Mitigated 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	0.6990					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6217	4.2826	4.2964	6.9300e-003		0.3005	0.3005		0.3005	0.3005	0.0000	656.7121	656.7121	0.0555		658.0988
Total	1.3207	4.2826	4.2964	6.9300e-003		0.3005	0.3005		0.3005	0.3005	0.0000	656.7121	656.7121	0.0555		658.0988

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

3.6 Architectural Coating - 2019

Mitigated 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	5.5400e-003	4.0700e-003	0.0443	1.1000e-004	0.0106	1.0000e-004	0.0107	2.8200e-003	9.0000e-005	2.9100e-003		11.4213	11.4213	3.9000e-004		11.4311
Total	5.5400e-003	4.0700e-003	0.0443	1.1000e-004	0.0106	1.0000e-004	0.0107	2.8200e-003	9.0000e-005	2.9100e-003		11.4213	11.4213	3.9000e-004		11.4311

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	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
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

5.2 Energy by Land Use - NaturalGas

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	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	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Unmitigated	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003

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	9.6000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2000e-004	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Total	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

6.2 Area by SubCategory

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	9.6000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2000e-004	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003
Total	5.5300e-003	1.0000e-005	1.3000e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.7500e-003	2.7500e-003	1.0000e-005		2.9400e-003

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 Stationary Equipment

Fire Pumps and Emergency Generators

City of Manhattan Beach – Aviation Blvd. and Artesia Blvd. Right Turn Lane Improvement - Los Angeles-South Coast County, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation
