

Appendix A

Air Quality Methodology and Calculations

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Annual Peak Construction Estimated Emissions from the Proposed Project within the South Coast Air Quality Management District (SCAQMD) - Alternative 1

ND	VOCs	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e
Emission Source	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr
Construction Emissions*	1.33	11.84	9.44	0.02	3.11	1.89	1,458.92	0.37	0.0000	1,468.25
Significance Thresholds (tons/year)	10	10	100	100	100	100	NA	NA	NA	NA
Exceeds Air Quality Significance Threshold Standards?	No	Yes	No	No	No	No	NA	NA	NA	NA

Legend: CO = carbon monoxide; NO_x = nitrogen oxides; Pb = lead; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter but greater than 2.5 microns in diameter; SQ = sulfur dioxide; tpy = tons per year; VOCs = volatile organic compounds.
 CO₂e = CO₂ + (CH₄ * 25) + (N₂O * 310)

Notes: The South Coast Air Basin (SCAB) is an extreme nonattainment area for the 8-hour ozone (O₃) National Ambient Air Quality Standards (NAAQS) (VOCs and NO_x are precursors to the formation of O₃), a nonattainment area for Pb, a moderate nonattainment area for PM_{2.5}, and is a serious maintenance area for CO and PM₁₀. Pb emissions factors were not available for the vessel used in the Proposed Action.
 NA = Not applicable because the SCAB is currently in attainment of the NAAQS for these criteria pollutants or no emissions factor was available.
 ND = No data.

*Total developable land area on the Main and Marine Terminal was divided by 3 for emissions calculations, with one third being developed as ASTs, one third being developed as ancillary uses such as administrative or warehousing (with a FAR of 1.5 assumed, and one third being developed for parking.

Annual Peak Operational Estimated Emissions from the Proposed Project within the SCAQMD - Alternative 1

ND	VOCs	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e
Emission Source	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr
Land-based Emissions	22.13	21.07	17.63	0.07	0.77	0.71	17,045.24	2.21	0.06	17,117.41
Vessel Emissions	0.39	10.82	0.86	1.99	0.21	0.19	1,006.65	0.01	0.07	1,027.73
Emissions from Storage Tanks	87.61	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Emissions	110.14	31.89	18.49	2.06	0.98	0.90	18,051.89	2.22	0.13	18,145.14
Significance Thresholds (tons/year)	10	10	100	100	100	100	NA	NA	NA	NA
Exceeds Air Quality Significance Threshold Standards?	Yes	Yes	No	No	No	No	NA	NA	NA	NA

Legend: CO = carbon monoxide; NO_x = nitrogen oxides; Pb = lead; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter but greater than 2.5 microns in diameter; SQ = sulfur dioxide; VOCs = volatile organic compounds.
 CO₂e = CO₂ + (CH₄ * 25) + (N₂O * 310)

Notes: The South Coast Air Basin (SCAB) is an extreme nonattainment area for the 8-hour ozone (O₃) National Ambient Air Quality Standards (NAAQS) (VOCs and NO_x are precursors to the formation of O₃), a nonattainment area for Pb, a moderate nonattainment area for PM_{2.5}, and is a serious maintenance area for CO and PM₁₀. Pb emissions factors were not available for the vessel used in the Proposed Action.
 NA = Not applicable because the SCAB is currently in attainment of the NAAQS for these criteria pollutants or no emissions factor was available.
 ND = No data.

Annual Peak Construction Estimated Emissions from the Proposed Project within the SCAQMD - Alternative 2

ND	VOCs	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e
Emission Source	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr
Construction Emissions	0.39	3.73	2.91	0.00	1.01	0.62	453.94	0.12	0.0000	456.84
Significance Thresholds (tons/year)	10	10	100	100	100	100	NA	NA	NA	NA
Exceeds Air Quality Significance Threshold Standards?	No	No	No	No	No	No	NA	NA	NA	NA

Legend:

CO = carbon monoxide; NO_x = nitrogen oxides; Pb = lead; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter but greater than 2.5 microns in diameter; SO₂ = sulfur dioxide; tpy = tons per year; VOCs = volatile organic compounds.

$$CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 310)$$

Notes:

The South Coast Air Basin (SCAB) is an extreme nonattainment area for the 8-hour ozone (O₃) National Ambient Air Quality Standards (NAAQS) (VOCs and NO_x are precursors to the formation of O₃), a nonattainment area for Pb, a moderate nonattainment area for PM_{2.5}, and is a serious maintenance area for CO and PM₁₀. Pb emissions factors were not available for the vessel used in the Proposed Action.

NA = Not applicable because the SCAB is currently in attainment of the NAAQS for these criteria pollutants or no emissions factor was available.

ND = No data.

*Total developable land area on the Marine Terminal was divided by 3 for emissions calculations, with one third being developed as ASTs, one third being developed as ancillary uses such as administrative or warehousing (with a FAR of 1.5 assumed, and one third being developed for parking.

Annual Peak Estimated Operational Emissions from the Proposed Project within the SCAQMD - Alternative 2

ND	VOCs	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO ₂ e
Emission Source	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr
Land-based Emissions	2.19	10.97	9.18	0.04	0.40	0.37	3,591.08	1.03	0.00	3,617.59
Vessel Emissions	0.39	10.82	0.86	1.99	0.21	0.19	1,006.65	0.01	0.07	1,027.73
Emissions from Storage Tanks	10.12	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Emissions	12.71	21.79	10.04	2.03	0.61	0.56	4,597.73	1.04	0.07	4,645.32
Significance Thresholds (tons/year)	10	10	100	100	100	100	NA	NA	NA	NA
Exceeds Air Quality Significance Threshold Standards?	Yes	Yes	No	No	No	No	NA	NA	NA	NA

Legend:

CO = carbon monoxide; NO_x = nitrogen oxides; Pb = lead; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter but greater than 2.5 microns in diameter; SO₂ = sulfur dioxide; tpy = tons per year; VOCs = volatile organic compounds.

$$CO_2e = CO_2 + (CH_4 * 25) + (N_2O * 310)$$

Notes:

The South Coast Air Basin (SCAB) is an extreme nonattainment area for the 8-hour ozone (O₃) National Ambient Air Quality Standards (NAAQS) (VOCs and NO_x are precursors to the formation of O₃), a nonattainment area for Pb, a moderate nonattainment area for PM_{2.5}, and is a serious maintenance area for CO and PM₁₀. Pb emissions factors were not available for the vessel used in the Proposed Action.

NA = Not applicable because the SCAB is currently in attainment of the NAAQS for these criteria pollutants or no emissions factor was available.

ND = No data.

Alt 1 Rehabilitation and Operation of Marine and Main Terminals - South Coast Air Basin, Annual

**Alt 1 Rehabilitation and Operation of Marine and Main Terminals
South Coast Air Basin, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	71.78	0.00	0
Unrefrigerated Warehouse-No Rail	0.00	1000sqft	71.76	4,688,798.00	0
Parking Lot	0.00	1000sqft	71.76	3,125,866.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2022
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 - Assuming a multiphase construction happening over 12 months, with operational year beginning in 2022.

Land Use - Assume total lot acreage of 215.3 (207 AC developable-Main Terminal/8.3 AC-Marine Terminal), per Project Description, w/development of ASTs, administrative/warehousing (1.5 FAR), parking.

Construction Phase - Assume 12 months for Main and Marine Terminal construction under potential development scenario, with phase overlap as site prep activities are done in tandem w/construction activities across site.

Off-road Equipment -

Off-road Equipment - Construction equipment estimated based on the maximum construction efforts for this phase.

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Off-road Equipment - Construction equipment estimated based on the maximum construction efforts for this phase.

Trips and VMT - Added estimated work trips, vendor trips, and hauling trips for all phases

Grading - Assume 1/3 of the site area would be graded.

Vehicle Trips - Left default ops trip rate, based on size metric and land use type.

Area Coating -

Energy Use -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Energy Mitigation -

Operational Off-Road Equipment - Up to 40 trucks per day may be on-site for fuel shipments under renewed operations, assumed to be the equivalent of an off-highway truck operating for approximately 8 hours per day on-site.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	4,650.00	195.00
tblConstructionPhase	NumDays	330.00	66.00
tblConstructionPhase	NumDays	180.00	86.00
tblGrading	AcresOfGrading	0.00	71.76
tblLandUse	LandUseSquareFeet	0.00	4,688,798.00
tblLandUse	LandUseSquareFeet	0.00	3,125,866.00
tblLandUse	LotAcreage	0.00	71.78
tblLandUse	LotAcreage	0.00	71.76
tblLandUse	LotAcreage	0.00	71.76
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	6.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	40.00
tblTripsAndVMT	HaulingTripNumber	0.00	15.00
tblTripsAndVMT	HaulingTripNumber	0.00	15.00
tblTripsAndVMT	HaulingTripNumber	0.00	15.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	VendorTripNumber	1,281.00	12.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	53.00	60.00
tblTripsAndVMT	WorkerTripNumber	3,282.00	60.00
tblTripsAndVMT	WorkerTripNumber	45.00	60.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
2021	1.3253	11.8427	9.4436	0.0167	2.4963	0.6125	3.1088	1.3194	0.5692	1.8886	0.0000	1,458.9206	1,458.9206	0.3731	0.0000	1,468.2489
Maximum	1.3253	11.8427	9.4436	0.0167	2.4963	0.6125	3.1088	1.3194	0.5692	1.8886	0.0000	1,458.9206	1,458.9206	0.3731	0.0000	1,468.2489

ND = No data.

Mitigated Construction

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
2021	1.3253	11.8426	9.4436	0.0167	1.0515	0.6125	1.6640	0.5354	0.5692	1.1046	0.0000	1,458.9191	1,458.9191	0.3731	0.0000	1,468.2473
Maximum	1.3253	11.8426	9.4436	0.0167	1.0515	0.6125	1.6640	0.5354	0.5692	1.1046	0.0000	1,458.9191	1,458.9191	0.3731	0.0000	1,468.2473

Percent Reduction	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	57.88	0.00	46.48	59.42	0.00	41.51	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	5.5913	5.5913
2	4-1-2021	6-30-2021	3.3819	3.3819
3	7-1-2021	9-30-2021	1.9589	1.9589
ND	ND	Highest	5.5913	5.5913

2.2 Overall Operational
Unmitigated Operational

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Area	19.3618	0.0000	0.0000	0.0000	ND	0.0000	0.0000	D	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0220	0.2000	0.1680	1.2000e-003	ND	0.0152	0.0152	ND	0.0152	0.0152	0.0000	11,011.8026	11,011.8026	0.2591	0.0567	11,035.1874
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
Offroad	2.7478	20.8713	17.4654	0.0687	ND	0.7590	0.7590	ND	0.6982	0.6982	0.0000	6,033.4349	6,033.4349	1.9513	0.0000	6,082.2183
Waste	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	22.1315	21.0713	17.6334	0.0699	0.0000	0.7742	0.7742	0.0000	0.7134	0.7134	0.0000	17,045.2374	17,045.2374	2.2105	0.0567	17,117.4057

Mitigated Operational

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Area	19.3618	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0220	0.2000	0.1680	1.2000e-003	ND	0.0152	0.0152	ND	0.0152	0.0152	0.0000	11,011.8026	11,011.8026	0.2591	0.0567	11,035.1874
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
Offroad	2.7478	20.8713	17.4654	0.0687	ND	0.7590	0.7590	ND	0.6982	0.6982	0.0000	6,033.4349	6,033.4349	1.9513	0.0000	6,082.2183
Waste	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	22.1315	21.0713	17.6334	0.0699	0.0000	0.7742	0.7742	0.0000	0.7134	0.7134	0.0000	17,045.2374	17,045.2374	2.2105	0.0567	17,117.4057

ND	ROG	NOx	CO	SO2	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	Site Prep\Demolition	Site Preparation	1/1/2021	4/30/2021	5	86	ND
2	AST Installion\ Ancillary Structure Construction	Building Construction	2/1/2021	10/29/2021	5	195	ND
3	Paving \ Parking Lots	Paving	10/1/2021	12/31/2021	5	66	ND

Acres of Grading (Grading Phase): 0

Acres of Paving: 71.76

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Prep\Demolition	Rubber Tired Dozers	9	8.00	247	0.40
Site Prep\Demolition	Tractors/Loaders/Backhoes	12	8.00	97	0.37
AST Installtion\ Ancillary Structure Construction	Cranes	3	7.00	231	0.29
AST Installtion\ Ancillary Structure Construction	Forklifts	9	8.00	89	0.20
AST Installtion\ Ancillary Structure Construction	Generator Sets	3	8.00	84	0.74
AST Installtion\ Ancillary Structure Construction	Tractors/Loaders/Backhoes	9	7.00	97	0.37
AST Installtion\ Ancillary Structure Construction	Welders	3	8.00	46	0.45
Paving \ Parking Lots	Pavers	6	8.00	130	0.42
Paving \ Parking Lots	Paving Equipment	6	8.00	132	0.36
Paving \ Parking Lots	Rollers	6	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Prep\Demolition	21	60.00	12.00	15.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
AST Installtion\ Ancillary Structure Construction	27	60.00	12.00	15.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving \ Parking Lots	18	60.00	12.00	15.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Prep\Demolition - 2021

Unmitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Fugitive Dust	ND	ND	ND	ND	2.3686	0.0000	2.3686	1.2852	0.0000	1.2852	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5016	5.2241	2.7289	4.9000e-003	ND	0.2637	0.2637	ND	0.2426	0.2426	0.0000	431.3208	431.3208	0.1395	0.0000	434.8082
Total	0.5016	5.2241	2.7289	4.9000e-003	2.3686	0.2637	2.6323	1.2852	0.2426	1.5278	0.0000	431.3208	431.3208	0.1395	0.0000	434.8082

Unmitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	6.0000e-005	2.0100e-003	4.4000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5629	0.5629	4.0000e-005	0.0000	0.5639
Vendor	1.4800e-003	0.0502	0.0127	1.3000e-004	3.2500e-003	1.0000e-004	3.3500e-003	9.4000e-004	1.0000e-004	1.0400e-003	0.0000	12.5288	12.5288	8.1000e-004	0.0000	12.5490
Worker	0.0107	7.9600e-003	0.0900	2.7000e-004	0.0283	2.1000e-004	0.0285	7.5200e-003	2.0000e-004	7.7100e-003	0.0000	24.6816	24.6816	6.6000e-004	0.0000	24.6982
Total	0.0123	0.0602	0.1032	4.1000e-004	0.0317	3.2000e-004	0.0320	8.5000e-003	3.1000e-004	8.7900e-003	0.0000	37.7733	37.7733	1.5100e-003	0.0000	37.8111

Mitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Fugitive Dust	ND	ND	ND	ND	0.9238	0.0000	0.9238	0.5012	0.0000	0.5012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5016	5.2241	2.7289	4.9000e-003	ND	0.2637	0.2637	ND	0.2426	0.2426	0.0000	431.3202	431.3202	0.1395	0.0000	434.8077
Total	0.5016	5.2241	2.7289	4.9000e-003	0.9238	0.2637	1.1875	0.5012	0.2426	0.7439	0.0000	431.3202	431.3202	0.1395	0.0000	434.8077

Mitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	6.0000e-005	2.0100e-003	4.4000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5629	0.5629	4.0000e-005	0.0000	0.5639
Vendor	1.4800e-003	0.0502	0.0127	1.3000e-004	3.2500e-003	1.0000e-004	3.3500e-003	9.4000e-004	1.0000e-004	1.0400e-003	0.0000	12.5288	12.5288	8.1000e-004	0.0000	12.5490
Worker	0.0107	7.9600e-003	0.0900	2.7000e-004	0.0283	2.1000e-004	0.0285	7.5200e-003	2.0000e-004	7.7100e-003	0.0000	24.6816	24.6816	6.6000e-004	0.0000	24.6982
Total	0.0123	0.0602	0.1032	4.1000e-004	0.0317	3.2000e-004	0.0320	8.5000e-003	3.1000e-004	8.7900e-003	0.0000	37.7733	37.7733	1.5100e-003	0.0000	37.8111

3.3 AST Installtion\ Ancillary Structure Construction - 2021

Unmitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	0.5560	5.0989	4.8482	7.8700e-003	ND	0.2804	0.2804	ND	0.2636	0.2636	0.0000	677.5390	677.5390	0.1635	0.0000	681.6255
Total	0.5560	5.0989	4.8482	7.8700e-003	ND	0.2804	0.2804	ND	0.2636	0.2636	0.0000	677.5390	677.5390	0.1635	0.0000	681.6255

Unmitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	6.0000e-005	2.0100e-003	4.4000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5629	0.5629	4.0000e-005	0.0000	0.5639
Vendor	3.3600e-003	0.1138	0.0288	2.9000e-004	7.3700e-003	2.3000e-004	7.6100e-003	2.1300e-003	2.2000e-004	2.3500e-003	0.0000	28.4084	28.4084	1.8300e-003	0.0000	28.4542
Worker	0.0243	0.0180	0.2042	6.2000e-004	0.0642	4.8000e-004	0.0647	0.0171	4.5000e-004	0.0175	0.0000	55.9641	55.9641	1.5100e-003	0.0000	56.0018
Total	0.0277	0.1339	0.2334	9.2000e-004	0.0717	7.2000e-004	0.0724	0.0192	6.8000e-004	0.0199	0.0000	84.9354	84.9354	3.3800e-003	0.0000	85.0198

Mitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	0.5560	5.0989	4.8482	7.8700e-003	ND	0.2804	0.2804	ND	0.2636	0.2636	0.0000	677.5382	677.5382	0.1635	0.0000	681.6247
Total	0.5560	5.0989	4.8482	7.8700e-003	ND	0.2804	0.2804	ND	0.2636	0.2636	0.0000	677.5382	677.5382	0.1635	0.0000	681.6247

Mitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	6.0000e-005	2.0100e-003	4.4000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5629	0.5629	4.0000e-005	0.0000	0.5639
Vendor	3.3600e-003	0.1138	0.0288	2.9000e-004	7.3700e-003	2.3000e-004	7.6100e-003	2.1300e-003	2.2000e-004	2.3500e-003	0.0000	28.4084	28.4084	1.8300e-003	0.0000	28.4542
Worker	0.0243	0.0180	0.2042	6.2000e-004	0.0642	4.8000e-004	0.0647	0.0171	4.5000e-004	0.0175	0.0000	55.9641	55.9641	1.5100e-003	0.0000	56.0018
Total	0.0277	0.1339	0.2334	9.2000e-004	0.0717	7.2000e-004	0.0724	0.0192	6.8000e-004	0.0199	0.0000	84.9354	84.9354	3.3800e-003	0.0000	85.0198

3.4 Paving \ Parking Lots - 2021

Unmitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	0.1243	1.2790	1.4507	2.2600e-003	ND	0.0671	0.0671	ND	0.0617	0.0617	0.0000	198.2325	198.2325	0.0641	0.0000	199.8353
Paving	0.0940	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.2183	1.2790	1.4507	2.2600e-003	ND	0.0671	0.0671	ND	0.0617	0.0617	0.0000	198.2325	198.2325	0.0641	0.0000	199.8353

Unmitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	6.0000e-005	2.0100e-003	4.4000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5629	0.5629	4.0000e-005	0.0000	0.5639
Vendor	1.1400e-003	0.0385	9.7400e-003	1.0000e-004	2.5000e-003	8.0000e-005	2.5700e-003	7.2000e-004	8.0000e-005	8.0000e-004	0.0000	9.6151	9.6151	6.2000e-004	0.0000	9.6306
Worker	8.2300e-003	6.1100e-003	0.0691	2.1000e-004	0.0217	1.6000e-004	0.0219	5.7700e-003	1.5000e-004	5.9200e-003	0.0000	18.9417	18.9417	5.1000e-004	0.0000	18.9545
Total	9.4300e-003	0.0466	0.0793	3.2000e-004	0.0244	2.5000e-004	0.0246	6.5300e-003	2.4000e-004	6.7600e-003	0.0000	29.1197	29.1197	1.1700e-003	0.0000	29.1490

Mitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	0.1243	1.2790	1.4507	2.2600e-003	ND	0.0671	0.0671	ND	0.0617	0.0617	0.0000	198.2322	198.2322	0.0641	0.0000	199.8350
Paving	0.0940	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.2183	1.2790	1.4507	2.2600e-003	ND	0.0671	0.0671	ND	0.0617	0.0617	0.0000	198.2322	198.2322	0.0641	0.0000	199.8350

Mitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	6.0000e-005	2.0100e-003	4.4000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5629	0.5629	4.0000e-005	0.0000	0.5639
Vendor	1.1400e-003	0.0385	9.7400e-003	1.0000e-004	2.5000e-003	8.0000e-005	2.5700e-003	7.2000e-004	8.0000e-005	8.0000e-004	0.0000	9.6151	9.6151	6.2000e-004	0.0000	9.6306
Worker	8.2300e-003	6.1100e-003	0.0691	2.1000e-004	0.0217	1.6000e-004	0.0219	5.7700e-003	1.5000e-004	5.9200e-003	0.0000	18.9417	18.9417	5.1000e-004	0.0000	18.9545
Total	9.4300e-003	0.0466	0.0793	3.2000e-004	0.0244	2.5000e-004	0.0246	6.5300e-003	2.4000e-004	6.7600e-003	0.0000	29.1197	29.1197	1.1700e-003	0.0000	29.1490

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/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

ND Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
General Light Industry	0.00	0.00	0.00	ND	ND
Parking Lot	0.00	0.00	0.00	ND	ND
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	ND	ND
Total	0.00	0.00	0.00	ND	ND

4.3 Trip Type Information

ND	Miles			Trip %			Trip Purpose %		
	Land Use	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
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Parking Lot	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Unrefrigerated Warehouse-No Rail	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Electricity Mitigated	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	10,794.1180	10,794.1180	0.2549	0.0527	10,816.2093
Electricity Unmitigated	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	10,794.1180	10,794.1180	0.2549	0.0527	10,816.2093
NaturalGas Mitigated	0.0220	0.2000	0.1680	1.2000e-003	ND	0.0152	0.0152	ND	0.0152	0.0152	0.0000	217.6845	217.6845	4.1700e-003	3.9900e-003	218.9781
NaturalGas Unmitigated	0.0220	0.2000	0.1680	1.2000e-003	ND	0.0152	0.0152	ND	0.0152	0.0152	0.0000	217.6845	217.6845	4.1700e-003	3.9900e-003	218.9781

5.2 Energy by Land Use - NaturalGas

Unmitigated

ND	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse- No Rail	4.07925e+006	0.0220	0.2000	0.1680	1.2000e-003	ND	0.0152	0.0152	ND	0.0152	0.0152	0.0000	217.6845	217.6845	4.1700e-003	3.9900e-003	218.9781
Total	ND	0.0220	0.2000	0.1680	1.2000e-003	ND	0.0152	0.0152	ND	0.0152	0.0152	0.0000	217.6845	217.6845	4.1700e-003	3.9900e-003	218.9781

Mitigated

ND	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/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse- No Rail	4.07925e+006	0.0220	0.2000	0.1680	1.2000e-003	ND	0.0152	0.0152	ND	0.0152	0.0152	0.0000	217.6845	217.6845	4.1700e-003	3.9900e-003	218.9781
Total	ND	0.0220	0.2000	0.1680	1.2000e-003	ND	0.0152	0.0152	ND	0.0152	0.0152	0.0000	217.6845	217.6845	4.1700e-003	3.9900e-003	218.9781

5.3 Energy by Land Use - Electricity

Unmitigated

ND	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1.09405e+006	609.3455	0.0144	2.9800e-003	610.5926
Unrefrigerated Warehouse-No Rail	1.82863e+007	10,184.7725	0.2405	0.0498	10,205.6167
Total	ND	10,794.1180	0.2549	0.0528	10,816.2093

6.2 Area by SubCategory

Unmitigated

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	
Architectural Coating	2.2167	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	17.1450	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	19.3618	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	
Architectural Coating	2.2167	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	17.1450	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	19.3618	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

7.1 Mitigation Measures Water

ND	Total CO2	CH4	N2O	CO2e
Category	MT/yr	MT/yr	MT/yr	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

ND	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total	ND	0.0000	0.0000	0.0000	0.0000

Mitigated

ND	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total	ND	0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

ND	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse No Rail	0	0.0000	0.0000	0.0000	0.0000
Total	ND	0.0000	0.0000	0.0000	0.0000

Mitigated

ND	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse- No Rail	0	0.0000	0.0000	0.0000	0.0000
Total	ND	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
Off-Highway Trucks	40	8.00	260	402	0.38	Diesel

UnMitigated/Mitigated

ND	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Highway Trucks	2.7478	20.8713	17.4654	0.0687	ND	0.7590	0.7590	ND	0.6982	0.6982	0.0000	6,033.4349	6,033.4349	1.9513	0.0000	6,082.2183
Total	2.7478	20.8713	17.4654	0.0687	ND	0.7590	0.7590	ND	0.6982	0.6982	0.0000	6,033.4349	6,033.4349	1.9513	0.0000	6,082.2183

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

Alt 2 Rehabilitation and Operation of Marine Terminal - South Coast Air Basin, Annual

**Alt 2 Rehabilitation and Operation of Marine Terminal
South Coast Air Basin, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	2.78	0.00	0
Unrefrigerated Warehouse-No Rail	0.00	1000sqft	2.76	180,338.40	0
Parking Lot	0.00	1000sqft	2.76	120,225.60	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	11			Operational Year	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume construction of the Marine Terminal occurs within 12 months.

Land Use - Assume total lot acreage of (8.3 AC-Marine Terminal), per Project Description, w/development of ASTs, administrative/warehousing (1.5 FAR), parking.

Construction Phase - Assume 12 months for Marine Terminal construction under potential development scenario, with phase overlap as site prep activities are done in tandem w/construction activities across site.

Off-road Equipment - Assumed Maximum number of equipment and usage to rehabilitate the Marine Terminal.

Off-road Equipment - 1 Grader, 1 Water Truck, 1 Mower, and 1 Pick up truck.

Off-road Equipment -

Off-road Equipment - Assumed default Site Prep Equipment.

Trips and VMT - Added estimated work trips, vendor trips, and hauling trips for all phases

Grading - Assumed the entire Marine Terminal Area could be graded in order to rehabilitate and construct new AST and Ancillary Buildings.

Vehicle Trips -

Energy Use -

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Up to 10 trucks per day may be on-site for fuel shipments under renewed operations, assumed to be the equivalent of an off-highway truck operating for approximately 8 hours per day on-site.

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	176.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	10.00	86.00
tblConstructionPhase	PhaseEndDate	12/2/2021	11/1/2021
tblConstructionPhase	PhaseEndDate	12/30/2021	1/14/2022
tblConstructionPhase	PhaseEndDate	1/14/2021	4/30/2021
tblConstructionPhase	PhaseStartDate	1/15/2021	3/1/2021
tblConstructionPhase	PhaseStartDate	12/3/2021	10/15/2021
tblGrading	AcresOfGrading	0.00	8.30
tblLandUse	LandUseSquareFeet	0.00	180,338.40
tblLandUse	LandUseSquareFeet	0.00	120,225.60
tblLandUse	LotAcreage	0.00	2.78
tblLandUse	LotAcreage	0.00	2.76
tblLandUse	LotAcreage	0.00	2.76
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	21.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	49.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	126.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	20.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
2021	0.3883	3.7262	2.9095	5.1800e-003	0.8213	0.1917	1.0130	0.4382	0.1781	0.6163	0.0000	453.9392	453.9392	0.1159	0.0000	456.8370
2022	6.5200e-003	0.0583	0.0767	1.3000e-004	1.2900e-003	2.8500e-003	4.1400e-003	3.5000e-004	2.6200e-003	2.9700e-003	0.0000	11.5659	11.5659	3.3000e-003	0.0000	11.6485
Maximum	0.3883	3.7262	2.9095	5.1800e-003	0.8213	0.1917	1.0130	0.4382	0.1781	0.6163	0.0000	453.9392	453.9392	0.1159	0.0000	456.8370

ND = No data.

Mitigated Construction

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
2021	0.3883	3.7262	2.9095	5.1800e-003	0.3447	0.1917	0.5364	0.1775	0.1781	0.3555	0.0000	453.9387	453.9387	0.1159	0.0000	456.8365
2022	6.5200e-003	0.0583	0.0767	1.3000e-004	1.2900e-003	2.8500e-003	4.1400e-003	3.5000e-004	2.6200e-003	2.9700e-003	0.0000	11.5659	11.5659	3.3000e-003	0.0000	11.6484
Maximum	0.3883	3.7262	2.9095	5.1800e-003	0.3447	0.1917	0.5364	0.1775	0.1781	0.3555	0.0000	453.9387	453.9387	0.1159	0.0000	456.8365

ND	ROG	NOx	CO	SO2	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	57.94	0.00	46.86	59.46	0.00	42.11	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	1.6692	1.6692
2	4-1-2021	6-30-2021	1.1316	1.1316
3	7-1-2021	9-30-2021	0.6562	0.6562
4	10-1-2021	12-31-2021	0.6449	0.6449
5	1-1-2022	3-31-2022	0.0648	0.0648
ND	ND	Highest	1.6692	1.6692

2.2 Overall Operational

Unmitigated Operational

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Area	0.7447	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005	ND	5.8000e-004	5.8000e-004	ND	5.8000e-004	5.8000e-004	0.0000	423.5309	423.5309	9.9700e-003	2.1800e-003	424.4303
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
Offroad	1.4426	10.9574	9.1693	0.0361	ND	0.3985	0.3985	ND	0.3666	0.3666	0.0000	3,167.5533	3,167.5533	1.0245	0.0000	3,193.1646
Waste	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.1881	10.9651	9.1758	0.0361	0.0000	0.3990	0.3990	0.0000	0.3672	0.3672	0.0000	3,591.0842	3,591.0842	1.0344	2.1800e-003	3,617.5949

Mitigated Operational

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Area	0.7447	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005	ND	5.8000e-004	5.8000e-004	ND	5.8000e-004	5.8000e-004	0.0000	423.5309	423.5309	9.9700e-003	2.1800e-003	424.4303
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
Offroad	1.4426	10.9574	9.1693	0.0361	ND	0.3985	0.3985	ND	0.3666	0.3666	0.0000	3,167.5533	3,167.5533	1.0245	0.0000	3,193.1646
Waste	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.1881	10.9651	9.1758	0.0361	0.0000	0.3990	0.3990	0.0000	0.3672	0.3672	0.0000	3,591.0842	3,591.0842	1.0344	2.1800e-003	3,617.5949

ND	ROG	NOx	CO	SO2	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	Site Preparation\Demolition	Site Preparation	1/1/2021	4/30/2021	5	86	ND
2	AST Installtion\ Ancillary Structure Construction	Building Construction	3/1/2021	11/1/2021	5	176	ND
3	Paving	Paving	10/15/2021	1/14/2022	5	60	ND

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.76

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation\Demolition	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation\Demolition	Tractors/Loaders/Backhoes	4	8.00	97	0.37
AST Installation\ Ancillary Structure Construction	Cranes	1	7.00	231	0.29
AST Installation\ Ancillary Structure Construction	Forklifts	3	8.00	89	0.20
AST Installation\ Ancillary Structure Construction	Generator Sets	1	8.00	84	0.74
AST Installation\ Ancillary Structure Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
AST Installation\ Ancillary Structure Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation\Demolition	7	20.00	5.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
AST Installation\ Ancillary Structure Construction	9	20.00	5.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	20.00	5.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation\Demolition - 2021

Unmitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Fugitive Dust	ND	ND	ND	ND	0.7813	0.0000	0.7813	0.4275	0.0000	0.4275	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1672	1.7414	0.9096	1.6300e-003	ND	0.0879	0.0879	ND	0.0809	0.0809	0.0000	143.7736	143.7736	0.0465	0.0000	144.9361
Total	0.1672	1.7414	0.9096	1.6300e-003	0.7813	0.0879	0.8692	0.4275	0.0809	0.5084	0.0000	143.7736	143.7736	0.0465	0.0000	144.9361

Unmitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	2.0000e-005	6.7000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1876	0.1876	1.0000e-005	0.0000	0.1880
Vendor	6.2000e-004	0.0209	5.2900e-003	5.0000e-005	1.3500e-003	4.0000e-005	1.4000e-003	3.9000e-004	4.0000e-005	4.3000e-004	0.0000	5.2203	5.2203	3.4000e-004	0.0000	5.2288
Worker	3.5700e-003	2.6500e-003	0.0300	9.0000e-005	9.4400e-003	7.0000e-005	9.5100e-003	2.5100e-003	7.0000e-005	2.5700e-003	0.0000	8.2272	8.2272	2.2000e-004	0.0000	8.2327
Total	4.2100e-003	0.0242	0.0355	1.4000e-004	0.0108	1.1000e-004	0.0110	2.9100e-003	1.1000e-004	3.0100e-003	0.0000	13.6352	13.6352	5.7000e-004	0.0000	13.6495

Mitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Fugitive Dust	ND	ND	ND	ND	0.3047	0.0000	0.3047	0.1667	0.0000	0.1667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1672	1.7414	0.9096	1.6300e-003	ND	0.0879	0.0879	ND	0.0809	0.0809	0.0000	143.7734	143.7734	0.0465	0.0000	144.9359
Total	0.1672	1.7414	0.9096	1.6300e-003	0.3047	0.0879	0.3926	0.1667	0.0809	0.2476	0.0000	143.7734	143.7734	0.0465	0.0000	144.9359

Mitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	2.0000e-005	6.7000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1876	0.1876	1.0000e-005	0.0000	0.1880
Vendor	6.2000e-004	0.0209	5.2900e-003	5.0000e-005	1.3500e-003	4.0000e-005	1.4000e-003	3.9000e-004	4.0000e-005	4.3000e-004	0.0000	5.2203	5.2203	3.4000e-004	0.0000	5.2288
Worker	3.5700e-003	2.6500e-003	0.0300	9.0000e-005	9.4400e-003	7.0000e-005	9.5100e-003	2.5100e-003	7.0000e-005	2.5700e-003	0.0000	8.2272	8.2272	2.2000e-004	0.0000	8.2327
Total	4.2100e-003	0.0242	0.0355	1.4000e-004	0.0108	1.1000e-004	0.0110	2.9100e-003	1.1000e-004	3.0100e-003	0.0000	13.6352	13.6352	5.7000e-004	0.0000	13.6495

3.3 AST Installion\ Ancillary Structure Construction - 2021

Unmitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	0.1673	1.5340	1.4586	2.3700e-003	ND	0.0844	0.0844	ND	0.0793	0.0793	0.0000	203.8408	203.8408	0.0492	0.0000	205.0703
Total	0.1673	1.5340	1.4586	2.3700e-003	ND	0.0844	0.0844	ND	0.0793	0.0793	0.0000	203.8408	203.8408	0.0492	0.0000	205.0703

Unmitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	2.0000e-005	6.7000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1876	0.1876	1.0000e-005	0.0000	0.1880
Vendor	1.2600e-003	0.0428	0.0108	1.1000e-004	2.7700e-003	9.0000e-005	2.8600e-003	8.0000e-004	8.0000e-005	8.8000e-004	0.0000	10.6835	10.6835	6.9000e-004	0.0000	10.7007
Worker	7.3100e-003	5.4300e-003	0.0614	1.9000e-004	0.0193	1.5000e-004	0.0195	5.1300e-003	1.3000e-004	5.2600e-003	0.0000	16.8371	16.8371	4.5000e-004	0.0000	16.8484
Total	8.5900e-003	0.0489	0.0724	3.0000e-004	0.0221	2.4000e-004	0.0224	5.9400e-003	2.1000e-004	6.1500e-003	0.0000	27.7082	27.7082	1.1500e-003	0.0000	27.7371

Mitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	0.1673	1.5340	1.4586	2.3700e-003	ND	0.0844	0.0844	ND	0.0793	0.0793	0.0000	203.8406	203.8406	0.0492	0.0000	205.0700
Total	0.1673	1.5340	1.4586	2.3700e-003	ND	0.0844	0.0844	ND	0.0793	0.0793	0.0000	203.8406	203.8406	0.0492	0.0000	205.0700

Mitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	2.0000e-005	6.7000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1876	0.1876	1.0000e-005	0.0000	0.1880
Vendor	1.2600e-003	0.0428	0.0108	1.1000e-004	2.7700e-003	9.0000e-005	2.8600e-003	8.0000e-004	8.0000e-005	8.8000e-004	0.0000	10.6835	10.6835	6.9000e-004	0.0000	10.7007
Worker	7.3100e-003	5.4300e-003	0.0614	1.9000e-004	0.0193	1.5000e-004	0.0195	5.1300e-003	1.3000e-004	5.2600e-003	0.0000	16.8371	16.8371	4.5000e-004	0.0000	16.8484
Total	8.5900e-003	0.0489	0.0724	3.0000e-004	0.0221	2.4000e-004	0.0224	5.9400e-003	2.1000e-004	6.1500e-003	0.0000	27.7082	27.7082	1.1500e-003	0.0000	27.7371

3.4 Paving - 2021

Unmitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	0.0352	0.3617	0.4103	6.4000e-004	ND	0.0190	0.0190	ND	0.0175	0.0175	0.0000	56.0657	56.0657	0.0181	0.0000	56.5191
Paving	3.0700e-003	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0382	0.3617	0.4103	6.4000e-004	ND	0.0190	0.0190	ND	0.0175	0.0175	0.0000	56.0657	56.0657	0.0181	0.0000	56.5191

Unmitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	2.0000e-005	5.7000e-004	1.2000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1592	0.1592	1.0000e-005	0.0000	0.1595
Vendor	4.0000e-004	0.0136	3.4400e-003	4.0000e-005	8.8000e-004	3.0000e-005	9.1000e-004	2.5000e-004	3.0000e-005	2.8000e-004	0.0000	3.3993	3.3993	2.2000e-004	0.0000	3.4048
Worker	2.3300e-003	1.7300e-003	0.0195	6.0000e-005	6.1400e-003	5.0000e-005	6.1900e-003	1.6300e-003	4.0000e-005	1.6700e-003	0.0000	5.3573	5.3573	1.4000e-004	0.0000	5.3609
Total	2.7500e-003	0.0159	0.0231	1.0000e-004	7.0600e-003	8.0000e-005	7.1400e-003	1.8900e-003	7.0000e-005	1.9600e-003	0.0000	8.9157	8.9157	3.7000e-004	0.0000	8.9251

Mitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	0.0352	0.3617	0.4103	6.4000e-004	ND	0.0190	0.0190	ND	0.0175	0.0175	0.0000	56.0657	56.0657	0.0181	0.0000	56.5190
Paving	3.0700e-003	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0382	0.3617	0.4103	6.4000e-004	ND	0.0190	0.0190	ND	0.0175	0.0175	0.0000	56.0657	56.0657	0.0181	0.0000	56.5190

Mitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	2.0000e-005	5.7000e-004	1.2000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1592	0.1592	1.0000e-005	0.0000	0.1595
Vendor	4.0000e-004	0.0136	3.4400e-003	4.0000e-005	8.8000e-004	3.0000e-005	9.1000e-004	2.5000e-004	3.0000e-005	2.8000e-004	0.0000	3.3993	3.3993	2.2000e-004	0.0000	3.4048
Worker	2.3300e-003	1.7300e-003	0.0195	6.0000e-005	6.1400e-003	5.0000e-005	6.1900e-003	1.6300e-003	4.0000e-005	1.6700e-003	0.0000	5.3573	5.3573	1.4000e-004	0.0000	5.3609
Total	2.7500e-003	0.0159	0.0231	1.0000e-004	7.0600e-003	8.0000e-005	7.1400e-003	1.8900e-003	7.0000e-005	1.9600e-003	0.0000	8.9157	8.9157	3.7000e-004	0.0000	8.9251

3.4 Paving - 2022

Unmitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	5.5100e-003	0.0556	0.0729	1.1000e-004	ND	2.8400e-003	2.8400e-003	ND	2.6100e-003	2.6100e-003	0.0000	10.0138	10.0138	3.2400e-003	0.0000	10.0948
Paving	5.5000e-004	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.0600e-003	0.0556	0.0729	1.1000e-004	ND	2.8400e-003	2.8400e-003	ND	2.6100e-003	2.6100e-003	0.0000	10.0138	10.0138	3.2400e-003	0.0000	10.0948

Unmitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0281	0.0281	0.0000	0.0000	0.0281
Vendor	7.0000e-005	2.3100e-003	5.8000e-004	1.0000e-005	1.6000e-004	0.0000	1.6000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.6017	0.6017	4.0000e-005	0.0000	0.6026
Worker	3.9000e-004	2.8000e-004	3.2200e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.9224	0.9224	2.0000e-005	0.0000	0.9230
Total	4.6000e-004	2.6800e-003	3.8200e-003	2.0000e-005	1.2900e-003	1.0000e-005	1.3000e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.5521	1.5521	6.0000e-005	0.0000	1.5537

Mitigated Construction On-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Road	5.5100e-003	0.0556	0.0729	1.1000e-004	ND	2.8400e-003	2.8400e-003	ND	2.6100e-003	2.6100e-003	0.0000	10.0138	10.0138	3.2400e-003	0.0000	10.0947
Paving	5.5000e-004	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.0600e-003	0.0556	0.0729	1.1000e-004	ND	2.8400e-003	2.8400e-003	ND	2.6100e-003	2.6100e-003	0.0000	10.0138	10.0138	3.2400e-003	0.0000	10.0947

Mitigated Construction Off-Site

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Hauling	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0281	0.0281	0.0000	0.0000	0.0281
Vendor	7.0000e-005	2.3100e-003	5.8000e-004	1.0000e-005	1.6000e-004	0.0000	1.6000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.6017	0.6017	4.0000e-005	0.0000	0.6026
Worker	3.9000e-004	2.8000e-004	3.2200e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.9224	0.9224	2.0000e-005	0.0000	0.9230
Total	4.6000e-004	2.6800e-003	3.8200e-003	2.0000e-005	1.2900e-003	1.0000e-005	1.3000e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.5521	1.5521	6.0000e-005	0.0000	1.5537

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/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

ND	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Land Use	Weekday	Saturday		
General Light Industry		0.00	0.00	0.00	ND
Unrefrigerated Warehouse-No Rail		0.00	0.00	0.00	ND
Parking Lot		0.00	0.00	0.00	ND
Total		0.00	0.00	0.00	ND

4.3 Trip Type Information

ND	Miles			Trip %			Trip Purpose %		
	Land Use	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
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Parking Lot	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
General Light Industry	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Unrefrigerated Warehouse-No Rail	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Parking Lot	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

ND	ROG	NOx	CO	SO2	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	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Electricity Mitigated	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	415.1584	415.1584	9.8100e-003	2.0300e-003	416.0081
Electricity Unmitigated	ND	ND	ND	ND	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	415.1584	415.1584	9.8100e-003	2.0300e-003	416.0081
NaturalGas Mitigated	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005	ND	5.8000e-004	5.8000e-004	ND	5.8000e-004	5.8000e-004	0.0000	8.3725	8.3725	1.6000e-004	1.5000e-004	8.4222
NaturalGas Unmitigated	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005	ND	5.8000e-004	5.8000e-004	ND	5.8000e-004	5.8000e-004	0.0000	8.3725	8.3725	1.6000e-004	1.5000e-004	8.4222

5.2 Energy by Land Use - NaturalGas

Unmitigated

ND	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	NOx	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	156894	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005	ND	5.8000e-004	5.8000e-004	ND	5.8000e-004	5.8000e-004	0.0000	8.3725	8.3725	1.6000e-004	1.5000e-004	8.4222
Total	ND	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005	ND	5.8000e-004	5.8000e-004	ND	5.8000e-004	5.8000e-004	0.0000	8.3725	8.3725	1.6000e-004	1.5000e-004	8.4222

Mitigated

ND	Natural Gas 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	NOx	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	ND	0.0000	0.0000	ND	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	156894	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005	ND	5.8000e-004	5.8000e-004	ND	5.8000e-004	5.8000e-004	0.0000	8.3725	8.3725	1.6000e-004	1.5000e-004	8.4222
Total	ND	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005	ND	5.8000e-004	5.8000e-004	ND	5.8000e-004	5.8000e-004	0.0000	8.3725	8.3725	1.6000e-004	1.5000e-004	8.4222

5.3 Energy by Land Use - Electricity

Unmitigated

ND	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	42079	23.4364	5.5000e-004	1.1000e-004	23.4843
Unrefrigerated Warehouse-No Rail	703320	391.7221	9.2500e-003	1.9100e-003	392.5238
Total	ND	415.1584	9.8000e-003	2.0200e-003	416.0081

Mitigated

ND	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	42079	23.4364	5.5000e-004	1.1000e-004	23.4843
Unrefrigerated Warehouse-No Rail	703320	391.7221	9.2500e-003	1.9100e-003	392.5238
Total	ND	415.1584	9.8000e-003	2.0200e-003	416.0081

7.0 Water Detail

7.1 Mitigation Measures Water

ND	Total CO2	CH4	N2O	CO2e
Category	MT/yr	MT/yr	MT/yr	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

ND	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total	ND	0.0000	0.0000	0.0000	0.0000

Mitigated

ND	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total	ND	0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

ND	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total	ND	0.0000	0.0000	0.0000	0.0000

Mitigated

ND	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr	MT/yr	MT/yr	MT/yr
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total	ND	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
Off-Highway Trucks	21	8.00	260	402	0.38	Diesel

UnMitigated/Mitigated

ND	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr	MT/yr
Off-Highway Trucks	1.4426	10.9574	9.1693	0.0361	ND	0.3985	0.3985	ND	0.3666	0.3666	0.0000	3,167.5533	3,167.5533	1.0245	0.0000	3,193.1646
Total	1.4426	10.9574	9.1693	0.0361	ND	0.3985	0.3985	ND	0.3666	0.3666	0.0000	3,167.5533	3,167.5533	1.0245	0.0000	3,193.1646

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

TANKS 4.0.9d
Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification	Input
User Identification:	Tank Type 2: 280 Dia Tank - Jet kerosene
City:	Los Angeles AP
State:	California
Company:	No data (ND)
Type of Tank:	Internal Floating Roof Tank
Description:	280' diameter tank, 50' tall

Tank Dimensions	Input
Diameter (ft):	280
Volume (gallons):	23,016,000.00
Turnovers:	4.00
Self Supp. Roof? (y/n):	N
No. of Columns:	49.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics	Input
Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition:	White/White
Roof Condition:	Good

Rim Seal System	Input
Primary Seal:	Mechanical Shoe
Secondary Seal:	Shoe-mounted

Deck Characteristics	Input
Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	49
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	164
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Los Angeles AP, California (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format

Liquid Contents of Storage Tank

Tank Type 2: 280 Dia Tank - Jet kerosene - Internal Floating Roof Tank
Los Angeles AP, California

Mixture/Component
Jet kerosene

Daily Liquid Surf. Temperature (deg. F)	Value
Month:	All
Avg:	65.10
Min:	60.53
Max:	69.97
Liquid Bulk Temp (deg. F):	62.97

Vapor Pressure (psia)	Value
Avg:	0.0098
Min:	Not applicable
Max:	Not applicable

Vapor Mol. Weight	130.0000
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Liquid Mass Fract.	No data
Vapor Mass Fract.	No data
Mol. Weight	162.00

Basis for Vapor Pressure Calculations: Option 1: VP60 = 0.0085 VP70 = 0.011

TANKS 4.0.9d
Emissions Report - Detail Format

Detail Calculations (AP-42)

Tank Type 2: 280 Dia Tank - Jet kerosene
Los Angeles AP, California

Annual Emissions Calculations	Value
Rim Seal Losses (lb):	9.7028
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0002
Vapor Pressure at Daily Average Liquid Surface Temp (psia)	0.0098
Tank Diameter (ft):	280.0000
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	91.0797
Number of Columns:	49.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	92,064,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	7.0000
Tank Diameter (ft):	280.0000
Deck Fitting Losses (lb):	81.0615
Value of Vapor Pressure Function:	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	3,742.8000
Deck Seam Losses (lb.)	0.0000
Deck Seam Length (ft.)	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000
Tank Diameter (ft):	280.0000
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Total Losses (lb):	181.8439

Roof Fitting/Status:	Quantity	Kfa (lb-mole/yr)	Roof Fitting Loss Factors (KFb (lb-mole)/(yr mph^n))	m	Losses (lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	0.7797
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	0.3032
Column Well (24-in. Diam.) Built-Up Col.-Sliding Cover, Ungask.	49	47.00	0.00	0.00	49.8783
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	76.00	0.00	0.00	1.6460
Roof Leg or Hanger Well/Adjustable	164	7.90	0.00	0.00	28.0601
Sample Pipe or Well (24-in. Diam.) Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	0.2599
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	0.1343

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: Annual

Tank Type 2: 280 Dia Tank - Jet kerosene - Internal Floating Roof Tank
Los Angeles AP, California

Components: Jet Kerosene

Losses (lb)	Value
Rim Seal Loss	9.70
Withdrawal Loss	91.08
Deck Fitting Loss	81.06
Deck Seam Loss	0.00
Total Emissions	181.84

TANKS 4.0.9d
Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification	Input
User Identification:	Tank Type 3: 280 Dia Tank - Gas RVP 7
City:	Los Angeles AP
State:	California
Company:	No data (ND)
Type of Tank:	Internal Floating Roof Tank
Description:	280' diameter tank, 50' tall

Tank Dimensions	Input
Diameter (ft):	280
Volume (gallons):	23,016,000.00
Turnovers:	4.00
Self Supp. Roof? (y/n):	N
No. of Columns:	49.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics	Input
Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition:	White/White
Roof Condition:	Good

Rim Seal System	Input
Primary Seal:	Mechanical Shoe
Secondary Seal:	Shoe-mounted

Deck Characteristics	Input
Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	49
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	164
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Los Angeles AP, California (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format

Liquid Contents of Storage Tank

Tank Type 3: 280 Dia Tank - Gas RVP7 - Internal Floating Roof Tank
Los Angeles AP, California

Mixture/Component
Gasoline (RVP 7)

Daily Liquid Surf. Temperature (deg. F)	Value
Month:	All
Avg:	65.10
Min:	60.53
Max:	69.97
Liquid Bulk Temp (deg. F):	62.97

Vapor Pressure (psia)	Value
Avg:	3.8624
Min:	Not applicable
Max:	Not applicable

Vapor Mol. Weight	68.0000
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Liquid Mass Fract.	No data
Vapor Mass Fract.	No data
Mol. Weight	92.00

Basis for Vapor Pressure Calculations: Option 4: RVP=7, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format

Detail Calculations (AP-42)

Tank Type 3: 280 Dia Tank - Gas RVP7 - Internal Floating Roof Tank
Los Angeles AP, California

Annual Emissions Calculations	Value
Rim Seal Losses (lb):	2,321.8317
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0762
Vapor Pressure at Daily Average Liquid Surface Temp (psia)	3.8624
Tank Diameter (ft):	280.0000
Vapor Molecular Weight (lb/lb-mole):	68.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	72.8637
Number of Columns:	49.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	92,064,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	280.0000
Deck Fitting Losses (lb):	19,397.6600
Value of Vapor Pressure Function:	0.0762
Vapor Molecular Weight (lb/lb-mole):	68.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	3,742.8000
Deck Seam Losses (lb.)	0.0000
Deck Seam Length (ft.)	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000
Tank Diameter (ft):	280.0000
Vapor Molecular Weight (lb/lb-mole):	68.0000
Product Factor:	1.0000
Total Losses (lb):	21,792.3554

Roof Fitting/Status:	Quantity	Kfa (lb-mole/yr)	Roof Fitting Loss Factors (KFb (lb-mole)/(yr mph^n))	m	Losses (lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	186.5758
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	72.5572
Column Well (24-in. Diam.) Built-Up Col.-Sliding Cover, Ungask.	49	47.00	0.00	0.00	11,935.6661
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	76.00	0.00	0.00	393.8822
Roof Leg or Hanger Well/Adjustable	164	7.90	0.00	0.00	6,714.6543
Sample Pipe or Well (24-in. Diam.)Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	62.1919
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	32.1325

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: Annual

Tank Type 3: 280 Dia Tank - Gas RVP7 - Internal Floating Roof Tank
Los Angeles AP, California

Components: Jet Kerosene

Losses (lb)	Value
Rim Seal Loss	2,321.83
Withdrawal Loss	72.86
Deck Fitting Loss	19,397.66
Deck Seam Loss	0.00
Total Emissions	21,792.36

TANKS 4.0.9d
Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification	Input
User Identification:	Tank Type 3: 280 Dia Tank - Gas RVP 7
City:	Los Angeles AP
State:	California
Company:	No data (ND)
Type of Tank:	Internal Floating Roof Tank
Description:	280' diameter tank, 50' tall

Tank Dimensions	Input
Diameter (ft):	280
Volume (gallons):	23,016,000.00
Turnovers:	4.00
Self Supp. Roof? (y/n):	N
No. of Columns:	49.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics	Input
Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition:	White/White
Roof Condition:	Good

Rim Seal System	Input
Primary Seal:	Mechanical Shoe
Secondary Seal:	Shoe-mounted

Deck Characteristics	Input
Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	49
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	164
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Los Angeles AP, California (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format

Liquid Contents of Storage Tank

Tank Type 3: 280 Dia Tank - Gas RVP7 - Internal Floating Roof Tank
Los Angeles AP, California

Mixture/Component
Gasoline (RVP 7)

Daily Liquid Surf. Temperature (deg. F)	Value
Month:	All
Avg:	65.10
Min:	60.53
Max:	69.97
Liquid Bulk Temp (deg. F):	62.97

Vapor Pressure (psia)	Value
Avg:	3.8624
Min:	Not applicable
Max:	Not applicable

Vapor Mol. Weight	68.0000
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Liquid Mass Fract.	No data
Vapor Mass Fract.	No data
Mol. Weight	92.00

Basis for Vapor Pressure Calculations: Option 4: RVP=7, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format

Detail Calculations (AP-42)

Tank Type 3: 280 Dia Tank - Gas RVP7 - Internal Floating Roof Tank
Los Angeles AP, California

Annual Emissions Calculations	Value
Rim Seal Losses (lb):	2,321.8317
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0762
Vapor Pressure at Daily Average Liquid Surface Temp (psia)	3.8624
Tank Diameter (ft):	280.0000
Vapor Molecular Weight (lb/lb-mole):	68.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	72.8637
Number of Columns:	49.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	92,064,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	280.0000
Deck Fitting Losses (lb):	19,397.6600
Value of Vapor Pressure Function:	0.0762
Vapor Molecular Weight (lb/lb-mole):	68.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	3,742.8000
Deck Seam Losses (lb.)	0.0000
Deck Seam Length (ft.)	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000
Tank Diameter (ft):	280.0000
Vapor Molecular Weight (lb/lb-mole):	68.0000
Product Factor:	1.0000
Total Losses (lb):	21,792.3554

Roof Fitting/Status:	Quantity	Kfa (lb-mole/yr)	Roof Fitting Loss Factors (KFb (lb-mole)/(yr mph^n))	m	Losses (lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	186.5758
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	72.5572
Column Well (24-in. Diam.) Built-Up Col.-Sliding Cover, Ungask.	49	47.00	0.00	0.00	11,935.6661
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	76.00	0.00	0.00	393.8822
Roof Leg or Hanger Well/Adjustable	164	7.90	0.00	0.00	6,714.6543
Sample Pipe or Well (24-in. Diam.)Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	62.1919
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	32.1325

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: Annual

Tank Type 3: 280 Dia Tank - Gas RVP7 - Internal Floating Roof Tank
Los Angeles AP, California

Components: Jet Kerosene

Losses (lb)	Value
Rim Seal Loss	2,321.83
Withdrawal Loss	72.86
Deck Fitting Loss	19,397.66
Deck Seam Loss	0.00
Total Emissions	21,792.36

TANKS 4.0.9d
Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification	Input
User Identification:	Tank Type 6: 180 Dia Tank - Gas RVP 7
City:	Los Angeles AP
State:	California
Company:	No data (ND)
Type of Tank:	Internal Floating Roof Tank
Description:	180' diameter tank, 45' tall

Tank Dimensions	Input
Diameter (ft):	280
Volume (gallons):	8,565,900.00
Turnovers:	4.00
Self Supp. Roof? (y/n):	N
No. of Columns:	19
Eff. Col. Diam. (ft):	1.00

Paint Characteristics	Input
Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition:	White/White
Roof Condition:	Good

Rim Seal System	Input
Primary Seal:	Mechanical Shoe
Secondary Seal:	Shoe-mounted

Deck Characteristics	Input
Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	19
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	77
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Los Angeles AP, California (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format

Liquid Contents of Storage Tank

Tank Type 6: 180 Dia Tank - Gas RVP7 - Internal Floating Roof Tank
Los Angeles AP, California

Mixture/Component
Gasoline (RVP 7)

Daily Liquid Surf. Temperature (deg. F)	Value
Month:	All
Avg:	65.10
Min:	60.53
Max:	69.97
Liquid Bulk Temp (deg. F):	62.97

Vapor Pressure (psia)	Value
Avg:	3.8624
Min:	Not applicable
Max:	Not applicable

Vapor Mol. Weight	68.0000
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Liquid Mass Fract.	No data
Vapor Mass Fract.	No data
Mol. Weight	92.00

Basis for Vapor Pressure Calculations: Option 4: RVP=7, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format

Detail Calculations (AP-42)

Tank Type 6: 180 Dia Tank - Gas RVP7 - Internal Floating Roof Tank
Los Angeles AP, California

Annual Emissions Calculations	Value
Rim Seal Losses (lb):	1,492.6061
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0762
Vapor Pressure at Daily Average Liquid Surface Temp (psia)	3.8624
Tank Diameter (ft):	180.0000
Vapor Molecular Weight (lb/lb-mole):	68.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	39.6902
Number of Columns:	19.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	34,263,600.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	180.0000
Deck Fitting Losses (lb):	1,645.5000
Value of Vapor Pressure Function:	0.0762
Vapor Molecular Weight (lb/lb-mole):	68.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	1,645.5000
Deck Seam Losses (lb.)	0.0000
Deck Seam Length (ft.)	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000
Tank Diameter (ft):	180.0000
Vapor Molecular Weight (lb/lb-mole):	68.0000
Product Factor:	1.0000
Total Losses (lb):	10,060.3633

Roof Fitting/Status:	Quantity	Kfa (lb-mole/yr)	Roof Fitting Loss Factors (KFb (lb-mole)/(yr mph^n))	m	Losses (lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	186.5758
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	72.5572
Column Well (24-in. Diam.) Built-Up Col.-Sliding Cover, Ungask.	19	47.00	0.00	0.00	4,628.1154
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	76.00	0.00	0.00	393.8822
Roof Leg or Hanger Well/Adjustable	77	7.90	0.00	0.00	3,152.6121
Sample Pipe or Well (24-in. Diam.) Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	62.1919
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	32.1325

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: Annual

Tank Type 6: 180 Dia Tank - Gas RVP7 - Internal Floating Roof Tank
Los Angeles AP, California

Components: Jet Kerosene

Losses (lb)	Value
Rim Seal Loss	1,492.61
Withdrawal Loss	39.69
Deck Fitting Loss	8,528.07
Deck Seam Loss	0.00
Total Emissions	10,060.36

TANKS 4.0.9d
Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification	Input
User Identification:	Tank Type 7: 150 Dia Tank - Jet kerosene
City:	Los Angeles AP
State:	California
Company:	No data (ND)
Type of Tank:	Internal Floating Roof Tank
Description:	280' diameter tank, 50' tall

Tank Dimensions	Input
Diameter (ft):	150
Volume (gallons):	5,949,300.00
Turnovers:	4.00
Self Supp. Roof? (y/n):	N
No. of Columns:	9
Eff. Col. Diam. (ft):	1.00

Paint Characteristics	Input
Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition:	White/White
Roof Condition:	Good

Rim Seal System	Input
Primary Seal:	Mechanical Shoe
Secondary Seal:	Shoe-mounted

Deck Characteristics	Input
Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	9
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	58
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Los Angeles AP, California (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format

Liquid Contents of Storage Tank

Tank Type 7: 150 Dia Tank - Jet kerosene - Internal Floating Roof Tank
Los Angeles AP, California

Mixture/Component
Jet kerosene

Daily Liquid Surf. Temperature (deg. F)	Value
Month:	All
Avg:	65.10
Min:	60.53
Max:	69.97
Liquid Bulk Temp (deg. F):	62.97

Vapor Pressure (psia)	Value
Avg:	0.0098
Min:	Not applicable
Max:	Not applicable

Vapor Mol. Weight	130.0000
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Liquid Mass Fract.	No data
Vapor Mass Fract.	No data
Mol. Weight	162.00

Basis for Vapor Pressure Calculations: Option 1: VP60 = 0.0085 VP70 = 0.011

TANKS 4.0.9d
Emissions Report - Detail Format

Detail Calculations (AP-42)

Tank Type 7: 150 Dia Tank - Jet kerosene - Internal Floating Roof Tank
Los Angeles AP, California

Annual Emissions Calculations	Value
Rim Seal Losses (lb):	5.1979
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0002
Vapor Pressure at Daily Average Liquid Surface Temp (psia)	0.0098
Tank Diameter (ft):	150.0000
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	39.6453
Number of Columns:	9.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	23,797,200.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	7.0000
Tank Diameter (ft):	150.0000
Deck Fitting Losses (lb):	22.2081
Value of Vapor Pressure Function:	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	1,025.4000
Deck Seam Losses (lb.)	0.0000
Deck Seam Length (ft.)	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000
Tank Diameter (ft):	150.0000
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Total Losses (lb):	67.0513

Roof Fitting/Status:	Quantity	Kfa (lb-mole/yr)	Roof Fitting Loss Factors (KFb (lb-mole)/(yr mph^n))	m	Losses (lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	0.7797
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	0.3032
Column Well (24-in. Diam.) Built-Up Col.-Sliding Cover, Ungask.	9	47.00	0.00	0.00	9.1613
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	76.00	0.00	0.00	1.6460
Roof Leg or Hanger Well/Adjustable	58	7.90	0.00	0.00	9.9237
Sample Pipe or Well (24-in. Diam.) Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	0.2599
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	0.1343

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: Annual

Tank Type 7: 150 Dia Tank - Jet kerosene - Internal Floating Roof Tank
Los Angeles AP, California

Components: Jet Kerosene

Losses (lb)	Value
Rim Seal Loss	5.20
Withdrawal Loss	39.65
Deck Fitting Loss	22.21
Deck Seam Loss	0.00
Total Emissions	67.05

TANKS 4.0.9d
Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification	Input
User Identification:	Tank Type 8: 150 Dia Tank - Distillate no. 2
City:	Los Angeles AP
State:	California
Company:	No data (ND)
Type of Tank:	Internal Floating Roof Tank
Description:	150' diameter tank, 45' tall

Tank Dimensions	Input
Diameter (ft):	150
Volume (gallons):	5,949,300.00
Turnovers:	4.00
Self Supp. Roof? (y/n):	N
No. of Columns:	9.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics	Input
Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition:	White/White
Roof Condition:	Good

Rim Seal System	Input
Primary Seal:	Mechanical Shoe
Secondary Seal:	Shoe-mounted

Deck Characteristics	Input
Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	9
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	58
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Los Angeles AP, California (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format

Liquid Contents of Storage Tank

Tank Type 8: 150 Dia Tank - Distillate no. 2 - Internal Floating Roof Tank
Los Angeles AP, California

Mixture/Component
Distillate fuel oil no. 2

Daily Liquid Surf. Temperature (deg. F)	Value
Month:	All
Avg:	65.10
Min:	60.53
Max:	69.97
Liquid Bulk Temp (deg. F):	62.97

Vapor Pressure (psia)	Value
Avg:	0.0078
Min:	Not applicable
Max:	Not applicable

Vapor Mol. Weight	130.0000
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Liquid Mass Fract.	No data
Vapor Mass Fract.	No data
Mol. Weight	188.00

Basis for Vapor Pressure Calculations: Option 1: VP60 = 0.0065 VP70 = 0.009

TANKS 4.0.9d
Emissions Report - Detail Format

Detail Calculations (AP-42)

Tank Type 8: 150 Dia Tank - Distillate no. 2 - Internal Floating Roof Tank
Los Angeles AP, California

Annual Emissions Calculations	Value
Rim Seal Losses (lb):	4.1342
Seal Factor A (lb-mole/ft-yr):	1.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.0001
Vapor Pressure at Daily Average Liquid Surface Temp (psia)	0.0078
Tank Diameter (ft):	150.0000
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	40.2117
Number of Columns:	9.0000
Effective Column Diameter (ft):	1.0000
Annual Net Throughput (gal/yr.):	23,797,200.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	7.1000
Tank Diameter (ft):	150.0000
Deck Fitting Losses (lb):	17.6633
Value of Vapor Pressure Function:	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact. (lb-mole/yr):	1,025.4000
Deck Seam Losses (lb.)	0.0000
Deck Seam Length (ft.)	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000
Tank Diameter (ft):	150.0000
Vapor Molecular Weight (lb/lb-mole):	130.0000
Product Factor:	1.0000
Total Losses (lb):	62.0091

Roof Fitting/Status:	Quantity	Kfa (lb-mole/yr)	Roof Fitting Loss Factors (KFb (lb-mole)/(yr mph^n))	m	Losses (lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	0.6201
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	0.2412
Column Well (24-in. Diam.) Built-Up Col.-Sliding Cover, Ungask.	9	47.00	0.00	0.00	7.2865
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	76.00	0.00	0.00	1.3092
Roof Leg or Hanger Well/Adjustable	58	7.90	0.00	0.00	7.8928
Sample Pipe or Well (24-in. Diam.) Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	0.2067
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	0.1068

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: Annual

Tank Type 8: 150 Dia Tank - Distillate no. 2 - Internal Floating Roof Tank
Los Angeles AP, California

Components: Jet Kerosene

Losses (lb)	Value
Rim Seal Loss	4.13
Withdrawal Loss	40.21
Deck Fitting Loss	17.66
Deck Seam Loss	0.00
Total Emissions	62.01

Estimated Emissions within 12-nm of the California Coast as a Result of Implementation of Proposed Onloading/Offloading Operations

Emission Factors											
Source	# of Days	Hrs/Day	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O
Fuel Tanker (600' Vessel, slow speed diesel engine)	30	10	0.4476	10.7424	1.0444	0.8952	0.23872	0.21634	439.394	0.00895	0.02163
Fuel Barge (200' Vessel, medium speed diesel engine)	140	10	0.373	7.833	0.8206	0.9698	0.23872	0.21634	484.154	0.00746	0.02163
Gas Turbine engine	175	10	0.0746	4.2522	0.1492	1.3428	0.00746	0.00746	687.812	0.00149	0.05595
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Total Project Emissions (pounds)										
Source	% of operations within 12-nm of shore*	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O
Fuel Tanker (600' Vessel, slow speed diesel engine)	100%	134.2800	3,222.7200	313.3200	268.5600	71.6160	64.9020	131,818.2000	2.6856	6.4902
Fuel Barge (200' Vessel, medium speed diesel engine)	100%	522.2000	10,966.2000	1,148.8400	1,357.7200	334.2080	302.8760	677,815.6000	10.4440	30.2876
Gas Turbine engine	100%	130.5500	7,441.3500	261.1000	2,349.9000	13.0550	13.0550	1,203,671.0000	2.6110	97.9125
ND	Total (pounds)	787.0300	21,630.2700	1,723.2600	3,976.1800	418.8790	380.8330	2,013,304.8000	15.7406	134.6903
ND	Total (tons)	0.3935	10.8151	0.8616	1.9881	0.2094	0.1904	1,006.6524	0.0079	0.0673

Notes: Emission factors are derived from the Port of Long Beach's 2013 Air Emissions Inventory, and converted from g/kW-hr to g/hp-hr by multiplying by 0.746 kW/hp). Assumed all engines will be certified to meet EPA Tier 2 engine standards; therefore the Tier 2 emission factors were used, along with Marine Diesel Oil/Marine Gas Oil 0.3% Sulfur Assumptions: # of days & hours/day of operation calculated based on estimated fuel throughput from Project Description; * Only modeling those emissions that would fall within 12-nm of shore.

Estimated Emissions for Fuel Storage during Operations (Annual Losses-VOCs)

Tank Type		lbs	tons	# Tanks	tons/yr	
2	280' dia, 50ft high	Jet kerosene	181.84	0.09092	7	0.64
3	280' dia, 50ft high	Gas RVP 7	21,792.36	10.89618	7	76.27
4	280' dia, 50ft high	Distillate Fuel Oil No. 2	165.57	0.082785	7	0.58
6	180' dia, 45ft high	Gas RVP 7	10,060.36	5.03018	2	10.06
7	150' dia, 45ft high	Jet kerosene	67.05	0.033525	1	0.03
8	150' dia, 45ft high	Distillate Fuel Oil No. 2	62.01	0.031005	1	0.03
ND	ND	ND	ND	ND	Total Alt 1	87.61
ND	ND	ND	ND	ND	Total Alt 2	10.12

ND = No data