

Appendix A  
**Inland Star Air Quality  
Emissions Calculations**



# Construction Emissions

Regional Construction Emissions

SUMMER	Onsite Emissions						Offsite Emissions						
	Phase	VOC	Nox	CO	SO2	Total PM10	Total PM2.5	VOC	Nox	CO	SO2	Total PM10	Total PM2.5
Water Pipeline	2.49	22.71	17.15	0.03	1.46	1.38	0.44	3.25	3.81	0.01	0.62	0.19	
Facility Renovations	2.78	22.40	17.49	0.03	1.54	1.46	0.44	3.20	3.80	0.01	0.62	0.19	

Regional Emissions-Summer	VOC	Nox	CO	SO2	Total PM10	Total PM2.5
	lb/day					
Water Pipeline	2.93	25.96	20.96	0.04	2.08	1.58
Facility Renovations	3.22	25.60	21.29	0.04	2.16	1.66

WINTER	Onsite Emissions						Offsite Emissions						
	Phase	VOC	Nox	CO	SO2	Total PM10	Total PM2.5	VOC	Nox	CO	SO2	Total PM10	Total PM2.5
Water Pipeline	2.49	22.71	17.15	0.03	1.46	1.38	0.47	3.30	3.65	0.01	0.62	0.19	
Facility Renovations	2.78	22.40	17.49	0.03	1.54	1.46	0.47	3.24	3.64	0.01	0.62	0.19	

Regional Emissions-Winter	VOC	Nox	CO	SO2	Total PM10	Total PM2.5
	lb/day					
Water Pipeline	2.96	26.01	20.79	0.04	2.08	1.58
Facility Renovations	3.25	25.64	21.13	0.04	2.16	1.66

Maximum Regional Emissions	VOC	Nox	CO	SO2	Total PM10	Total PM2.5
	lb/day					
Water Pipeline	2.96	26.01	20.96	0.04	2.08	1.58
Facility Renovations	3.25	25.64	21.29	0.04	2.16	1.66
<b>Project Total</b>	<b>6.21</b>	<b>51.65</b>	<b>42.25</b>	<b>0.07</b>	<b>4.24</b>	<b>3.24</b>
SCAQMD Regional Significance Thresholds	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

**Localized Construction Emissions**

<b>Summer</b>	<b>Onsite Emissions</b>			
<b>Phase</b>	<b>Nox</b>	<b>CO</b>	<b>Total PM10</b>	<b>Total PM2.5</b>
Water Pipeline	22.71	17.15	1.46	1.38
Facility Renovations	22.40	17.49	1.54	1.46

<b>Winter</b>	<b>Onsite Emissions</b>			
<b>Phase</b>	<b>Nox</b>	<b>CO</b>	<b>Total PM10</b>	<b>Total PM2.5</b>
Water Pipeline	22.71	17.15	1.46	1.38
Facility Renovations	22.40	17.49	1.54	1.46

<b>Maximum Localized Emissions</b>	<b>Nox</b>	<b>CO</b>	<b>Total PM10</b>	<b>Total PM2.5</b>
	<b>lb/day</b>			
Water Pipeline	22.71	17.15	1.46	1.38
Facility Renovations	22.40	17.49	1.54	1.46
Total Project Emissions	45.11	34.64	3.01	2.85
SCAQMD Localized Significance				
Thresholds <sup>1</sup>	57	585	4	3
Exceeds Threshold?	No	No	No	No

Notes:

<sup>1</sup> Localized Significance Thresholds were based on a 1-acre site with a 25-meter receptor distance in Source Receptor Area 4: South Coastal LA County. This acreage and receptor distance combination result in the most stringent LSTs.

Inland Star AQ Study - South Coast AQMD Air District, Summer

**Inland Star AQ Study**  
**South Coast AQMD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	188.50	1000sqft	5.84	188,495.00	0
Parking Lot	20.00	Space	0.18	8,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	9			<b>Operational Year</b>	2016
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information

Off-road Equipment - Project Specific Information

Trips and VMT - Project Specific Information

Demolition -

Construction Off-road Equipment Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Operational Off-Road Equipment - Project Specific

Off-road Equipment - Project Specific

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	261.00
tblConstructionPhase	NumDays	20.00	64.00
tblDemolition	PhaseName	Demolition	Water Pipeline
tblLandUse	LandUseSquareFeet	188,500.00	188,495.00
tblLandUse	LotAcreage	4.33	5.84
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName	Demolition	Water Pipeline
tblOffRoadEquipment	PhaseName	Demolition	Water Pipeline
tblOffRoadEquipment	PhaseName	Demolition	Water Pipeline
tblOffRoadEquipment	PhaseName		Facility Renovations
tblOffRoadEquipment	PhaseName		Facility Renovations
tblOffRoadEquipment	PhaseName		Facility Renovations
tblOffRoadEquipment	PhaseName		Facility Renovations
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOnRoadDust	PhaseName	Demolition	Water Pipeline
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	10.00	11.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	PhaseName	Demolition	Water Pipeline
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	32.00	20.00
tblTripsAndVMT	WorkerTripNumber	5.00	40.00
tblTripsAndVMT	WorkerTripNumber	83.00	40.00





### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Water Pipeline	Demolition	1/1/2015	3/31/2015	5	64	
2	Facility Renovations	Building Construction	1/1/2015	12/31/2015	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.18

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

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Water Pipeline	Concrete/Industrial Saws	2	8.00	81	0.73
Water Pipeline	Excavators	2	8.00	158	0.38
Water Pipeline	Skid Steer Loaders	2	8.00	65	0.37
Facility Renovations	Aerial Lifts	3	8.00	63	0.31
Facility Renovations	Concrete/Industrial Saws	1	8.00	81	0.73
Facility Renovations	Cranes	0	8.00	231	0.29
Facility Renovations	Excavators	1	8.00	158	0.38
Facility Renovations	Forklifts	2	8.00	89	0.20
Facility Renovations	Generator Sets	0	8.00	84	0.74
Facility Renovations	Rubber Tired Dozers	0	8.00	247	0.40
Facility Renovations	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Facility Renovations	Welders	1	8.00	46	0.45

## Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Water Pipeline	2	40.00	20.00	11.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Renovations	6	40.00	20.00	10.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

## 3.1 Mitigation Measures Construction

Water Exposed Area

## 3.2 Water Pipeline - 2015

### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0301	0.0000	0.0301	4.5600e-003	0.0000	4.5600e-003			0.0000			0.0000
Off-Road	2.4864	22.7108	17.1466	0.0270		1.4311	1.4311		1.3787	1.3787		2,703.0126	2,703.0126	0.5803		2,717.5206
<b>Total</b>	<b>2.4864</b>	<b>22.7108</b>	<b>17.1466</b>	<b>0.0270</b>	<b>0.0301</b>	<b>1.4311</b>	<b>1.4612</b>	<b>4.5600e-003</b>	<b>1.3787</b>	<b>1.3832</b>		<b>2,703.0126</b>	<b>2,703.0126</b>	<b>0.5803</b>		<b>2,717.5206</b>

### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.3800e-003	0.0677	0.0131	1.4000e-004	3.0000e-003	6.3000e-004	3.6400e-003	8.2000e-004	6.1000e-004	1.4300e-003		15.0609	15.0609	1.0900e-003		15.0882
Vendor	0.1299	2.9516	0.8670	5.2700e-003	0.1280	0.0350	0.1630	0.0369	0.0335	0.0703		558.7614	558.7614	0.0445		559.8735
Worker	0.3068	0.2324	2.9328	5.3200e-003	0.4471	4.0900e-003	0.4512	0.1186	3.7800e-003	0.1224		527.6916	527.6916	0.0244		528.3020
<b>Total</b>	<b>0.4391</b>	<b>3.2516</b>	<b>3.8129</b>	<b>0.0107</b>	<b>0.5781</b>	<b>0.0397</b>	<b>0.6178</b>	<b>0.1562</b>	<b>0.0379</b>	<b>0.1941</b>		<b>1,101.5139</b>	<b>1,101.5139</b>	<b>0.0700</b>		<b>1,103.2636</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0117	0.0000	0.0117	1.7800e-003	0.0000	1.7800e-003			0.0000			0.0000
Off-Road	2.4864	19.4781	17.1466	0.0270		1.4311	1.4311		1.3787	1.3787	0.0000	2,703.0126	2,703.0126	0.5803		2,717.5206
<b>Total</b>	<b>2.4864</b>	<b>19.4781</b>	<b>17.1466</b>	<b>0.0270</b>	<b>0.0117</b>	<b>1.4311</b>	<b>1.4428</b>	<b>1.7800e-003</b>	<b>1.3787</b>	<b>1.3805</b>	<b>0.0000</b>	<b>2,703.0126</b>	<b>2,703.0126</b>	<b>0.5803</b>		<b>2,717.5206</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.3800e-003	0.0677	0.0131	1.4000e-004	3.0000e-003	6.3000e-004	3.6400e-003	8.2000e-004	6.1000e-004	1.4300e-003		15.0609	15.0609	1.0900e-003		15.0882
Vendor	0.1299	2.9516	0.8670	5.2700e-003	0.1280	0.0350	0.1630	0.0369	0.0335	0.0703		558.7614	558.7614	0.0445		559.8735
Worker	0.3068	0.2324	2.9328	5.3200e-003	0.4471	4.0900e-003	0.4512	0.1186	3.7800e-003	0.1224		527.6916	527.6916	0.0244		528.3020
<b>Total</b>	<b>0.4391</b>	<b>3.2516</b>	<b>3.8129</b>	<b>0.0107</b>	<b>0.5781</b>	<b>0.0397</b>	<b>0.6178</b>	<b>0.1562</b>	<b>0.0379</b>	<b>0.1941</b>		<b>1,101.5139</b>	<b>1,101.5139</b>	<b>0.0700</b>		<b>1,103.2636</b>

### 3.3 Facility Renovations - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	2.7845	22.3997	17.4903	0.0252		1.5438	1.5438		1.4639	1.4639		2,518.7171	2,518.7171	0.6329			2,534.5397
<b>Total</b>	<b>2.7845</b>	<b>22.3997</b>	<b>17.4903</b>	<b>0.0252</b>		<b>1.5438</b>	<b>1.5438</b>		<b>1.4639</b>	<b>1.4639</b>		<b>2,518.7171</b>	<b>2,518.7171</b>	<b>0.6329</b>			<b>2,534.5397</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	5.3000e-004	0.0151	2.9200e-003	3.0000e-005	6.7000e-004	1.4000e-004	8.1000e-004	1.8000e-004	1.4000e-004	3.2000e-004		3.3574	3.3574	2.4000e-004			3.3635
Vendor	0.1299	2.9516	0.8670	5.2700e-003	0.1280	0.0350	0.1630	0.0369	0.0335	0.0703		558.7614	558.7614	0.0445			559.8735
Worker	0.3068	0.2324	2.9328	5.3200e-003	0.4471	4.0900e-003	0.4512	0.1186	3.7800e-003	0.1224		527.6916	527.6916	0.0244			528.3020
<b>Total</b>	<b>0.4372</b>	<b>3.1990</b>	<b>3.8027</b>	<b>0.0106</b>	<b>0.5758</b>	<b>0.0392</b>	<b>0.6150</b>	<b>0.1556</b>	<b>0.0374</b>	<b>0.1930</b>		<b>1,089.8104</b>	<b>1,089.8104</b>	<b>0.0691</b>			<b>1,091.5389</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7845	22.3997	17.4903	0.0252		1.5438	1.5438		1.4639	1.4639	0.0000	2,518.7171	2,518.7171	0.6329		2,534.5397
<b>Total</b>	<b>2.7845</b>	<b>22.3997</b>	<b>17.4903</b>	<b>0.0252</b>		<b>1.5438</b>	<b>1.5438</b>		<b>1.4639</b>	<b>1.4639</b>	<b>0.0000</b>	<b>2,518.7171</b>	<b>2,518.7171</b>	<b>0.6329</b>		<b>2,534.5397</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.3000e-004	0.0151	2.9200e-003	3.0000e-005	6.7000e-004	1.4000e-004	8.1000e-004	1.8000e-004	1.4000e-004	3.2000e-004		3.3574	3.3574	2.4000e-004		3.3635
Vendor	0.1299	2.9516	0.8670	5.2700e-003	0.1280	0.0350	0.1630	0.0369	0.0335	0.0703		558.7614	558.7614	0.0445		559.8735
Worker	0.3068	0.2324	2.9328	5.3200e-003	0.4471	4.0900e-003	0.4512	0.1186	3.7800e-003	0.1224		527.6916	527.6916	0.0244		528.3020
<b>Total</b>	<b>0.4372</b>	<b>3.1990</b>	<b>3.8027</b>	<b>0.0106</b>	<b>0.5758</b>	<b>0.0392</b>	<b>0.6150</b>	<b>0.1556</b>	<b>0.0374</b>	<b>0.1930</b>		<b>1,089.8104</b>	<b>1,089.8104</b>	<b>0.0691</b>		<b>1,091.5389</b>

Inland Star AQ Study - South Coast AQMD Air District, Winter

**Inland Star AQ Study**  
**South Coast AQMD Air District, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	188.50	1000sqft	5.84	188,495.00	0
Parking Lot	20.00	Space	0.18	8,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	9			<b>Operational Year</b>	2016
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	702.44	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information

Off-road Equipment - Project Specific Information

Trips and VMT - Project Specific Information

Demolition -

Construction Off-road Equipment Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Operational Off-Road Equipment - Project Specific

Off-road Equipment - Project Specific

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	261.00
tblConstructionPhase	NumDays	20.00	64.00
tblDemolition	PhaseName	Demolition	Water Pipeline
tblLandUse	LandUseSquareFeet	188,500.00	188,495.00
tblLandUse	LotAcreage	4.33	5.84
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName	Demolition	Water Pipeline
tblOffRoadEquipment	PhaseName	Demolition	Water Pipeline
tblOffRoadEquipment	PhaseName	Demolition	Water Pipeline
tblOffRoadEquipment	PhaseName		Facility Renovations
tblOffRoadEquipment	PhaseName		Facility Renovations
tblOffRoadEquipment	PhaseName		Facility Renovations
tblOffRoadEquipment	PhaseName		Facility Renovations
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOnRoadDust	PhaseName	Demolition	Water Pipeline
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	10.00	11.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	PhaseName	Demolition	Water Pipeline
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	32.00	20.00
tblTripsAndVMT	WorkerTripNumber	5.00	40.00
tblTripsAndVMT	WorkerTripNumber	83.00	40.00





### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Water Pipeline	Demolition	1/1/2015	3/31/2015	5	64	
2	Facility Renovations	Building Construction	1/1/2015	12/31/2015	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.18

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

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Water Pipeline	Concrete/Industrial Saws	2	8.00	81	0.73
Water Pipeline	Excavators	2	8.00	158	0.38
Water Pipeline	Skid Steer Loaders	2	8.00	65	0.37
Facility Renovations	Aerial Lifts	3	8.00	63	0.31
Facility Renovations	Concrete/Industrial Saws	1	8.00	81	0.73
Facility Renovations	Cranes	0	8.00	231	0.29
Facility Renovations	Excavators	1	8.00	158	0.38
Facility Renovations	Forklifts	2	8.00	89	0.20
Facility Renovations	Generator Sets	0	8.00	84	0.74
Facility Renovations	Rubber Tired Dozers	0	8.00	247	0.40
Facility Renovations	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Facility Renovations	Welders	1	8.00	46	0.45

## Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Water Pipeline	2	40.00	20.00	11.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Renovations	6	40.00	20.00	10.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

## 3.1 Mitigation Measures Construction

Water Exposed Area

## 3.2 Water Pipeline - 2015

### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0301	0.0000	0.0301	4.5600e-003	0.0000	4.5600e-003			0.0000			0.0000
Off-Road	2.4864	22.7108	17.1466	0.0270		1.4311	1.4311		1.3787	1.3787		2,703.0126	2,703.0126	0.5803		2,717.5206
<b>Total</b>	<b>2.4864</b>	<b>22.7108</b>	<b>17.1466</b>	<b>0.0270</b>	<b>0.0301</b>	<b>1.4311</b>	<b>1.4612</b>	<b>4.5600e-003</b>	<b>1.3787</b>	<b>1.3832</b>		<b>2,703.0126</b>	<b>2,703.0126</b>	<b>0.5803</b>		<b>2,717.5206</b>

### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.4400e-003	0.0689	0.0141	1.4000e-004	3.0000e-003	6.4000e-004	3.6400e-003	8.2000e-004	6.1000e-004	1.4400e-003		14.8255	14.8255	1.1400e-003		14.8540
Vendor	0.1350	2.9722	0.9461	5.1400e-003	0.1280	0.0355	0.1635	0.0369	0.0340	0.0708		544.6520	544.6520	0.0475		545.8394
Worker	0.3339	0.2548	2.6874	4.9800e-003	0.4471	4.0900e-003	0.4512	0.1186	3.7800e-003	0.1224		493.9925	493.9925	0.0230		494.5686
<b>Total</b>	<b>0.4713</b>	<b>3.2959</b>	<b>3.6476</b>	<b>0.0103</b>	<b>0.5781</b>	<b>0.0402</b>	<b>0.6183</b>	<b>0.1562</b>	<b>0.0384</b>	<b>0.1946</b>		<b>1,053.4700</b>	<b>1,053.4700</b>	<b>0.0717</b>		<b>1,055.2620</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0117	0.0000	0.0117	1.7800e-003	0.0000	1.7800e-003			0.0000			0.0000
Off-Road	2.4864	19.4781	17.1466	0.0270		1.4311	1.4311		1.3787	1.3787	0.0000	2,703.0126	2,703.0126	0.5803		2,717.5206
<b>Total</b>	<b>2.4864</b>	<b>19.4781</b>	<b>17.1466</b>	<b>0.0270</b>	<b>0.0117</b>	<b>1.4311</b>	<b>1.4428</b>	<b>1.7800e-003</b>	<b>1.3787</b>	<b>1.3805</b>	<b>0.0000</b>	<b>2,703.0126</b>	<b>2,703.0126</b>	<b>0.5803</b>		<b>2,717.5206</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.4400e-003	0.0689	0.0141	1.4000e-004	3.0000e-003	6.4000e-004	3.6400e-003	8.2000e-004	6.1000e-004	1.4400e-003		14.8255	14.8255	1.1400e-003		14.8540
Vendor	0.1350	2.9722	0.9461	5.1400e-003	0.1280	0.0355	0.1635	0.0369	0.0340	0.0708		544.6520	544.6520	0.0475		545.8394
Worker	0.3339	0.2548	2.6874	4.9800e-003	0.4471	4.0900e-003	0.4512	0.1186	3.7800e-003	0.1224		493.9925	493.9925	0.0230		494.5686
<b>Total</b>	<b>0.4713</b>	<b>3.2959</b>	<b>3.6476</b>	<b>0.0103</b>	<b>0.5781</b>	<b>0.0402</b>	<b>0.6183</b>	<b>0.1562</b>	<b>0.0384</b>	<b>0.1946</b>		<b>1,053.4700</b>	<b>1,053.4700</b>	<b>0.0717</b>		<b>1,055.2620</b>

### 3.3 Facility Renovations - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7845	22.3997	17.4903	0.0252		1.5438	1.5438		1.4639	1.4639		2,518.7171	2,518.7171	0.6329		2,534.5397
<b>Total</b>	<b>2.7845</b>	<b>22.3997</b>	<b>17.4903</b>	<b>0.0252</b>		<b>1.5438</b>	<b>1.5438</b>		<b>1.4639</b>	<b>1.4639</b>		<b>2,518.7171</b>	<b>2,518.7171</b>	<b>0.6329</b>		<b>2,534.5397</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.4000e-004	0.0154	3.1400e-003	3.0000e-005	6.7000e-004	1.4000e-004	8.1000e-004	1.8000e-004	1.4000e-004	3.2000e-004		3.3049	3.3049	2.5000e-004		3.3112
Vendor	0.1350	2.9722	0.9461	5.1400e-003	0.1280	0.0355	0.1635	0.0369	0.0340	0.0708		544.6520	544.6520	0.0475		545.8394
Worker	0.3339	0.2548	2.6874	4.9800e-003	0.4471	4.0900e-003	0.4512	0.1186	3.7800e-003	0.1224		493.9925	493.9925	0.0230		494.5686
<b>Total</b>	<b>0.4694</b>	<b>3.2424</b>	<b>3.6366</b>	<b>0.0102</b>	<b>0.5758</b>	<b>0.0397</b>	<b>0.6155</b>	<b>0.1556</b>	<b>0.0379</b>	<b>0.1935</b>		<b>1,041.9494</b>	<b>1,041.9494</b>	<b>0.0708</b>		<b>1,043.7192</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7845	22.3997	17.4903	0.0252		1.5438	1.5438		1.4639	1.4639	0.0000	2,518.7171	2,518.7171	0.6329		2,534.5397
<b>Total</b>	<b>2.7845</b>	<b>22.3997</b>	<b>17.4903</b>	<b>0.0252</b>		<b>1.5438</b>	<b>1.5438</b>		<b>1.4639</b>	<b>1.4639</b>	<b>0.0000</b>	<b>2,518.7171</b>	<b>2,518.7171</b>	<b>0.6329</b>		<b>2,534.5397</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	5.4000e-004	0.0154	3.1400e-003	3.0000e-005	6.7000e-004	1.4000e-004	8.1000e-004	1.8000e-004	1.4000e-004	3.2000e-004		3.3049	3.3049	2.5000e-004		3.3112
Vendor	0.1350	2.9722	0.9461	5.1400e-003	0.1280	0.0355	0.1635	0.0369	0.0340	0.0708		544.6520	544.6520	0.0475		545.8394
Worker	0.3339	0.2548	2.6874	4.9800e-003	0.4471	4.0900e-003	0.4512	0.1186	3.7800e-003	0.1224		493.9925	493.9925	0.0230		494.5686
<b>Total</b>	<b>0.4694</b>	<b>3.2424</b>	<b>3.6366</b>	<b>0.0102</b>	<b>0.5758</b>	<b>0.0397</b>	<b>0.6155</b>	<b>0.1556</b>	<b>0.0379</b>	<b>0.1935</b>		<b>1,041.9494</b>	<b>1,041.9494</b>	<b>0.0708</b>		<b>1,043.7192</b>

# Operational Emissions

**Operational Emissions**

<b>REGIONAL</b>	<b>VOC</b>	<b>NOX</b>	<b>CO</b>	<b>SO2</b>	<b>PM10</b>	<b>PM2.5</b>
<b>Category</b>	<b>lb/day</b>					
Area	4.26	0.00	0.02	0.00	0.00	0.00
Energy	0.01	0.05	0.04	0.00	0.00	0.00
Mobile (Employees)	0.12	0.23	2.55	0.01	0.07	0.03
Mobile (Heavy-Duty Trucks)	1.55	24.97	14.92	0.08	4.15	1.46
Stationary (Fire Pump)	0.02	0.83	0.40	0.00	0.04	0.04
Offroad (Forklifts)	0.91	7.81	5.05	0.01	0.65	0.60
<b>Total</b>	<b>6.86</b>	<b>33.90</b>	<b>22.99</b>	<b>0.10</b>	<b>4.92</b>	<b>2.13</b>

<b>Localized</b>	<b>NOX</b>	<b>CO</b>	<b>PM10</b>	<b>PM2.5</b>
<b>Category</b>	<b>lb/day</b>			
Area	0.0002	0.02	0.0001	0.0001
Energy (Natural Gas)	0.05	0.04	0.004	0.004
Fire Pump	0.83	0.40	0.04	0.04
Forklifts	7.81	5.05	0.65	0.60
<b>Total</b>	<b>8.70</b>	<b>5.52</b>	<b>0.69</b>	<b>0.64</b>



**Regional Operational Emissions**

<b>Summer Category</b>	<b>ROG</b>	<b>NOx</b>	<b>CO</b>	<b>SO2</b>	<b>PM10 Total</b>	<b>PM2.5 Total</b>
	<b>lb/day</b>					
Area	4.26	0.00	0.02	0.00	0.00	0.00
Energy	0.01	0.05	0.04	0.00	0.00	0.00
Mobile (Employees)	0.12	0.23	2.55	0.01	0.07	0.03
Mobile (Heavy-Duty Trucks)	1.55	24.97	14.92	0.08	4.15	1.46
Stationary (Fire Pump)	0.02	0.83	0.40	0.00	0.04	0.04
Offroad (Forklifts)	0.91	7.81	5.05	0.01	0.65	0.60
<b>Total</b>	<b>6.86</b>	<b>33.90</b>	<b>22.99</b>	<b>0.10</b>	<b>4.92</b>	<b>2.13</b>

<b>Winter Category</b>	<b>ROG</b>	<b>NOx</b>	<b>CO</b>	<b>SO2</b>	<b>PM10 Total</b>	<b>PM2.5 Total</b>
	<b>lb/day</b>					
Area	4.26	0.00	0.02	0.00	0.00	0.00
Energy	0.01	0.05	0.04	0.00	0.00	0.00
Mobile (Employees)	0.12	0.23	2.55	0.01	0.07	0.03
Mobile (Heavy-Duty Trucks)	1.55	24.97	14.92	0.08	4.15	1.46
Stationary (Fire Pump)	0.02	0.83	0.40	0.00	0.04	0.04
Offroad (Forklifts)	0.91	7.81	5.05	0.01	0.65	0.60
<b>Total</b>	<b>6.86</b>	<b>33.90</b>	<b>22.99</b>	<b>0.10</b>	<b>4.92</b>	<b>2.13</b>

**Emergency Fire Pump Engine**

BHP <sup>1</sup>	153
Fuel <sup>1</sup>	Diesel Fuel (15 ppm Fuel)
Annual Operating Hours <sup>1</sup>	200
Daily Maintenance Hours	1

Daily AQ Emissions	<b>VOCs</b>	<b>NOX</b>	<b>CO</b>	<b>SO<sub>2</sub><sup>3</sup></b>	<b>PM10/2.5</b>
	<b>Emissions Factors (g/BHP-hr)<sup>2</sup></b>				
	0.062	2.475	1.193	0.0049	0.111
Daily AQ Emissions	<b>VOCs</b>	<b>NOX</b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM10/2.5</b>
	<b>Emissions (lbs/day)</b>				
	2.09E-02	8.35E-01	4.02E-01	1.65E-03	3.74E-02

- 1 [Facility SCAQMD Permit to Construct/Operate](#)
- 2 [Emissions factors based on Fire Pump Engine Spec Sheet](#)
- 3 Emissions factors based on CalEEMod Default Values for Fire Pump

**AQ**

**Employee Mobile Emissions**

Vehicle Category	VOC	NOX	CO	SO2	PM10	PM2.5	CO2	N2O
	on Factors (lb/mile)							
LDA	1.52E-04	2.50E-04	3.19E-03	6.80E-06	1.04E-04	4.36E-05	6.88E-01	2.43E-05
LDT1	3.33E-04	6.50E-04	6.62E-03	8.01E-06	1.08E-04	4.76E-05	8.09E-01	4.46E-05
LDT2	2.18E-04	5.02E-04	4.50E-03	8.94E-06	1.04E-04	4.38E-05	9.04E-01	3.80E-05

Sum of Population	Fleet Distribution
5999731.934	69%
614082.4528	7%
2020534.568	23%

VOC	NOX	CO	SO2	PM10	PM2.5	CO2	N2O
Emission Factors (lb/mile)							
<b>1.80E-04</b>	<b>3.37E-04</b>	<b>3.74E-03</b>	<b>7.39E-06</b>	<b>1.04E-04</b>	<b>4.39E-05</b>	<b>7.47E-01</b>	<b>2.90E-05</b>

**Composite EF**

# of Employees	17
Daily Trips	34
Trip Length	20

VOC	NOX	CO	SO2	PM10	PM2.5
Emissions (lb/day)					
1.23E-01	2.29E-01	2.55E+00	5.02E-03	7.06E-02	2.99E-02

Total Daily Trucks <sup>1</sup>	% "Inbound" Trucks	"Inbound" Trucks	"Outbound" Trucks
55	27%	15	40

"Inbound" Travel					
Destination/Origin	Round Trip Length (miles)	# of Inbound Trucks per Year	Proportion of Inbound Trucks	# of Inbound Trucks per Day	Daily VMT
LA/LB Ports	10	1482	49%	8	80
Intrastate	100	695	23%	3	300
Interstate	470	847	28%	4	1880
Totals		3024			
<b>Total Inbound Miles/Day</b>					<b>2260</b>

"Outbound" Travel					
Destination/Origin	Round Trip Length (miles)	# of Outbound Trucks per Year	Proportion of Outbound Trucks	# of Outbound Trucks per Day	Daily VMT
LA/LB Ports	10	2766	27%	11	110
Intrastate	100	3853	38%	15	1500
Interstate <sup>1</sup>	235	3460	34%	14	3290
Totals		10079			
<b>Total Outbound Miles/Day</b>					<b>4900</b>

**Total Miles/Day 7160**

Notes

<sup>1</sup> [Distance from Inland Star to California/Arizon border.](#)

Vehicle Travel Distances and One-Way Trips										
Import/Export Location	Vehicle Class	Trips per day	Round Trip Distance (miles)	Total Daily VMT	Route Length in Basin (miles) <sup>a</sup>			Daily VMT in each Basin		
Activity					SCAB	SSAB	MDAB	SoCAB	SSAB	MDAB
<b>Inbound</b>										
LA/LB Ports	Composite (HHDT, LHDT, and MHDT)	8	10	80	80			80		
Intrastate	Composite (HHDT, LHDT, and MHDT)	3	100	300	300			300		
Interstate	Composite (HHDT, LHDT, and MHDT)	4	470	1880	204	144	122	816	576	488
<b>Outbound</b>										
LA/LB Ports	Composite (HHDT, LHDT, and MHDT)	11	10	110	110			110		
Intrastate	Composite (HHDT, LHDT, and MHDT)	15	100	1500	1500			1500		
Interstate	Composite (HHDT, LHDT, and MHDT)	14	235	3290	102	72	61	1428	1008	854

Notes:  
 a. Interstate route lengths are based on the distance from Inland Star to the CA/AZ border (235 miles)

Vehicle Emission Factors																
Model Year	Vehicle Class	Criteria Pollutant Emission Factors (grams/mile) <sup>a</sup>								GHG Emission Factors (grams/mile) <sup>a</sup>						
		VOC		NOX		CO		SOX		PM10		PM2.5		GWP=1	GWP=25	GWP=298
EMFAC2017 (Analysis Year: 2017)								Exhaust	BW/TW/RD <sup>b</sup>	Exhaust	BW/TW/RD <sup>b</sup>	CO2	CH4	N2O	CO2e	
Inbound Fleet Average	Composite (HHDT, LHDT, and MHDT)	0.185	3.491	1.543	0.010	0.049	0.395	0.047	0.111	1088.19	0.04	0.14	1129.59			
Outbound Fleet Average	Composite (HHDT, LHDT, and MHDT)	0.158	2.354	1.620	0.008	0.041	0.405	0.039	0.117	851.24	0.02	0.08	875.88			

Notes:  
 a. Emissions factors from EMFAC2017 run in the "Emissions" mode, Analysis Year 2017, SCAB Region, Annual.  
 b. BW = Brake Wear; TW = Tire Wear; RD = Road Dust

**SOUTH COAST AIR BASIN**

Vehicle Emissions - Design Day																	
Import/Export Location	Vehicle Class	Criteria Pollutant Emissions (POUNDS/DAY)								GHG Emissions (MT/YEAR) <sup>a</sup>							
Activity		VOC		NOX		CO		SOX		PM10		PM2.5		GWP=1	GWP=25	GWP=298	CO2e
								Exhaust	BW/TW/RD <sup>b</sup>	Exhaust	BW/TW/RD <sup>b</sup>	CO2	CH4	N2O	CO2e		
<b>Inbound</b>																	
LA/LB Ports	Composite (HHDT, LHDT, and MHDT)	0.03	0.6	0.3	0.002	0.009	0.1	0.008	0.02	22.63	0.00	0.00	23.50				
Intrastate	Composite (HHDT, LHDT, and MHDT)	0.1	2.3	1.0	0.01	0.03	0.3	0.03	0.1	84.88	0.00	0.01	88.11				
Interstate-Distance between Inland Star/AZ Border	Composite (HHDT, LHDT, and MHDT)	0.3	6.3	2.8	0.02	0.09	0.7	0.08	0.2	230.87	0.01	0.03	239.65				
<b>Outbound</b>																	
LA/LB Ports	Composite (HHDT, LHDT, and MHDT)	0.04	0.6	0.4	0.002	0.010	0.1	0.0	0.0	24.35	0.00	0.00	25.05				
Intrastate	Composite (HHDT, LHDT, and MHDT)	0.5	7.8	5.4	0.0	0.1	1.3	0.1	0.4	331.98	0.01	0.03	341.59				
Interstate-Distance between Inland Star/AZ Border	Composite (HHDT, LHDT, and MHDT)	0.5	7.4	5.1	0.0	0.1	1.3	0.1	0.4	316.05	0.01	0.03	325.19				
<b>TOTAL</b>		<b>1.5</b>	<b>25.0</b>	<b>14.9</b>	<b>0.1</b>	<b>0.4</b>	<b>3.8</b>	<b>0.4</b>	<b>1.1</b>	<b>1,010.76</b>	<b>0.03</b>	<b>0.11</b>	<b>1,043.09</b>				

Totals  
 ROG 1.5  
 NOX 25.0  
 CO 14.9  
 SOX 0.1  
 PM10 4.2  
 PM2.5 1.5

**Paved Road Dust Emission Factors (Assumes No Precipitation)**

Formula:  $EF_{Dust,P} = (k (sL)^{0.91} \times (W)^{1.02})$

Where:

$EF_{Dust,P}$  = Paved Road Dust Emission Factor (having the same units as k)

k = particle size multiplier

sL = road surface silt loading (g/m<sup>2</sup>)

W = average fleet vehicle weight (tons) (CARB uses 2.4 tons as a fleet average vehicle weight factor)

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	0.9979	0.2449
sL	0.1	0.1
W	2.4	2.4
$EF_{Dust,P}$	2.998E-01	7.360E-02

Sources:

CAPCOA, CalEEMod, Version 2016.3.2, User's Guide, Appendix A, pp. 29-30, (2017).

CARB, *Entrained Dust from Paved Road Travel: Emission Estimation Methodology Background Document*, (1997).

USEPA, AP-42, Fifth Edition, Volume I, Chapter 13.2.1 - Paved Roads, (2011).

Inland Star AQ Study - South Coast AQMD Air District, Summer

**Inland Star AQ Study**  
**South Coast AQMD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	190.41	1000sqft	5.84	190,411.00	0
Parking Lot	20.00	Space	0.18	8,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	9			<b>Operational Year</b>	2016
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	702.44	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information

Off-road Equipment - Project Specific Information

Off-road Equipment - Project Specific

Trips and VMT - Project Specific Information

Demolition -

Area Coating -

Water And Wastewater - Project Specific Information

Solid Waste -

Construction Off-road Equipment Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Operational Off-Road Equipment - Project Specific

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	261.00
tblConstructionPhase	NumDays	20.00	64.00
tblLandUse	LandUseSquareFeet	190,410.00	190,411.00
tblLandUse	LotAcreage	4.37	5.84
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00



tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	200.00
tblTripsAndVMT	HaulingTripNumber	9.00	11.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	33.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00
tblTripsAndVMT	WorkerTripNumber	83.00	40.00
tblVehicleTrips	ST_TR	1.68	1.74
tblVehicleTrips	SU_TR	1.68	1.74
tblVehicleTrips	WD_TR	1.68	1.74
tblWater	IndoorWaterUseRate	44,032,312.50	279,756.00



## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.7900e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003		63.2146	63.2146	1.2100e-003	1.1600e-003	63.5903
NaturalGas Unmitigated	5.7900e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003		63.2146	63.2146	1.2100e-003	1.1600e-003	63.5903

### 5.2 Energy by Land Use - NaturalGas

#### Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No	537.324	5.7900e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003		63.2146	63.2146	1.2100e-003	1.1600e-003	63.5903
<b>Total</b>		<b>5.7900e-003</b>	<b>0.0527</b>	<b>0.0443</b>	<b>3.2000e-004</b>		<b>4.0000e-003</b>	<b>4.0000e-003</b>		<b>4.0000e-003</b>	<b>4.0000e-003</b>		<b>63.2146</b>	<b>63.2146</b>	<b>1.2100e-003</b>	<b>1.1600e-003</b>	<b>63.5903</b>

**Mitigated**

	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	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No	0.537324	5.7900e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003		63.2146	63.2146	1.2100e-003	1.1600e-003	63.5903
<b>Total</b>		<b>5.7900e-003</b>	<b>0.0527</b>	<b>0.0443</b>	<b>3.2000e-004</b>		<b>4.0000e-003</b>	<b>4.0000e-003</b>		<b>4.0000e-003</b>	<b>4.0000e-003</b>		<b>63.2146</b>	<b>63.2146</b>	<b>1.2100e-003</b>	<b>1.1600e-003</b>	<b>63.5903</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2593	2.1000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0461	0.0461	1.3000e-004		0.0493
Unmitigated	4.2593	2.1000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0461	0.0461	1.3000e-004		0.0493

### 6.2 Area by SubCategory

#### Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1500e-003	2.1000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0461	0.0461	1.3000e-004		0.0493
<b>Total</b>	<b>4.2593</b>	<b>2.1000e-004</b>	<b>0.0220</b>	<b>0.0000</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>0.0461</b>	<b>0.0461</b>	<b>1.3000e-004</b>		<b>0.0493</b>

## Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1500e-003	2.1000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0461	0.0461	1.3000e-004		0.0493
<b>Total</b>	<b>4.2593</b>	<b>2.1000e-004</b>	<b>0.0220</b>	<b>0.0000</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>0.0461</b>	<b>0.0461</b>	<b>1.3000e-004</b>		<b>0.0493</b>

## 7.0 Water Detail

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### 7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

## 8.0 Waste Detail

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### 8.1 Mitigation Measures Waste

- Institute Recycling and Composting Services

## 9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	4	8.00	260	89	0.20	CNG

### UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Equipment Type	lb/day										lb/day						
Forklifts	0.9078	7.8132	5.0520	6.1000e-003		0.6533	0.6533		0.6011	0.6011			634.8878	634.8878	0.1915		639.6754
<b>Total</b>	<b>0.9078</b>	<b>7.8132</b>	<b>5.0520</b>	<b>6.1000e-003</b>		<b>0.6533</b>	<b>0.6533</b>		<b>0.6011</b>	<b>0.6011</b>			<b>634.8878</b>	<b>634.8878</b>	<b>0.1915</b>		<b>639.6754</b>

Inland Star AQ Study - South Coast AQMD Air District, Winter

**Inland Star AQ Study**  
**South Coast AQMD Air District, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	190.41	1000sqft	5.84	190,411.00	0
Parking Lot	20.00	Space	0.18	8,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	9			<b>Operational Year</b>	2016
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	702.44	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006



### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information

Off-road Equipment - Project Specific Information

Off-road Equipment - Project Specific

Trips and VMT - Project Specific Information

Demolition -

Area Coating -

Water And Wastewater - Project Specific Information

Solid Waste -

Construction Off-road Equipment Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Operational Off-Road Equipment - Project Specific

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	261.00
tblConstructionPhase	NumDays	20.00	64.00
tblLandUse	LandUseSquareFeet	190,410.00	190,411.00
tblLandUse	LotAcreage	4.37	5.84
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00

tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	200.00
tblTripsAndVMT	HaulingTripNumber	9.00	11.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	33.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00
tblTripsAndVMT	WorkerTripNumber	83.00	40.00
tblVehicleTrips	ST_TR	1.68	1.74
tblVehicleTrips	SU_TR	1.68	1.74
tblVehicleTrips	WD_TR	1.68	1.74
tblWater	IndoorWaterUseRate	44,032,312.50	279,756.00



## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	5.7900e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003		63.2146	63.2146	1.2100e-003	1.1600e-003	63.5903
NaturalGas Unmitigated	5.7900e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003		63.2146	63.2146	1.2100e-003	1.1600e-003	63.5903

### 5.2 Energy by Land Use - NaturalGas

#### Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No	537.324	5.7900e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003		63.2146	63.2146	1.2100e-003	1.1600e-003	63.5903
<b>Total</b>		<b>5.7900e-003</b>	<b>0.0527</b>	<b>0.0443</b>	<b>3.2000e-004</b>		<b>4.0000e-003</b>	<b>4.0000e-003</b>		<b>4.0000e-003</b>	<b>4.0000e-003</b>		<b>63.2146</b>	<b>63.2146</b>	<b>1.2100e-003</b>	<b>1.1600e-003</b>	<b>63.5903</b>

**Mitigated**

	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	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No	0.537324	5.7900e-003	0.0527	0.0443	3.2000e-004		4.0000e-003	4.0000e-003		4.0000e-003	4.0000e-003		63.2146	63.2146	1.2100e-003	1.1600e-003	63.5903
<b>Total</b>		<b>5.7900e-003</b>	<b>0.0527</b>	<b>0.0443</b>	<b>3.2000e-004</b>		<b>4.0000e-003</b>	<b>4.0000e-003</b>		<b>4.0000e-003</b>	<b>4.0000e-003</b>		<b>63.2146</b>	<b>63.2146</b>	<b>1.2100e-003</b>	<b>1.1600e-003</b>	<b>63.5903</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2593	2.1000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0461	0.0461	1.3000e-004		0.0493
Unmitigated	4.2593	2.1000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0461	0.0461	1.3000e-004		0.0493

### 6.2 Area by SubCategory

#### Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1500e-003	2.1000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0461	0.0461	1.3000e-004		0.0493
<b>Total</b>	<b>4.2593</b>	<b>2.1000e-004</b>	<b>0.0220</b>	<b>0.0000</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>0.0461</b>	<b>0.0461</b>	<b>1.3000e-004</b>		<b>0.0493</b>

## Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4842					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1500e-003	2.1000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0461	0.0461	1.3000e-004		0.0493
<b>Total</b>	<b>4.2593</b>	<b>2.1000e-004</b>	<b>0.0220</b>	<b>0.0000</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>0.0461</b>	<b>0.0461</b>	<b>1.3000e-004</b>		<b>0.0493</b>

## 7.0 Water Detail

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### 7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

## 8.0 Waste Detail

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### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

## 9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	4	8.00	260	89	0.20	CNG

### UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Equipment Type	lb/day										lb/day						
Forklifts	0.9078	7.8132	5.0520	6.1000e-003		0.6533	0.6533		0.6011	0.6011			634.8878	634.8878	0.1915		639.6754
<b>Total</b>	<b>0.9078</b>	<b>7.8132</b>	<b>5.0520</b>	<b>6.1000e-003</b>		<b>0.6533</b>	<b>0.6533</b>		<b>0.6011</b>	<b>0.6011</b>			<b>634.8878</b>	<b>634.8878</b>	<b>0.1915</b>		<b>639.6754</b>