

# **Appendix A**

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## Air Quality Calculations

NOT FOR SALE

Unmitigated Construction Emissions

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5Total
	lb/day									
2024	12.52	118.72	99.05	0.42	36.82	4.34	39.23	14.56	4.03	16.82
Fugative Dust	-	-	-	-	13.12	-	13.12	2.00	-	2.00
<b>Maximum</b>	<b>12.52</b>	<b>118.72</b>	<b>99.05</b>	<b>0.42</b>	<b>49.95</b>	<b>4.34</b>	<b>52.35</b>	<b>16.55</b>	<b>4.03</b>	<b>18.82</b>

Unmitigated GHG Emissions

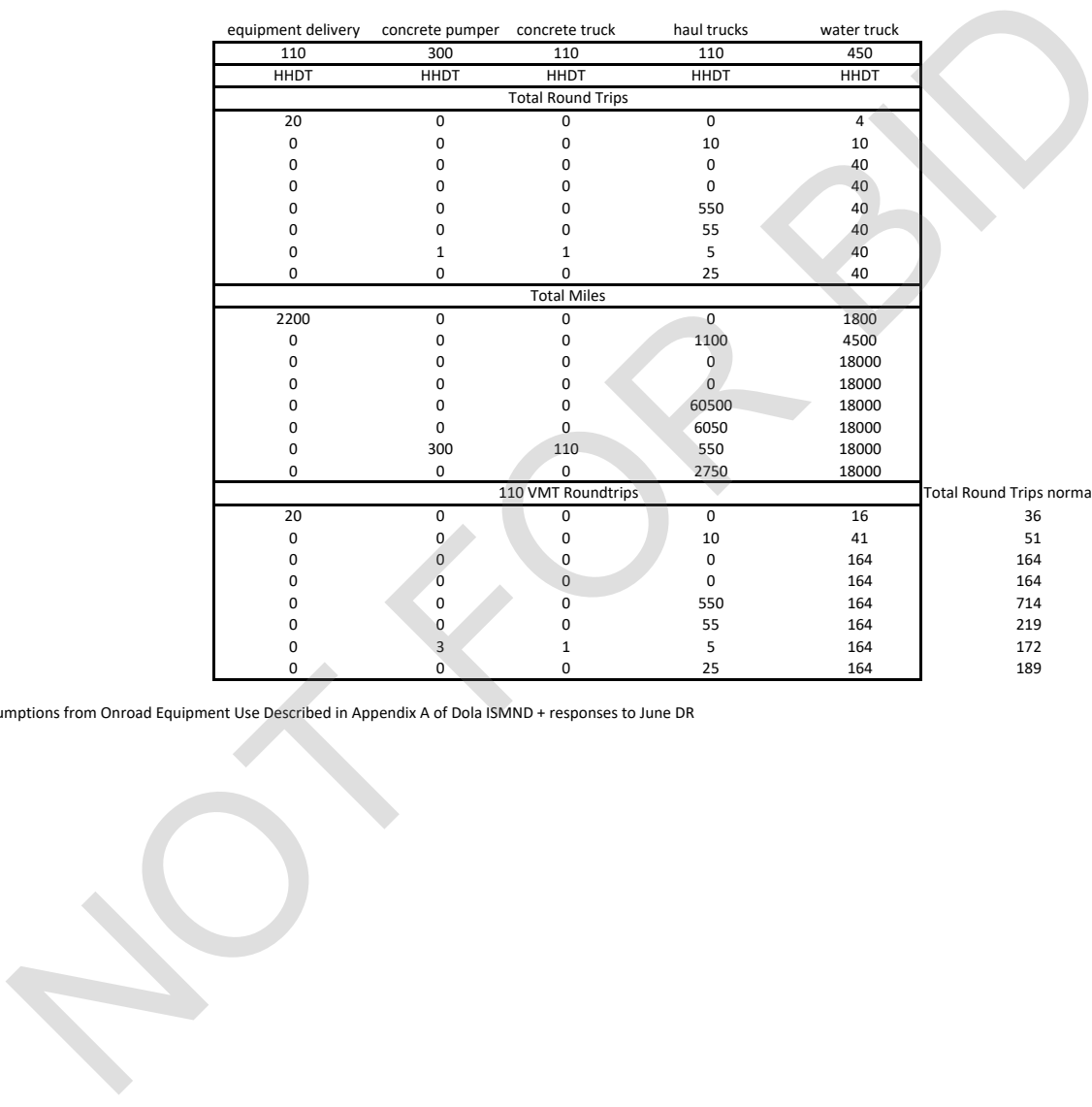
Year	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	MT/yr					
2024	0	1103	1103	0	0	1132
<b>Maximum</b>	<b>0.00</b>	<b>1103.08</b>	<b>1103.08</b>	<b>0.06</b>	<b>0.09</b>	<b>1132.24</b>

NOT FOR BIDDING

Phase	Trip Type NumDays	employee	crew truck	fuel truck	misc supplies delivery	supply delivery	Total Delivery RT/Day
		120	110	110	110	110	
		Worker	Delivery	Delivery	Delivery	Delivery	
		RoundTrip/Day	RoundTrip/Day				
1	2	40	20	1	2	2	25
2	5	40	20	1	2	0	23
3	20	40	20	1	2	0	23
4	20	40	20	1	2	0	23
5	20	40	20	1	2	0	23
6	20	40	20	1	2	0	23
7	20	40	20	1	2	0	23
8	20	40	20	1	2	0	23

Phase	equipment delivery	concrete pumper	concrete truck	haul trucks	water truck	Total Round Trips normalized to 110VMT
	110	300	110	110	450	
	HHDT	HHDT	HHDT	HHDT	HHDT	
	Total Round Trips					
1	20	0	0	0	4	
2	0	0	0	10	10	
3	0	0	0	0	40	
4	0	0	0	0	40	
5	0	0	0	550	40	
6	0	0	0	55	40	
7	0	1	1	5	40	
8	0	0	0	25	40	
	Total Miles					
1	2200	0	0	0	1800	
2	0	0	0	1100	4500	
3	0	0	0	0	18000	
4	0	0	0	0	18000	
5	0	0	0	60500	18000	
6	0	0	0	6050	18000	
7	0	300	110	550	18000	
8	0	0	0	2750	18000	
	110 VMT Roundtrips					
1	20	0	0	0	16	36
2	0	0	0	10	41	51
3	0	0	0	0	164	164
4	0	0	0	0	164	164
5	0	0	0	550	164	714
6	0	0	0	55	164	219
7	0	3	1	5	164	172
8	0	0	0	25	164	189

\*Vehicle assumptions from Onroad Equipment Use Described in Appendix A of Dola ISMND + responses to June DR



**Dola/Lansit Project**  
**Fugitive Dust Emissions**

**Assumptions:**

1. Fugitive dust emissions are estimated using AP-42.
2. VMT assumptions are derived from County supplied estimates and are presented under "On-Road Trips". Amount of material handling assumptions provided by County.
3. Dust from equipment usage included in CalEEMod results

**Emission Categories**

- 1) Material Loading and Handling
- 2) Disturbed Area Windblown Emissions

**1) Material Loading and Handling**

Material Loading/Handling (AP-42, p. 13.2.4.3)  
 $E = (k)(0.0032)[(U/5)^{1-3}]/[(M/2)^{1-4}]$   
 E = lb/ton  
 k = Particle Size Constant (0.35 for PM10 and 0.053 for PM2.5)  
 U = average wind speed = 25 MPH worst day (engineering assumption)  
 M = moisture content = 2% uncontrolled and 12% controlled  
 Two separate drops are assumed for sediment movement  
 Foundation excavation scraper loading emissions calculated separately

Truckload Typ
20 ton/trip

**Emission Factors**

	PM10	PM2.5
Uncontrolled	0.0182	0.0027
Controlled	0.0015	0.0002

**2) Disturbed Area Windblown Emissions**

Assumptions  
 Emission Factor is 0.38 tons/disturbed acres/year of Total Suspended Particulate (AP-42 Section 11.9)  
 PM10 and PM2.5 fractions of TSP are 0.489 and 0.102 respectively per CEIDARS factors from SCAQMD CEQA Website  
 Disturbed areas are controlled by watering - 55% control

**Uncontrolled Emissions Factors**

PM10	PM2.5
lbs/acre-day	lbs/acre-day
1.018	0.213

**Controlled Emissions Factors**

PM10	PM2.5
lbs/acre-day	lbs/acre-day
0.458	0.096

**Fugitive Dust Emissions Summary - Unmitigated**

truck trips	acres disturbed	days	Phase I
36	0.00	2	Mobilization/Demobilization
51	3.28	5	Demolition
164	3.28	20	Excavation
164	3.28	20	Placement of Embankment
714	3.28	20	Loading and Hauling of Excess Mterial
219	3.28	20	Rock Slope Protection
172	3.28	20	Bridge Construction
189	3.28	20	Street Improvement

	Uncontrolled (lb)						Daily (lb/day)	
	Material Handling		Wind Erosion		Totals		PM10	PM2.5
	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5		
	13.20	2.00	-	-	13.20	2.00	6.60	1.00
	18.48	2.80	3.34	0.70	21.82	3.50	4.36	0.70
	59.40	9.00	3.34	0.70	62.74	9.70	3.14	0.48
	59.40	9.00	3.34	0.70	62.74	9.70	3.14	0.48
	259.07	39.23	3.34	0.70	262.41	39.93	13.12	2.00
	79.37	12.02	3.34	0.70	82.71	12.72	4.14	0.64
	62.57	9.48	3.34	0.70	65.91	10.18	3.30	0.51
	68.48	10.37	3.34	0.70	71.82	11.07	3.59	0.55
Maximum	259.07	39.23	3.34	0.70	262.41	39.93	13.12	2.00

Material	Description	Dola	Lanzit	
Hot Mix Asphalt	HMA needed for road section, dikes, and miscellaneous areas.	573	533	CY
Aggregate Base	Aggregate base needed for road section.	518	481	CY
Structural Concrete	Bridge superstructure and substructures.	517	526	CY
Minor Concrete	Vegetation Control	34	34	CY
Imported Borrow	Small amount of fill required; anticipate reuse of native soil excavated.	0	0	CY
Structural Backfill (Bridge)	Backfill needed at bridge abutments and wingwalls.	307	280	CY
Rock Slope Protection	Rock slope protection at bridge abutments and wingwalls.	844	774	CY
		2793	2628	

round trips (10 CY / trip)

5421 76.35211 542.1  
542.1

**Exported:**

Material	Description	Dola	Lanzit	
Asphalt Concrete	Cold plane asphalt concrete	5	5	CY
Asphalt Concrete Wearing Surface	Asphalt concrete wearing surface with Performed Membrane Deck Seal.	27	35	CY
Excavated Soil	Total Excavation @ Dola 2,280CY Total Excavation @ Lanzit 2,246CY  Total Excavation includes roadway, channel, bridge, RSP excavation. A portion of the native soil excavated will be reused but majority will be spread throughout the site within the APE limits.  Excess soil @ Dola 2280 CY Excess soil @ Lanzit 2246 CY	0	0	CY
Timber	Demolish bridge material waste	37	46	MFMB
Structural Steel	Demolish bridge material waste	8,000	10,000	LB
MGS	Midwest Guardrail System Railing at bridge approach and departure.	400	400	LF
		32	40	

round trips (10 CY / trip)

72 0.947368 7.2

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Mobilization/Demobilization	Generator Sets	1	16	84	0.74
Demolition	Generator Sets	1	16	84	0.74
Demolition	Graders	1	16	187	0.41
Demolition	Other Construction Equipment	2	16	50	0.42
Demolition	Rubber Tired Dozers	1	12	247	0.4
Demolition	Tractors/Loaders/Backhoes	1	16	97	0.37
Excavation	Excavators	1	12	158	0.38
Excavation	Generator Sets	1	8	84	0.74
Excavation	Rubber Tired Dozers	2	8	247	0.4
Excavation	Scrapers	5	8	367	0.48
Placement of Embankment	Generator Sets	1	16	84	0.74
Placement of Embankment	Graders	1	12	187	0.41
Placement of Embankment	Rollers	1	10	80	0.38
Placement of Embankment	Rubber Tired Dozers	1	12	247	0.4
Placement of Embankment	Tractors/Loaders/Backhoes	1	12	97	0.37
Loading and Hauling of Excess Mterial	Generator Sets	1	16	84	0.74
Loading and Hauling of Excess Mterial	Rubber Tired Dozers	1	10	247	0.4
Loading and Hauling of Excess Mterial	Tractors/Loaders/Backhoes	1	10	97	0.37
Rock Slope Protection	Excavators	1	12	158	0.38
Rock Slope Protection	Generator Sets	1	16	84	0.74
Rock Slope Protection	Pumps	1	8	84	0.74
Rock Slope Protection	Tractors/Loaders/Backhoes	1	12	97	0.37
Bridge Construction	Air Compressors	1	12	78	0.48
Bridge Construction	Cement and Mortar Mixers	4	8	9	0.56
Bridge Construction	Generator Sets	1	16	84	0.74
Bridge Construction	Other Construction Equipment	1	8	43	0.42
Street Improvement	Air Compressors	1	12	78	0.48
Street Improvement	Generator Sets	1	16	84	0.74
Street Improvement	Graders	1	12	187	0.41
Street Improvement	Pavers	1	10	130	0.42
Street Improvement	Rollers	1	12	80	0.38

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**Dola/Lansit Addendum  
Mojave Desert Air Basin, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.28	Acre	3.28	142,876.80	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	10			<b>Operational Year</b>	2025
<b>Utility Company</b>					
<b>CO2 Intensity (lb/MW hr)</b>	0	<b>CH4 Intensity (lb/MW hr)</b>	0	<b>N2O Intensity (lb/MW hr)</b>	0

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

Project Characteristics -

Land Use -

Construction Phase - Gantt Chart and DR 1 and 2

Off-road Equipment - Other is concrete pump

Off-road Equipment - Data Response. Other equipment includes chippers and chainsaws

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Off-road Equipment - Offroad Equipment Use DOLA ISMND and data request responses

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Trips and VMT - Optimize with approx. 60 workers/day in two shifts. Crew trucks to bring in at least 2 employees per vehicle.

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

- Grading - DR
- Vehicle Trips - No operation phase
- Consumer Products - No Operation
- Area Coating - No Operation
- Water And Wastewater - No Operation
- Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Parking	8573	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintParkingValue	0	250
tblConstructionPhase	NumDays	5.00	2.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	18.00	20.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblGrading	AcresOfGrading	30.00	3.50
tblGrading	AcresOfGrading	12.50	3.50
tblGrading	MaterialExported	0.00	72.00
tblGrading	MaterialImported	0.00	5,421.00
tblOffRoadEquipment	HorsePower	172.00	43.00
tblOffRoadEquipment	HorsePower	172.00	50.00
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	PhaseName		Bridge Construction
tblOffRoadEquipment	PhaseName		Street Improvement
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Bridge Construction

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblOffRoadEquipment	PhaseName		Placement of Embankment
tblOffRoadEquipment	PhaseName		Loading and Hauling of Excess Mterial
tblOffRoadEquipment	PhaseName		Rock Slope Protection
tblOffRoadEquipment	PhaseName		Street Improvement
tblOffRoadEquipment	PhaseName		Street Improvement
tblOffRoadEquipment	PhaseName		Rock Slope Protection
tblOffRoadEquipment	PhaseName		Placement of Embankment
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Bridge Construction
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	16.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	6.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tbITripsAndVMT	HaulingTripLength	20.00	110.00
tbITripsAndVMT	HaulingTripLength	20.00	110.00
tbITripsAndVMT	HaulingTripLength	20.00	110.00
tbITripsAndVMT	HaulingTripNumber	0.00	36.36
tbITripsAndVMT	HaulingTripNumber	0.00	50.91
tbITripsAndVMT	HaulingTripNumber	0.00	163.64
tbITripsAndVMT	HaulingTripNumber	687.00	163.64
tbITripsAndVMT	HaulingTripNumber	0.00	713.64
tbITripsAndVMT	HaulingTripNumber	0.00	218.64
tbITripsAndVMT	HaulingTripNumber	0.00	172.36
tbITripsAndVMT	HaulingTripNumber	0.00	188.64
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripNumber	0.00	25.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	WorkerTripLength	10.80	120.00
tbITripsAndVMT	WorkerTripLength	10.80	120.00
tbITripsAndVMT	WorkerTripLength	10.80	120.00

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripNumber	3.00	60.00
tblTripsAndVMT	WorkerTripNumber	10.00	60.00
tblTripsAndVMT	WorkerTripNumber	10.00	60.00
tblTripsAndVMT	WorkerTripNumber	13.00	60.00
tblTripsAndVMT	WorkerTripNumber	8.00	60.00
tblTripsAndVMT	WorkerTripNumber	10.00	60.00
tblTripsAndVMT	WorkerTripNumber	13.00	60.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00

**2.0 Emissions Summary**

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Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.2000e-004	7.2000e-004	0.0000		7.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
<b>Total</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>3.3000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>7.2000e-004</b>	<b>7.2000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>7.6000e-004</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.2000e-004	7.2000e-004	0.0000		7.6000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
<b>Total</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>3.3000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>7.2000e-004</b>	<b>7.2000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>7.6000e-004</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	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	Mobilization/Demobilization	Site Preparation	5/1/2024	5/2/2024	5	2	
2	Demolition	Demolition	5/3/2024	5/9/2024	5	5	
3	Excavation	Trenching	5/9/2024	6/5/2024	5	20	
4	Placement of Embankment	Grading	6/5/2024	7/2/2024	5	20	
5	Loading and Hauling of Excess Material	Grading	7/2/2024	7/29/2024	5	20	
6	Rock Slope Protection	Grading	7/30/2024	8/26/2024	5	20	
7	Bridge Construction	Building Construction	8/26/2024	9/20/2024	5	20	
8	Street Improvement	Paving	9/21/2024	10/18/2024	5	20	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 3.5**

**Acres of Paving: 3.28**

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

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization/Demobilization	Generator Sets	1	16.00	84	0.74
Excavation	Scrapers	5	8.00	367	0.48
Demolition	Generator Sets	1	16.00	84	0.74

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Demolition	Rubber Tired Dozers	1	12.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	16.00	97	0.37
Excavation	Excavators	1	12.00	158	0.38
Bridge Construction	Cement and Mortar Mixers	4	8.00	9	0.56
Excavation	Rubber Tired Dozers	2	8.00	247	0.40
Bridge Construction	Other Construction Equipment	1	8.00	43	0.42
Placement of Embankment	Generator Sets	1	16.00	84	0.74
Placement of Embankment	Graders	1	12.00	187	0.41
Placement of Embankment	Rollers	1	10.00	80	0.38
Placement of Embankment	Rubber Tired Dozers	1	12.00	247	0.40
Placement of Embankment	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Loading and Hauling of Excess Mterial	Generator Sets	1	16.00	84	0.74
Loading and Hauling of Excess Mterial	Rubber Tired Dozers	1	10.00	247	0.40
Loading and Hauling of Excess Mterial	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Rock Slope Protection	Excavators	1	12.00	158	0.38
Rock Slope Protection	Generator Sets	1	16.00	84	0.74
Rock Slope Protection	Pumps	1	8.00	84	0.74
Rock Slope Protection	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Bridge Construction	Air Compressors	1	12.00	78	0.48
Bridge Construction	Generator Sets	1	16.00	84	0.74
Street Improvement	Air Compressors	1	12.00	78	0.48
Street Improvement	Generator Sets	1	16.00	84	0.74
Street Improvement	Graders	1	12.00	187	0.41
Street Improvement	Pavers	1	10.00	130	0.42
Street Improvement	Rollers	1	12.00	80	0.38
Demolition	Graders	1	16.00	187	0.41
Demolition	Other Construction Equipment	2	16.00	50	0.42
Excavation	Generator Sets	1	8.00	84	0.74

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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
Mobilization/Demobilization	1	60.00	25.00	36.36	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Demolition	4	60.00	23.00	50.91	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Excavation	4	60.00	23.00	163.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Placement of Embankment	5	60.00	23.00	163.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Loading and Hauling of Excess Material	3	60.00	23.00	713.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Rock Slope Protection	4	60.00	23.00	218.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Bridge Construction	3	60.00	23.00	172.36	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Street Improvement	5	60.00	23.00	188.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.2 Mobilization/Demobilization - 2024**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5701	5.0891	7.3278	0.0132		0.2215	0.2215		0.2215	0.2215		1,246.0691	1,246.0691	0.0504		1,247.3299
<b>Total</b>	<b>0.5701</b>	<b>5.0891</b>	<b>7.3278</b>	<b>0.0132</b>	<b>0.0000</b>	<b>0.2215</b>	<b>0.2215</b>	<b>0.0000</b>	<b>0.2215</b>	<b>0.2215</b>		<b>1,246.0691</b>	<b>1,246.0691</b>	<b>0.0504</b>		<b>1,247.3299</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Mobilization/Demobilization - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1191	9.1132	1.2186	0.0528	1.7602	0.1367	1.8969	0.4834	0.1308	0.6142		5,593.7568	5,593.7568	8.6300e-003	0.8792	5,855.9838
Vendor	0.1953	9.0509	1.5798	0.0656	2.5458	0.1194	2.6652	0.7322	0.1142	0.8464		6,904.9770	6,904.9770	0.0122	0.9475	7,187.6389
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.5429</b>	<b>19.0942</b>	<b>14.2738</b>	<b>0.1604</b>	<b>9.7764</b>	<b>0.2790</b>	<b>10.0554</b>	<b>2.6659</b>	<b>0.2660</b>	<b>2.9319</b>		<b>16,737.3276</b>	<b>16,737.3276</b>	<b>0.0767</b>	<b>1.9169</b>	<b>17,310.4711</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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5701	5.0891	7.3278	0.0132		0.2215	0.2215		0.2215	0.2215	0.0000	1,246.0691	1,246.0691	0.0504		1,247.3299
<b>Total</b>	<b>0.5701</b>	<b>5.0891</b>	<b>7.3278</b>	<b>0.0132</b>	<b>0.0000</b>	<b>0.2215</b>	<b>0.2215</b>	<b>0.0000</b>	<b>0.2215</b>	<b>0.2215</b>	<b>0.0000</b>	<b>1,246.0691</b>	<b>1,246.0691</b>	<b>0.0504</b>		<b>1,247.3299</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.2 Mobilization/Demobilization - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1191	9.1132	1.2186	0.0528	1.7602	0.1367	1.8969	0.4834	0.1308	0.6142		5,593.7568	5,593.7568	8.6300e-003	0.8792	5,855.9838
Vendor	0.1953	9.0509	1.5798	0.0656	2.5458	0.1194	2.6652	0.7322	0.1142	0.8464		6,904.9770	6,904.9770	0.0122	0.9475	7,187.6389
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.5429</b>	<b>19.0942</b>	<b>14.2738</b>	<b>0.1604</b>	<b>9.7764</b>	<b>0.2790</b>	<b>10.0554</b>	<b>2.6659</b>	<b>0.2660</b>	<b>2.9319</b>		<b>16,737.3276</b>	<b>16,737.3276</b>	<b>0.0767</b>	<b>1.9169</b>	<b>17,310.4711</b>

**3.3 Demolition - 2024**

**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	3.8202	33.5708	27.1710	0.0534		1.5515	1.5515		1.4451	1.4451		5,142.4674	5,142.4674	1.3106		5,175.2325
<b>Total</b>	<b>3.8202</b>	<b>33.5708</b>	<b>27.1710</b>	<b>0.0534</b>		<b>1.5515</b>	<b>1.5515</b>		<b>1.4451</b>	<b>1.4451</b>		<b>5,142.4674</b>	<b>5,142.4674</b>	<b>1.3106</b>		<b>5,175.2325</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Demolition - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0657	5.0246	0.6719	0.0291	0.9819	0.0754	1.0573	0.2694	0.0721	0.3415		3,084.125 4	3,084.125 4	4.7600e- 003	0.4848	3,228.704 6
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.578 9	6,352.578 9	0.0112	0.8717	6,612.627 8
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.593 8	4,238.593 8	0.0560	0.0901	4,266.848 4
<b>Total</b>	<b>1.4738</b>	<b>14.2815</b>	<b>13.6007</b>	<b>0.1315</b>	<b>8.7945</b>	<b>0.2081</b>	<b>9.0026</b>	<b>2.3932</b>	<b>0.1982</b>	<b>2.5914</b>		<b>13,675.29 80</b>	<b>13,675.29 80</b>	<b>0.0719</b>	<b>1.4466</b>	<b>14,108.18 07</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	3.8202	26.9621	27.1710	0.0534		1.5515	1.5515		1.4451	1.4451	0.0000	5,142.467 4	5,142.467 4	1.3106		5,175.232 5
<b>Total</b>	<b>3.8202</b>	<b>26.9621</b>	<b>27.1710</b>	<b>0.0534</b>		<b>1.5515</b>	<b>1.5515</b>		<b>1.4451</b>	<b>1.4451</b>	<b>0.0000</b>	<b>5,142.467 4</b>	<b>5,142.467 4</b>	<b>1.3106</b>		<b>5,175.232 5</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.3 Demolition - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0657	5.0246	0.6719	0.0291	0.9819	0.0754	1.0573	0.2694	0.0721	0.3415		3,084.1254	3,084.1254	4.7600e-003	0.4848	3,228.7046
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.4738</b>	<b>14.2815</b>	<b>13.6007</b>	<b>0.1315</b>	<b>8.7945</b>	<b>0.2081</b>	<b>9.0026</b>	<b>2.3932</b>	<b>0.1982</b>	<b>2.5914</b>		<b>13,675.2980</b>	<b>13,675.2980</b>	<b>0.0719</b>	<b>1.4466</b>	<b>14,108.1807</b>

**3.4 Excavation - 2024**

**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	5.7649	57.5750	44.8078	0.1077		2.3852	2.3852		2.2032	2.2032		10,409.6120	10,409.6120	3.1904		10,489.3719
<b>Total</b>	<b>5.7649</b>	<b>57.5750</b>	<b>44.8078</b>	<b>0.1077</b>		<b>2.3852</b>	<b>2.3852</b>		<b>2.2032</b>	<b>2.2032</b>		<b>10,409.6120</b>	<b>10,409.6120</b>	<b>3.1904</b>		<b>10,489.3719</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Excavation - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0528	4.0394	0.5401	0.0234	0.7891	0.0606	0.8497	0.2165	0.0580	0.2745		2,479.3949	2,479.3949	3.8200e-003	0.3897	2,595.6252
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.4609</b>	<b>13.2963</b>	<b>13.4690</b>	<b>0.1257</b>	<b>8.6017</b>	<b>0.1933</b>	<b>8.7950</b>	<b>2.3403</b>	<b>0.1841</b>	<b>2.5244</b>		<b>13,070.5676</b>	<b>13,070.5676</b>	<b>0.0710</b>	<b>1.3515</b>	<b>13,475.1014</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	5.7649	18.9042	44.8078	0.1077		2.3852	2.3852		2.2032	2.2032	0.0000	10,409.6120	10,409.6120	3.1904		10,489.3718
<b>Total</b>	<b>5.7649</b>	<b>18.9042</b>	<b>44.8078</b>	<b>0.1077</b>		<b>2.3852</b>	<b>2.3852</b>		<b>2.2032</b>	<b>2.2032</b>	<b>0.0000</b>	<b>10,409.6120</b>	<b>10,409.6120</b>	<b>3.1904</b>		<b>10,489.3718</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Excavation - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0528	4.0394	0.5401	0.0234	0.7891	0.0606	0.8497	0.2165	0.0580	0.2745		2,479.3949	2,479.3949	3.8200e-003	0.3897	2,595.6252
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.4609</b>	<b>13.2963</b>	<b>13.4690</b>	<b>0.1257</b>	<b>8.6017</b>	<b>0.1933</b>	<b>8.7950</b>	<b>2.3403</b>	<b>0.1841</b>	<b>2.5244</b>		<b>13,070.5676</b>	<b>13,070.5676</b>	<b>0.0710</b>	<b>1.3515</b>	<b>13,475.1014</b>

**3.5 Placement of Embankment - 2024**

**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					9.2573	0.0000	9.2573	4.9912	0.0000	4.9912			0.0000			0.0000
Off-Road	2.5426	26.0919	20.1750	0.0438		1.1059	1.1059		1.0351	1.0351		4,217.6341	4,217.6341	1.0115		4,242.9215
<b>Total</b>	<b>2.5426</b>	<b>26.0919</b>	<b>20.1750</b>	<b>0.0438</b>	<b>9.2573</b>	<b>1.1059</b>	<b>10.3632</b>	<b>4.9912</b>	<b>1.0351</b>	<b>6.0264</b>		<b>4,217.6341</b>	<b>4,217.6341</b>	<b>1.0115</b>		<b>4,242.9215</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Placement of Embankment - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0528	4.0394	0.5401	0.0234	0.7891	0.0606	0.8497	0.2165	0.0580	0.2745		2,479.394 9	2,479.394 9	3.8200e- 003	0.3897	2,595.625 2
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.578 9	6,352.578 9	0.0112	0.8717	6,612.627 8
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.593 8	4,238.593 8	0.0560	0.0901	4,266.848 4
<b>Total</b>	<b>1.4609</b>	<b>13.2963</b>	<b>13.4690</b>	<b>0.1257</b>	<b>8.6017</b>	<b>0.1933</b>	<b>8.7950</b>	<b>2.3403</b>	<b>0.1841</b>	<b>2.5244</b>		<b>13,070.56 76</b>	<b>13,070.56 76</b>	<b>0.0710</b>	<b>1.3515</b>	<b>13,475.10 14</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					9.2573	0.0000	9.2573	4.9912	0.0000	4.9912			0.0000			0.0000
Off-Road	2.5426	26.0919	20.1750	0.0438		1.1059	1.1059		1.0351	1.0351	0.0000	4,217.634 1	4,217.634 1	1.0115		4,242.921 5
<b>Total</b>	<b>2.5426</b>	<b>26.0919</b>	<b>20.1750</b>	<b>0.0438</b>	<b>9.2573</b>	<b>1.1059</b>	<b>10.3632</b>	<b>4.9912</b>	<b>1.0351</b>	<b>6.0264</b>	<b>0.0000</b>	<b>4,217.634 1</b>	<b>4,217.634 1</b>	<b>1.0115</b>		<b>4,242.921 5</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Placement of Embankment - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0528	4.0394	0.5401	0.0234	0.7891	0.0606	0.8497	0.2165	0.0580	0.2745		2,479.3949	2,479.3949	3.8200e-003	0.3897	2,595.6252
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.4609</b>	<b>13.2963</b>	<b>13.4690</b>	<b>0.1257</b>	<b>8.6017</b>	<b>0.1933</b>	<b>8.7950</b>	<b>2.3403</b>	<b>0.1841</b>	<b>2.5244</b>		<b>13,070.5676</b>	<b>13,070.5676</b>	<b>0.0710</b>	<b>1.3515</b>	<b>13,475.1014</b>

**3.6 Loading and Hauling of Excess Mterial - 2024**

**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					7.7132	0.0000	7.7132	4.1578	0.0000	4.1578			0.0000			0.0000
Off-Road	1.6188	15.8090	14.0361	0.0277		0.7060	0.7060		0.6672	0.6672		2,657.0038	2,657.0038	0.5068		2,669.6727
<b>Total</b>	<b>1.6188</b>	<b>15.8090</b>	<b>14.0361</b>	<b>0.0277</b>	<b>7.7132</b>	<b>0.7060</b>	<b>8.4192</b>	<b>4.1578</b>	<b>0.6672</b>	<b>4.8251</b>		<b>2,657.0038</b>	<b>2,657.0038</b>	<b>0.5068</b>		<b>2,669.6727</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Loading and Hauling of Excess Mterial - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2299	17.5860	2.3516	0.1020	3.4400	0.2638	3.7038	0.9436	0.2524	1.1959		10,794.4388	10,794.4388	0.0166	1.6967	11,300.4660
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.6380</b>	<b>26.8429</b>	<b>15.2804</b>	<b>0.2043</b>	<b>11.2526</b>	<b>0.3965</b>	<b>11.6491</b>	<b>3.0674</b>	<b>0.3785</b>	<b>3.4459</b>		<b>21,385.6115</b>	<b>21,385.6115</b>	<b>0.0838</b>	<b>2.6585</b>	<b>22,179.9421</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					7.7132	0.0000	7.7132	4.1578	0.0000	4.1578			0.0000			0.0000
Off-Road	1.6188	15.8090	14.0361	0.0277		0.7060	0.7060		0.6672	0.6672	0.0000	2,657.0038	2,657.0038	0.5068		2,669.6727
<b>Total</b>	<b>1.6188</b>	<b>15.8090</b>	<b>14.0361</b>	<b>0.0277</b>	<b>7.7132</b>	<b>0.7060</b>	<b>8.4192</b>	<b>4.1578</b>	<b>0.6672</b>	<b>4.8251</b>	<b>0.0000</b>	<b>2,657.0038</b>	<b>2,657.0038</b>	<b>0.5068</b>		<b>2,669.6727</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Loading and Hauling of Excess Mterial - 2024**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2299	17.5860	2.3516	0.1020	3.4400	0.2638	3.7038	0.9436	0.2524	1.1959		10,794.4388	10,794.4388	0.0166	1.6967	11,300.4660
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.6380</b>	<b>26.8429</b>	<b>15.2804</b>	<b>0.2043</b>	<b>11.2526</b>	<b>0.3965</b>	<b>11.6491</b>	<b>3.0674</b>	<b>0.3785</b>	<b>3.4459</b>		<b>21,385.6115</b>	<b>21,385.6115</b>	<b>0.0838</b>	<b>2.6585</b>	<b>22,179.9421</b>

**3.7 Rock Slope Protection - 2024**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3622	11.9443	19.2985	0.0322		0.5421	0.5421		0.5258	0.5258		3,072.1519	3,072.1519	0.4669		3,083.8251
<b>Total</b>	<b>1.3622</b>	<b>11.9443</b>	<b>19.2985</b>	<b>0.0322</b>	<b>0.0000</b>	<b>0.5421</b>	<b>0.5421</b>	<b>0.0000</b>	<b>0.5258</b>	<b>0.5258</b>		<b>3,072.1519</b>	<b>3,072.1519</b>	<b>0.4669</b>		<b>3,083.8251</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.7 Rock Slope Protection - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0705	5.3940	0.7213	0.0313	1.0542	0.0809	1.1351	0.2892	0.0774	0.3666		3,310.899 3	3,310.899 3	5.1100e- 003	0.5204	3,466.109 3
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.578 9	6,352.578 9	0.0112	0.8717	6,612.627 8
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.593 8	4,238.593 8	0.0560	0.0901	4,266.848 4
<b>Total</b>	<b>1.4787</b>	<b>14.6509</b>	<b>13.6501</b>	<b>0.1336</b>	<b>8.8668</b>	<b>0.2136</b>	<b>9.0804</b>	<b>2.4130</b>	<b>0.2035</b>	<b>2.6166</b>		<b>13,902.07 20</b>	<b>13,902.07 20</b>	<b>0.0723</b>	<b>1.4822</b>	<b>14,345.58 55</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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3622	11.9443	19.2985	0.0322		0.5421	0.5421		0.5258	0.5258	0.0000	3,072.151 9	3,072.151 9	0.4669		3,083.825 1
<b>Total</b>	<b>1.3622</b>	<b>11.9443</b>	<b>19.2985</b>	<b>0.0322</b>	<b>0.0000</b>	<b>0.5421</b>	<b>0.5421</b>	<b>0.0000</b>	<b>0.5258</b>	<b>0.5258</b>	<b>0.0000</b>	<b>3,072.151 9</b>	<b>3,072.151 9</b>	<b>0.4669</b>		<b>3,083.825 1</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.7 Rock Slope Protection - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0705	5.3940	0.7213	0.0313	1.0542	0.0809	1.1351	0.2892	0.0774	0.3666		3,310.899 3	3,310.899 3	5.1100e- 003	0.5204	3,466.109 3
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.578 9	6,352.578 9	0.0112	0.8717	6,612.627 8
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.593 8	4,238.593 8	0.0560	0.0901	4,266.848 4
<b>Total</b>	<b>1.4787</b>	<b>14.6509</b>	<b>13.6501</b>	<b>0.1336</b>	<b>8.8668</b>	<b>0.2136</b>	<b>9.0804</b>	<b>2.4130</b>	<b>0.2035</b>	<b>2.6166</b>		<b>13,902.07 20</b>	<b>13,902.07 20</b>	<b>0.0723</b>	<b>1.4822</b>	<b>14,345.58 55</b>

**3.8 Bridge Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4274	10.4203	13.7667	0.0237		0.4966	0.4966		0.4889	0.4889		2,177.750 1	2,177.750 1	0.1570		2,181.675 7
<b>Total</b>	<b>1.4274</b>	<b>10.4203</b>	<b>13.7667</b>	<b>0.0237</b>		<b>0.4966</b>	<b>0.4966</b>		<b>0.4889</b>	<b>0.4889</b>		<b>2,177.750 1</b>	<b>2,177.750 1</b>	<b>0.1570</b>		<b>2,181.675 7</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.8 Bridge Construction - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0557	4.2610	0.5698	0.0247	0.8315	0.0639	0.8954	0.2281	0.0612	0.2893		2,615.4593	2,615.4593	4.0300e-003	0.4111	2,738.0681
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.4638</b>	<b>13.5180</b>	<b>13.4986</b>	<b>0.1270</b>	<b>8.6441</b>	<b>0.1966</b>	<b>8.8407</b>	<b>2.3520</b>	<b>0.1873</b>	<b>2.5393</b>		<b>13,206.6319</b>	<b>13,206.6319</b>	<b>0.0712</b>	<b>1.3729</b>	<b>13,617.5443</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	1.4274	7.5267	13.7667	0.0237		0.4966	0.4966		0.4889	0.4889	0.0000	2,177.7501	2,177.7501	0.1570		2,181.6757
<b>Total</b>	<b>1.4274</b>	<b>7.5267</b>	<b>13.7667</b>	<b>0.0237</b>		<b>0.4966</b>	<b>0.4966</b>		<b>0.4889</b>	<b>0.4889</b>	<b>0.0000</b>	<b>2,177.7501</b>	<b>2,177.7501</b>	<b>0.1570</b>		<b>2,181.6757</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.8 Bridge Construction - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0557	4.2610	0.5698	0.0247	0.8315	0.0639	0.8954	0.2281	0.0612	0.2893		2,615.4593	2,615.4593	4.0300e-003	0.4111	2,738.0681
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.4638</b>	<b>13.5180</b>	<b>13.4986</b>	<b>0.1270</b>	<b>8.6441</b>	<b>0.1966</b>	<b>8.8407</b>	<b>2.3520</b>	<b>0.1873</b>	<b>2.5393</b>		<b>13,206.6319</b>	<b>13,206.6319</b>	<b>0.0712</b>	<b>1.3729</b>	<b>13,617.5443</b>

**3.9 Street Improvement - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9116	18.2240	19.8240	0.0388		0.7681	0.7681		0.7341	0.7341		3,719.8978	3,719.8978	0.7002		3,737.4018
Paving	0.4297					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.3413</b>	<b>18.2240</b>	<b>19.8240</b>	<b>0.0388</b>		<b>0.7681</b>	<b>0.7681</b>		<b>0.7341</b>	<b>0.7341</b>		<b>3,719.8978</b>	<b>3,719.8978</b>	<b>0.7002</b>		<b>3,737.4018</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.9 Street Improvement - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0609	4.6551	0.6225	0.0270	0.9096	0.0698	0.9794	0.2495	0.0668	0.3163		2,857.3514	2,857.3514	4.4100e-003	0.4491	2,991.2998
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.4690</b>	<b>13.9120</b>	<b>13.5513</b>	<b>0.1293</b>	<b>8.7222</b>	<b>0.2025</b>	<b>8.9248</b>	<b>2.3734</b>	<b>0.1929</b>	<b>2.5663</b>		<b>13,448.5241</b>	<b>13,448.5241</b>	<b>0.0716</b>	<b>1.4110</b>	<b>13,870.7760</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	1.9116	18.2240	19.8240	0.0388		0.7681	0.7681		0.7341	0.7341	0.0000	3,719.8977	3,719.8977	0.7002		3,737.4018
Paving	0.4297					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.3413</b>	<b>18.2240</b>	<b>19.8240</b>	<b>0.0388</b>		<b>0.7681</b>	<b>0.7681</b>		<b>0.7341</b>	<b>0.7341</b>	<b>0.0000</b>	<b>3,719.8977</b>	<b>3,719.8977</b>	<b>0.7002</b>		<b>3,737.4018</b>

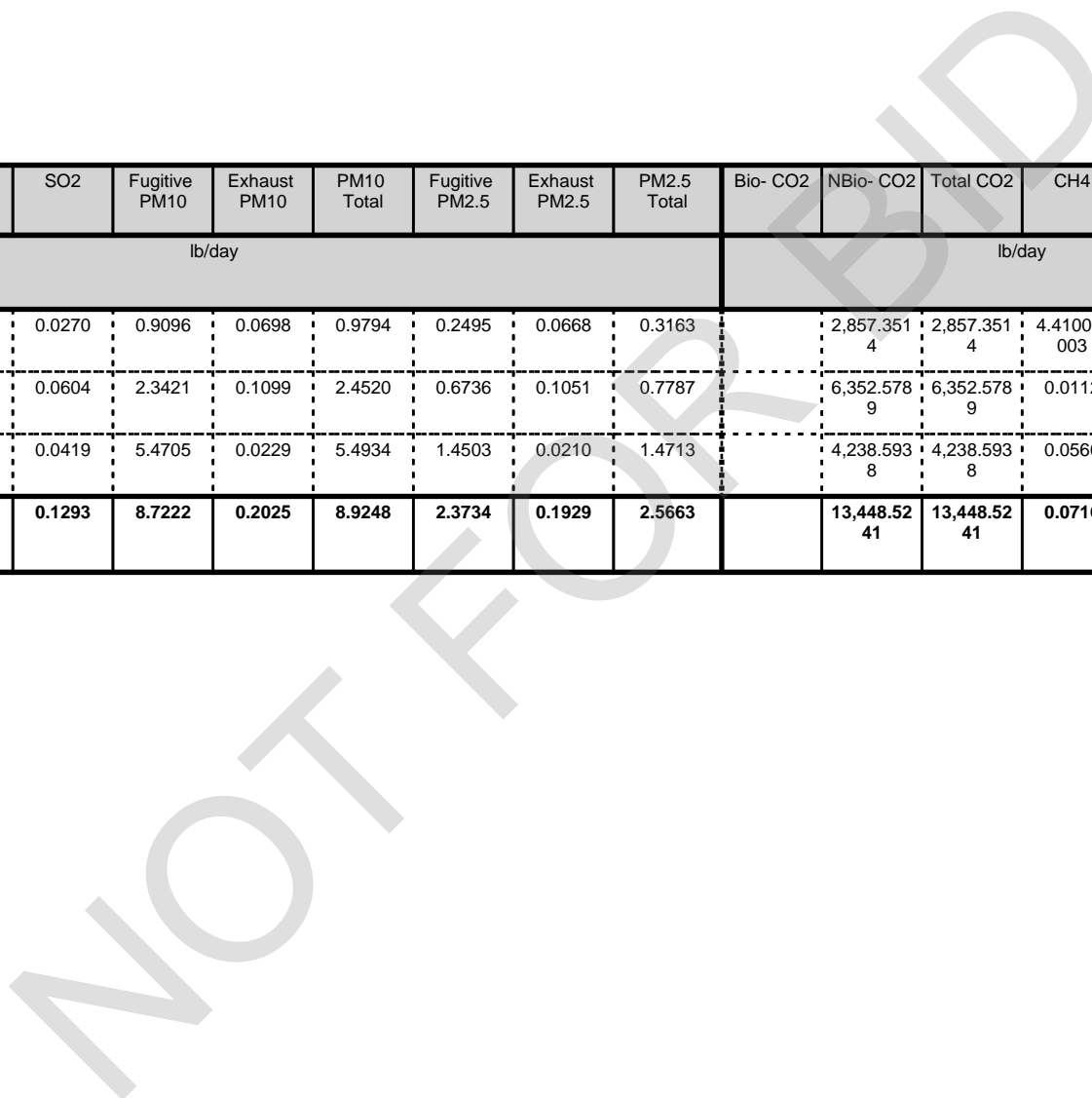
Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.9 Street Improvement - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0609	4.6551	0.6225	0.0270	0.9096	0.0698	0.9794	0.2495	0.0668	0.3163		2,857.3514	2,857.3514	4.4100e-003	0.4491	2,991.2998
Vendor	0.1797	8.3268	1.4534	0.0604	2.3421	0.1099	2.4520	0.6736	0.1051	0.7787		6,352.5789	6,352.5789	0.0112	0.8717	6,612.6278
Worker	1.2285	0.9301	11.4754	0.0419	5.4705	0.0229	5.4934	1.4503	0.0210	1.4713		4,238.5938	4,238.5938	0.0560	0.0901	4,266.8484
<b>Total</b>	<b>1.4690</b>	<b>13.9120</b>	<b>13.5513</b>	<b>0.1293</b>	<b>8.7222</b>	<b>0.2025</b>	<b>8.9248</b>	<b>2.3734</b>	<b>0.1929</b>	<b>2.5663</b>		<b>13,448.5241</b>	<b>13,448.5241</b>	<b>0.0716</b>	<b>1.4110</b>	<b>13,870.7760</b>



Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

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

**4.2 Trip Summary Information**

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

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.535455	0.056260	0.172409	0.133149	0.028776	0.007661	0.007273	0.023440	0.000521	0.000192	0.028266	0.001153	0.005445

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

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

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.2 Energy by Land Use - Natural Gas**

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				
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</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	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.2000e-004	7.2000e-004	0.0000		7.6000e-004
Unmitigated	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.2000e-004	7.2000e-004	0.0000		7.6000e-004

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.2000e-004	7.2000e-004	0.0000		7.6000e-004
<b>Total</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>3.3000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>7.2000e-004</b>	<b>7.2000e-004</b>	<b>0.0000</b>		<b>7.6000e-004</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

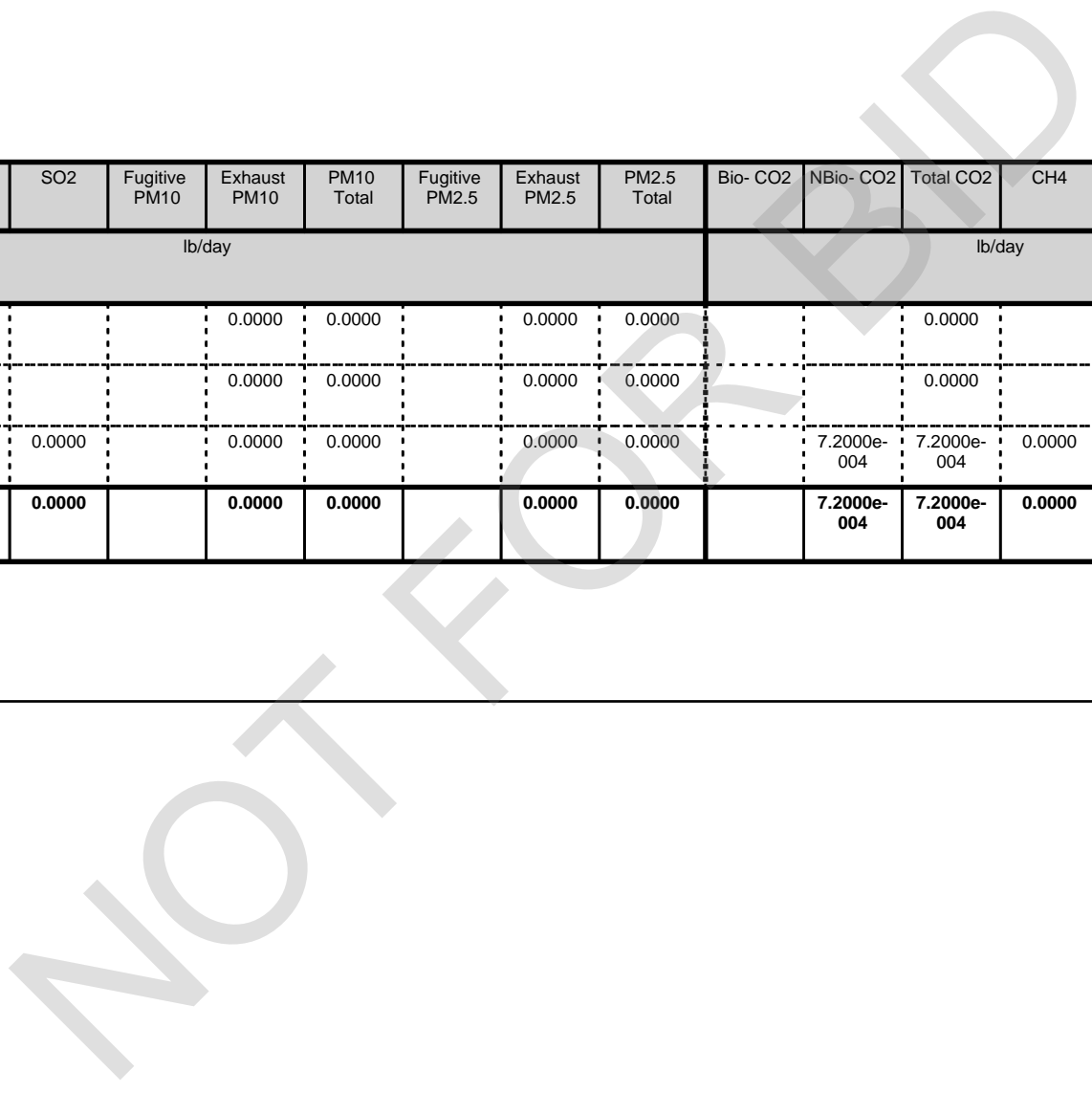
**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.2000e-004	7.2000e-004	0.0000		7.6000e-004
<b>Total</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>3.3000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>7.2000e-004</b>	<b>7.2000e-004</b>	<b>0.0000</b>		<b>7.6000e-004</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

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

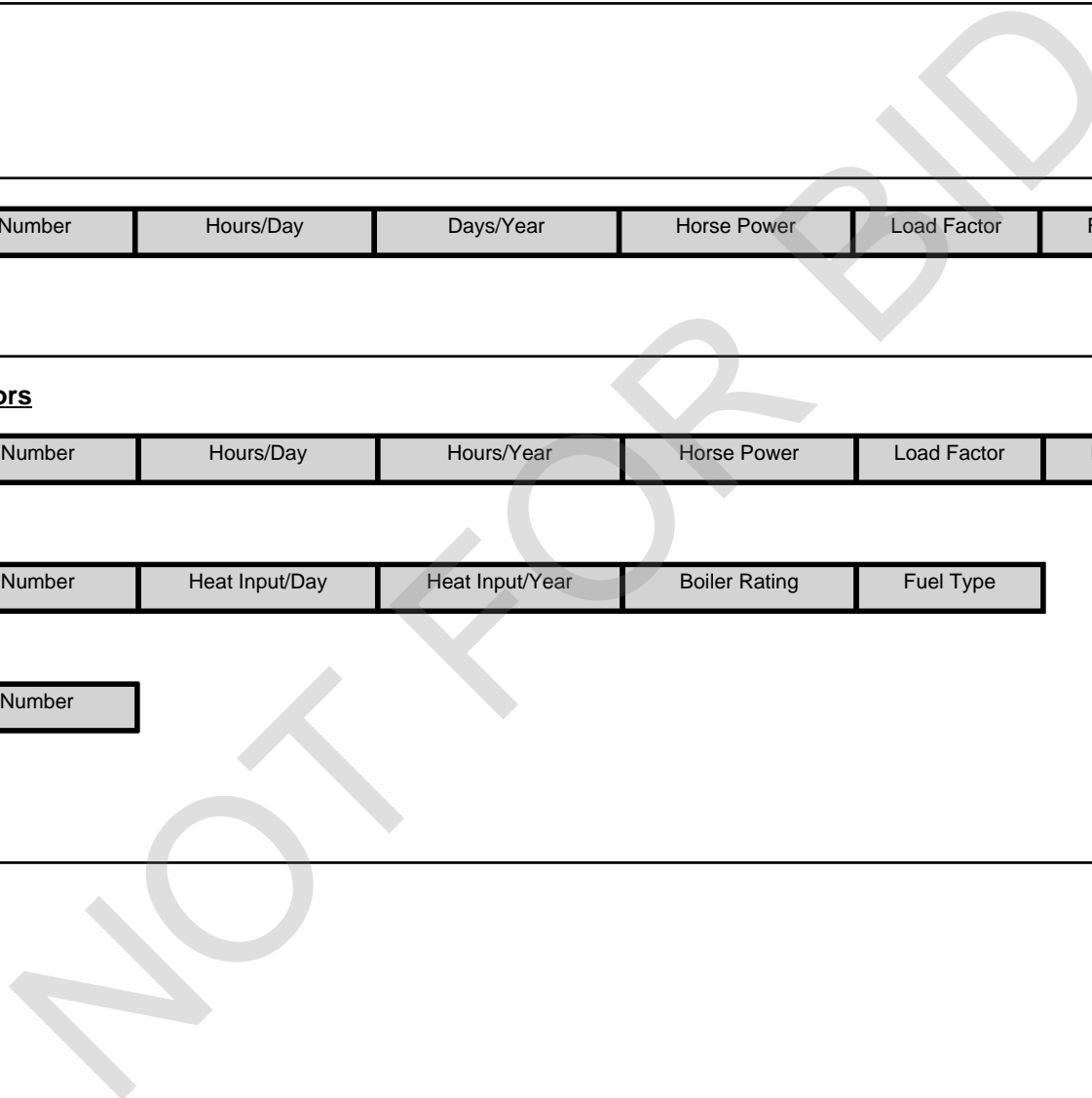
Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

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**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.28	Acre	3.28	142,876.80	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	10			<b>Operational Year</b>	2025
<b>Utility Company</b>					
<b>CO2 Intensity (lb/MW hr)</b>	0	<b>CH4 Intensity (lb/MW hr)</b>	0	<b>N2O Intensity (lb/MW hr)</b>	0

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

Project Characteristics -

Land Use -

Construction Phase - Gantt Chart and DR 1 and 2

Off-road Equipment - Other is concrete pump

Off-road Equipment - Data Response. Other equipment includes chippers and chainsaws

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Off-road Equipment - Offroad Equipment Use DOLA ISMND and data request responses

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Off-road Equipment - Offroad Equipment Use DOLA ISMND

Trips and VMT - Optimize with approx. 60 workers/day in two shifts. Crew trucks to bring in at least 2 employees per vehicle.

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

- Grading - DR
- Vehicle Trips - No operation phase
- Consumer Products - No Operation
- Area Coating - No Operation
- Water And Wastewater - No Operation
- Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Parking	8573	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintParkingValue	0	250
tblConstructionPhase	NumDays	5.00	2.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	18.00	20.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblGrading	AcresOfGrading	30.00	3.50
tblGrading	AcresOfGrading	12.50	3.50
tblGrading	MaterialExported	0.00	72.00
tblGrading	MaterialImported	0.00	5,421.00
tblOffRoadEquipment	HorsePower	172.00	43.00
tblOffRoadEquipment	HorsePower	172.00	50.00
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	PhaseName		Bridge Construction
tblOffRoadEquipment	PhaseName		Street Improvement
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Bridge Construction

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblOffRoadEquipment	PhaseName		Placement of Embankment
tblOffRoadEquipment	PhaseName		Loading and Hauling of Excess Mterial
tblOffRoadEquipment	PhaseName		Rock Slope Protection
tblOffRoadEquipment	PhaseName		Street Improvement
tblOffRoadEquipment	PhaseName		Street Improvement
tblOffRoadEquipment	PhaseName		Rock Slope Protection
tblOffRoadEquipment	PhaseName		Placement of Embankment
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Bridge Construction
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Excavation
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	16.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	6.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00
tblTripsAndVMT	HaulingTripLength	20.00	110.00

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tbITripsAndVMT	HaulingTripLength	20.00	110.00
tbITripsAndVMT	HaulingTripLength	20.00	110.00
tbITripsAndVMT	HaulingTripLength	20.00	110.00
tbITripsAndVMT	HaulingTripNumber	0.00	36.36
tbITripsAndVMT	HaulingTripNumber	0.00	50.91
tbITripsAndVMT	HaulingTripNumber	0.00	163.64
tbITripsAndVMT	HaulingTripNumber	687.00	163.64
tbITripsAndVMT	HaulingTripNumber	0.00	713.64
tbITripsAndVMT	HaulingTripNumber	0.00	218.64
tbITripsAndVMT	HaulingTripNumber	0.00	172.36
tbITripsAndVMT	HaulingTripNumber	0.00	188.64
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripLength	7.30	110.00
tbITripsAndVMT	VendorTripNumber	0.00	25.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	VendorTripNumber	0.00	23.00
tbITripsAndVMT	WorkerTripLength	10.80	120.00
tbITripsAndVMT	WorkerTripLength	10.80	120.00
tbITripsAndVMT	WorkerTripLength	10.80	120.00

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripLength	10.80	120.00
tblTripsAndVMT	WorkerTripNumber	3.00	60.00
tblTripsAndVMT	WorkerTripNumber	10.00	60.00
tblTripsAndVMT	WorkerTripNumber	10.00	60.00
tblTripsAndVMT	WorkerTripNumber	13.00	60.00
tblTripsAndVMT	WorkerTripNumber	8.00	60.00
tblTripsAndVMT	WorkerTripNumber	10.00	60.00
tblTripsAndVMT	WorkerTripNumber	13.00	60.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00

**2.0 Emissions Summary**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2024	7-31-2024	1.8167	1.4134
2	8-1-2024	9-30-2024	0.6349	0.6081
		Highest	1.8167	1.4134

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	6.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>6.0000e-005</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	6.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>6.0000e-005</b>

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization/Demobilization	Site Preparation	5/1/2024	5/2/2024	5	2	
2	Demolition	Demolition	5/3/2024	5/9/2024	5	5	
3	Excavation	Trenching	5/9/2024	6/5/2024	5	20	

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4	Placement of Embankment	Grading	6/5/2024	7/2/2024	5	20
5	Loading and Hauling of Excess Material	Grading	7/2/2024	7/29/2024	5	20
6	Rock Slope Protection	Grading	7/30/2024	8/26/2024	5	20
7	Bridge Construction	Building Construction	8/26/2024	9/20/2024	5	20
8	Street Improvement	Paving	9/21/2024	10/18/2024	5	20

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 3.5**

**Acres of Paving: 3.28**

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

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization/Demobilization	Generator Sets	1	16.00	84	0.74
Excavation	Scrapers	5	8.00	367	0.48
Demolition	Generator Sets	1	16.00	84	0.74
Demolition	Rubber Tired Dozers	1	12.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	16.00	97	0.37
Excavation	Excavators	1	12.00	158	0.38
Bridge Construction	Cement and Mortar Mixers	4	8.00	9	0.56
Excavation	Rubber Tired Dozers	2	8.00	247	0.40
Bridge Construction	Other Construction Equipment	1	8.00	43	0.42
Placement of Embankment	Generator Sets	1	16.00	84	0.74
Placement of Embankment	Graders	1	12.00	187	0.41
Placement of Embankment	Rollers	1	10.00	80	0.38
Placement of Embankment	Rubber Tired Dozers	1	12.00	247	0.40
Placement of Embankment	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Loading and Hauling of Excess Material	Generator Sets	1	16.00	84	0.74

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Loading and Hauling of Excess Mterial	Rubber Tired Dozers	1	10.00	247	0.40
Loading and Hauling of Excess Mterial	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Rock Slope Protection	Excavators	1	12.00	158	0.38
Rock Slope Protection	Generator Sets	1	16.00	84	0.74
Rock Slope Protection	Pumps	1	8.00	84	0.74
Rock Slope Protection	Tractors/Loaders/Backhoes	1	12.00	97	0.37
Bridge Construction	Air Compressors	1	12.00	78	0.48
Bridge Construction	Generator Sets	1	16.00	84	0.74
Street Improvement	Air Compressors	1	12.00	78	0.48
Street Improvement	Generator Sets	1	16.00	84	0.74
Street Improvement	Graders	1	12.00	187	0.41
Street Improvement	Pavers	1	10.00	130	0.42
Street Improvement	Rollers	1	12.00	80	0.38
Demolition	Graders	1	16.00	187	0.41
Demolition	Other Construction Equipment	2	16.00	50	0.42
Excavation	Generator Sets	1	8.00	84	0.74

**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
Mobilization/Demobilization	1	60.00	25.00	36.36	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Demolition	4	60.00	23.00	50.91	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Excavation	4	60.00	23.00	163.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Placement of Embankment	5	60.00	23.00	163.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Loading and Hauling of Excess Mterial	3	60.00	23.00	713.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Rock Slope Protection	4	60.00	23.00	218.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Bridge Construction	3	60.00	23.00	172.36	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT
Street Improvement	5	60.00	23.00	188.64	120.00	110.00	110.00	LD_Mix	HDT_Mix	HHDT

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.1 Mitigation Measures Construction**

**3.2 Mobilization/Demobilization - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	5.0900e-003	7.3300e-003	1.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	1.1304	1.1304	5.0000e-005	0.0000	1.1316
<b>Total</b>	<b>5.7000e-004</b>	<b>5.0900e-003</b>	<b>7.3300e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>1.1304</b>	<b>1.1304</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>1.1316</b>

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**3.2 Mobilization/Demobilization - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	9.2200e-003	1.2100e-003	5.0000e-005	1.7300e-003	1.4000e-004	1.8700e-003	4.8000e-004	1.3000e-004	6.1000e-004	0.0000	5.0735	5.0735	1.0000e-005	8.0000e-004	5.3113
Vendor	1.9000e-004	9.1700e-003	1.5700e-003	7.0000e-005	2.5100e-003	1.2000e-004	2.6300e-003	7.2000e-004	1.1000e-004	8.4000e-004	0.0000	6.2633	6.2633	1.0000e-005	8.6000e-004	6.5198
Worker	1.1000e-003	1.0000e-003	0.0124	4.0000e-005	5.3700e-003	2.0000e-005	5.3900e-003	1.4300e-003	2.0000e-005	1.4500e-003	0.0000	3.9543	3.9543	5.0000e-005	9.0000e-005	3.9813
<b>Total</b>	<b>1.4100e-003</b>	<b>0.0194</b>	<b>0.0152</b>	<b>1.6000e-004</b>	<b>9.6100e-003</b>	<b>2.8000e-004</b>	<b>9.8900e-003</b>	<b>2.6300e-003</b>	<b>2.6000e-004</b>	<b>2.9000e-003</b>	<b>0.0000</b>	<b>15.2911</b>	<b>15.2911</b>	<b>7.0000e-005</b>	<b>1.7500e-003</b>	<b>15.8123</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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	5.0900e-003	7.3300e-003	1.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	1.1304	1.1304	5.0000e-005	0.0000	1.1316
<b>Total</b>	<b>5.7000e-004</b>	<b>5.0900e-003</b>	<b>7.3300e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>1.1304</b>	<b>1.1304</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>1.1316</b>

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**3.2 Mobilization/Demobilization - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	9.2200e-003	1.2100e-003	5.0000e-005	1.7300e-003	1.4000e-004	1.8700e-003	4.8000e-004	1.3000e-004	6.1000e-004	0.0000	5.0735	5.0735	1.0000e-005	8.0000e-004	5.3113
Vendor	1.9000e-004	9.1700e-003	1.5700e-003	7.0000e-005	2.5100e-003	1.2000e-004	2.6300e-003	7.2000e-004	1.1000e-004	8.4000e-004	0.0000	6.2633	6.2633	1.0000e-005	8.6000e-004	6.5198
Worker	1.1000e-003	1.0000e-003	0.0124	4.0000e-005	5.3700e-003	2.0000e-005	5.3900e-003	1.4300e-003	2.0000e-005	1.4500e-003	0.0000	3.9543	3.9543	5.0000e-005	9.0000e-005	3.9813
<b>Total</b>	<b>1.4100e-003</b>	<b>0.0194</b>	<b>0.0152</b>	<b>1.6000e-004</b>	<b>9.6100e-003</b>	<b>2.8000e-004</b>	<b>9.8900e-003</b>	<b>2.6300e-003</b>	<b>2.6000e-004</b>	<b>2.9000e-003</b>	<b>0.0000</b>	<b>15.2911</b>	<b>15.2911</b>	<b>7.0000e-005</b>	<b>1.7500e-003</b>	<b>15.8123</b>

**3.3 Demolition - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.5500e-003	0.0839	0.0679	1.3000e-004		3.8800e-003	3.8800e-003		3.6100e-003	3.6100e-003	0.0000	11.6629	11.6629	2.9700e-003	0.0000	11.7372
<b>Total</b>	<b>9.5500e-003</b>	<b>0.0839</b>	<b>0.0679</b>	<b>1.3000e-004</b>		<b>3.8800e-003</b>	<b>3.8800e-003</b>		<b>3.6100e-003</b>	<b>3.6100e-003</b>	<b>0.0000</b>	<b>11.6629</b>	<b>11.6629</b>	<b>2.9700e-003</b>	<b>0.0000</b>	<b>11.7372</b>

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**3.3 Demolition - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0127	1.6700e-003	7.0000e-005	2.4200e-003	1.9000e-004	2.6000e-003	6.6000e-004	1.8000e-004	8.4000e-004	0.0000	6.9931	6.9931	1.0000e-005	1.1000e-003	7.3210
Vendor	4.4000e-004	0.0211	3.6100e-003	1.5000e-004	5.7700e-003	2.7000e-004	6.0400e-003	1.6600e-003	2.6000e-004	1.9200e-003	0.0000	14.4057	14.4057	3.0000e-005	1.9800e-003	14.9955
Worker	2.7500e-003	2.4900e-003	0.0309	1.1000e-004	0.0134	6.0000e-005	0.0135	3.5600e-003	5.0000e-005	3.6200e-003	0.0000	9.8857	9.8857	1.3000e-004	2.2000e-004	9.9531
<b>Total</b>	<b>3.3600e-003</b>	<b>0.0363</b>	<b>0.0362</b>	<b>3.3000e-004</b>	<b>0.0216</b>	<b>5.2000e-004</b>	<b>0.0221</b>	<b>5.8800e-003</b>	<b>4.9000e-004</b>	<b>6.3800e-003</b>	<b>0.0000</b>	<b>31.2845</b>	<b>31.2845</b>	<b>1.7000e-004</b>	<b>3.3000e-003</b>	<b>32.2696</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	tons/yr										MT/yr					
Off-Road	9.5500e-003	0.0674	0.0679	1.3000e-004		3.8800e-003	3.8800e-003		3.6100e-003	3.6100e-003	0.0000	11.6629	11.6629	2.9700e-003	0.0000	11.7372
<b>Total</b>	<b>9.5500e-003</b>	<b>0.0674</b>	<b>0.0679</b>	<b>1.3000e-004</b>		<b>3.8800e-003</b>	<b>3.8800e-003</b>		<b>3.6100e-003</b>	<b>3.6100e-003</b>	<b>0.0000</b>	<b>11.6629</b>	<b>11.6629</b>	<b>2.9700e-003</b>	<b>0.0000</b>	<b>11.7372</b>

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**3.3 Demolition - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	0.0127	1.6700e-003	7.0000e-005	2.4200e-003	1.9000e-004	2.6000e-003	6.6000e-004	1.8000e-004	8.4000e-004	0.0000	6.9931	6.9931	1.0000e-005	1.1000e-003	7.3210
Vendor	4.4000e-004	0.0211	3.6100e-003	1.5000e-004	5.7700e-003	2.7000e-004	6.0400e-003	1.6600e-003	2.6000e-004	1.9200e-003	0.0000	14.4057	14.4057	3.0000e-005	1.9800e-003	14.9955
Worker	2.7500e-003	2.4900e-003	0.0309	1.1000e-004	0.0134	6.0000e-005	0.0135	3.5600e-003	5.0000e-005	3.6200e-003	0.0000	9.8857	9.8857	1.3000e-004	2.2000e-004	9.9531
<b>Total</b>	<b>3.3600e-003</b>	<b>0.0363</b>	<b>0.0362</b>	<b>3.3000e-004</b>	<b>0.0216</b>	<b>5.2000e-004</b>	<b>0.0221</b>	<b>5.8800e-003</b>	<b>4.9000e-004</b>	<b>6.3800e-003</b>	<b>0.0000</b>	<b>31.2845</b>	<b>31.2845</b>	<b>1.7000e-004</b>	<b>3.3000e-003</b>	<b>32.2696</b>

**3.4 Excavation - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0577	0.5758	0.4481	1.0800e-003		0.0239	0.0239		0.0220	0.0220	0.0000	94.4344	94.4344	0.0289	0.0000	95.1580
<b>Total</b>	<b>0.0577</b>	<b>0.5758</b>	<b>0.4481</b>	<b>1.0800e-003</b>		<b>0.0239</b>	<b>0.0239</b>		<b>0.0220</b>	<b>0.0220</b>	<b>0.0000</b>	<b>94.4344</b>	<b>94.4344</b>	<b>0.0289</b>	<b>0.0000</b>	<b>95.1580</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Excavation - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	0.0409	5.3700e-003	2.3000e-004	7.7600e-003	6.1000e-004	8.3700e-003	2.1300e-003	5.8000e-004	2.7100e-003	0.0000	22.4877	22.4877	4.0000e-005	3.5300e-003	23.5419
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0133</b>	<b>0.1352</b>	<b>0.1435</b>	<b>1.2600e-003</b>	<b>0.0845</b>	<b>1.9400e-003</b>	<b>0.0865</b>	<b>0.0230</b>	<b>1.8400e-003</b>	<b>0.0249</b>	<b>0.0000</b>	<b>119.6532</b>	<b>119.6532</b>	<b>6.6000e-004</b>	<b>0.0123</b>	<b>123.3366</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	tons/yr										MT/yr					
Off-Road	0.0577	0.1890	0.4481	1.0800e-003		0.0239	0.0239		0.0220	0.0220	0.0000	94.4343	94.4343	0.0289	0.0000	95.1579
<b>Total</b>	<b>0.0577</b>	<b>0.1890</b>	<b>0.4481</b>	<b>1.0800e-003</b>		<b>0.0239</b>	<b>0.0239</b>		<b>0.0220</b>	<b>0.0220</b>	<b>0.0000</b>	<b>94.4343</b>	<b>94.4343</b>	<b>0.0289</b>	<b>0.0000</b>	<b>95.1579</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.4 Excavation - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	0.0409	5.3700e-003	2.3000e-004	7.7600e-003	6.1000e-004	8.3700e-003	2.1300e-003	5.8000e-004	2.7100e-003	0.0000	22.4877	22.4877	4.0000e-005	3.5300e-003	23.5419
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0133</b>	<b>0.1352</b>	<b>0.1435</b>	<b>1.2600e-003</b>	<b>0.0845</b>	<b>1.9400e-003</b>	<b>0.0865</b>	<b>0.0230</b>	<b>1.8400e-003</b>	<b>0.0249</b>	<b>0.0000</b>	<b>119.6532</b>	<b>119.6532</b>	<b>6.6000e-004</b>	<b>0.0123</b>	<b>123.3366</b>

**3.5 Placement of Embankment - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0926	0.0000	0.0926	0.0499	0.0000	0.0499	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2609	0.2018	4.4000e-004		0.0111	0.0111		0.0104	0.0104	0.0000	38.2617	38.2617	9.1800e-003	0.0000	38.4911
<b>Total</b>	<b>0.0254</b>	<b>0.2609</b>	<b>0.2018</b>	<b>4.4000e-004</b>	<b>0.0926</b>	<b>0.0111</b>	<b>0.1036</b>	<b>0.0499</b>	<b>0.0104</b>	<b>0.0603</b>	<b>0.0000</b>	<b>38.2617</b>	<b>38.2617</b>	<b>9.1800e-003</b>	<b>0.0000</b>	<b>38.4911</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Placement of Embankment - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	0.0409	5.3700e-003	2.3000e-004	7.7600e-003	6.1000e-004	8.3700e-003	2.1300e-003	5.8000e-004	2.7100e-003	0.0000	22.4877	22.4877	4.0000e-005	3.5300e-003	23.5419
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0133</b>	<b>0.1352</b>	<b>0.1435</b>	<b>1.2600e-003</b>	<b>0.0845</b>	<b>1.9400e-003</b>	<b>0.0865</b>	<b>0.0230</b>	<b>1.8400e-003</b>	<b>0.0249</b>	<b>0.0000</b>	<b>119.6532</b>	<b>119.6532</b>	<b>6.6000e-004</b>	<b>0.0123</b>	<b>123.3366</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	tons/yr										MT/yr					
Fugitive Dust					0.0926	0.0000	0.0926	0.0499	0.0000	0.0499	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2609	0.2018	4.4000e-004		0.0111	0.0111		0.0104	0.0104	0.0000	38.2617	38.2617	9.1800e-003	0.0000	38.4911
<b>Total</b>	<b>0.0254</b>	<b>0.2609</b>	<b>0.2018</b>	<b>4.4000e-004</b>	<b>0.0926</b>	<b>0.0111</b>	<b>0.1036</b>	<b>0.0499</b>	<b>0.0104</b>	<b>0.0603</b>	<b>0.0000</b>	<b>38.2617</b>	<b>38.2617</b>	<b>9.1800e-003</b>	<b>0.0000</b>	<b>38.4911</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.5 Placement of Embankment - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.4000e-004	0.0409	5.3700e-003	2.3000e-004	7.7600e-003	6.1000e-004	8.3700e-003	2.1300e-003	5.8000e-004	2.7100e-003	0.0000	22.4877	22.4877	4.0000e-005	3.5300e-003	23.5419
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0133</b>	<b>0.1352</b>	<b>0.1435</b>	<b>1.2600e-003</b>	<b>0.0845</b>	<b>1.9400e-003</b>	<b>0.0865</b>	<b>0.0230</b>	<b>1.8400e-003</b>	<b>0.0249</b>	<b>0.0000</b>	<b>119.6532</b>	<b>119.6532</b>	<b>6.6000e-004</b>	<b>0.0123</b>	<b>123.3366</b>

**3.6 Loading and Hauling of Excess Mterial - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0771	0.0000	0.0771	0.0416	0.0000	0.0416	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0162	0.1581	0.1404	2.8000e-004		7.0600e-003	7.0600e-003		6.6700e-003	6.6700e-003	0.0000	24.1039	24.1039	4.6000e-003	0.0000	24.2189
<b>Total</b>	<b>0.0162</b>	<b>0.1581</b>	<b>0.1404</b>	<b>2.8000e-004</b>	<b>0.0771</b>	<b>7.0600e-003</b>	<b>0.0842</b>	<b>0.0416</b>	<b>6.6700e-003</b>	<b>0.0483</b>	<b>0.0000</b>	<b>24.1039</b>	<b>24.1039</b>	<b>4.6000e-003</b>	<b>0.0000</b>	<b>24.2189</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Loading and Hauling of Excess Mterial - 2024**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3500e-003	0.1779	0.0234	1.0200e-003	0.0339	2.6400e-003	0.0365	9.3000e-003	2.5200e-003	0.0118	0.0000	97.9038	97.9038	1.5000e-004	0.0154	102.4934
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0151</b>	<b>0.2722</b>	<b>0.1615</b>	<b>2.0500e-003</b>	<b>0.1106</b>	<b>3.9700e-003</b>	<b>0.1146</b>	<b>0.0302</b>	<b>3.7800e-003</b>	<b>0.0340</b>	<b>0.0000</b>	<b>195.0693</b>	<b>195.0693</b>	<b>7.7000e-004</b>	<b>0.0242</b>	<b>202.2881</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	tons/yr										MT/yr					
Fugitive Dust					0.0771	0.0000	0.0771	0.0416	0.0000	0.0416	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0162	0.1581	0.1404	2.8000e-004		7.0600e-003	7.0600e-003		6.6700e-003	6.6700e-003	0.0000	24.1039	24.1039	4.6000e-003	0.0000	24.2188
<b>Total</b>	<b>0.0162</b>	<b>0.1581</b>	<b>0.1404</b>	<b>2.8000e-004</b>	<b>0.0771</b>	<b>7.0600e-003</b>	<b>0.0842</b>	<b>0.0416</b>	<b>6.6700e-003</b>	<b>0.0483</b>	<b>0.0000</b>	<b>24.1039</b>	<b>24.1039</b>	<b>4.6000e-003</b>	<b>0.0000</b>	<b>24.2188</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.6 Loading and Hauling of Excess Mterial - 2024**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3500e-003	0.1779	0.0234	1.0200e-003	0.0339	2.6400e-003	0.0365	9.3000e-003	2.5200e-003	0.0118	0.0000	97.9038	97.9038	1.5000e-004	0.0154	102.4934
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0151</b>	<b>0.2722</b>	<b>0.1615</b>	<b>2.0500e-003</b>	<b>0.1106</b>	<b>3.9700e-003</b>	<b>0.1146</b>	<b>0.0302</b>	<b>3.7800e-003</b>	<b>0.0340</b>	<b>0.0000</b>	<b>195.0693</b>	<b>195.0693</b>	<b>7.7000e-004</b>	<b>0.0242</b>	<b>202.2881</b>

**3.7 Rock Slope Protection - 2024**

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1194	0.1930	3.2000e-004		5.4200e-003	5.4200e-003		5.2600e-003	5.2600e-003	0.0000	27.8701	27.8701	4.2400e-003	0.0000	27.9760
<b>Total</b>	<b>0.0136</b>	<b>0.1194</b>	<b>0.1930</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>5.4200e-003</b>	<b>5.4200e-003</b>	<b>0.0000</b>	<b>5.2600e-003</b>	<b>5.2600e-003</b>	<b>0.0000</b>	<b>27.8701</b>	<b>27.8701</b>	<b>4.2400e-003</b>	<b>0.0000</b>	<b>27.9760</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.7 Rock Slope Protection - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.2000e-004	0.0546	7.1700e-003	3.1000e-004	0.0104	8.1000e-004	0.0112	2.8500e-003	7.7000e-004	3.6200e-003	0.0000	30.0293	30.0293	5.0000e-005	4.7200e-003	31.4371
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0135</b>	<b>0.1489</b>	<b>0.1453</b>	<b>1.3400e-003</b>	<b>0.0871</b>	<b>2.1400e-003</b>	<b>0.0893</b>	<b>0.0238</b>	<b>2.0300e-003</b>	<b>0.0258</b>	<b>0.0000</b>	<b>127.1949</b>	<b>127.1949</b>	<b>6.7000e-004</b>	<b>0.0135</b>	<b>131.2317</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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1194	0.1930	3.2000e-004		5.4200e-003	5.4200e-003		5.2600e-003	5.2600e-003	0.0000	27.8701	27.8701	4.2400e-003	0.0000	27.9760
<b>Total</b>	<b>0.0136</b>	<b>0.1194</b>	<b>0.1930</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>5.4200e-003</b>	<b>5.4200e-003</b>	<b>0.0000</b>	<b>5.2600e-003</b>	<b>5.2600e-003</b>	<b>0.0000</b>	<b>27.8701</b>	<b>27.8701</b>	<b>4.2400e-003</b>	<b>0.0000</b>	<b>27.9760</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.7 Rock Slope Protection - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.2000e-004	0.0546	7.1700e-003	3.1000e-004	0.0104	8.1000e-004	0.0112	2.8500e-003	7.7000e-004	3.6200e-003	0.0000	30.0293	30.0293	5.0000e-005	4.7200e-003	31.4371
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0135</b>	<b>0.1489</b>	<b>0.1453</b>	<b>1.3400e-003</b>	<b>0.0871</b>	<b>2.1400e-003</b>	<b>0.0893</b>	<b>0.0238</b>	<b>2.0300e-003</b>	<b>0.0258</b>	<b>0.0000</b>	<b>127.1949</b>	<b>127.1949</b>	<b>6.7000e-004</b>	<b>0.0135</b>	<b>131.2317</b>

**3.8 Bridge Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0143	0.1042	0.1377	2.4000e-004		4.9700e-003	4.9700e-003		4.8900e-003	4.8900e-003	0.0000	19.7562	19.7562	1.4200e-003	0.0000	19.7918
<b>Total</b>	<b>0.0143</b>	<b>0.1042</b>	<b>0.1377</b>	<b>2.4000e-004</b>		<b>4.9700e-003</b>	<b>4.9700e-003</b>		<b>4.8900e-003</b>	<b>4.8900e-003</b>	<b>0.0000</b>	<b>19.7562</b>	<b>19.7562</b>	<b>1.4200e-003</b>	<b>0.0000</b>	<b>19.7918</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.8 Bridge Construction - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0431	5.6600e-003	2.5000e-004	8.1800e-003	6.4000e-004	8.8200e-003	2.2500e-003	6.1000e-004	2.8600e-003	0.0000	23.7218	23.7218	4.0000e-005	3.7300e-003	24.8338
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0134</b>	<b>0.1374</b>	<b>0.1438</b>	<b>1.2800e-003</b>	<b>0.0849</b>	<b>1.9700e-003</b>	<b>0.0869</b>	<b>0.0232</b>	<b>1.8700e-003</b>	<b>0.0250</b>	<b>0.0000</b>	<b>120.8873</b>	<b>120.8873</b>	<b>6.6000e-004</b>	<b>0.0125</b>	<b>124.6285</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	tons/yr										MT/yr					
Off-Road	0.0143	0.0753	0.1377	2.4000e-004		4.9700e-003	4.9700e-003		4.8900e-003	4.8900e-003	0.0000	19.7562	19.7562	1.4200e-003	0.0000	19.7918
<b>Total</b>	<b>0.0143</b>	<b>0.0753</b>	<b>0.1377</b>	<b>2.4000e-004</b>		<b>4.9700e-003</b>	<b>4.9700e-003</b>		<b>4.8900e-003</b>	<b>4.8900e-003</b>	<b>0.0000</b>	<b>19.7562</b>	<b>19.7562</b>	<b>1.4200e-003</b>	<b>0.0000</b>	<b>19.7918</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.8 Bridge Construction - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0431	5.6600e-003	2.5000e-004	8.1800e-003	6.4000e-004	8.8200e-003	2.2500e-003	6.1000e-004	2.8600e-003	0.0000	23.7218	23.7218	4.0000e-005	3.7300e-003	24.8338
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0134</b>	<b>0.1374</b>	<b>0.1438</b>	<b>1.2800e-003</b>	<b>0.0849</b>	<b>1.9700e-003</b>	<b>0.0869</b>	<b>0.0232</b>	<b>1.8700e-003</b>	<b>0.0250</b>	<b>0.0000</b>	<b>120.8873</b>	<b>120.8873</b>	<b>6.6000e-004</b>	<b>0.0125</b>	<b>124.6285</b>

**3.9 Street Improvement - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0191	0.1822	0.1982	3.9000e-004		7.6800e-003	7.6800e-003		7.3400e-003	7.3400e-003	0.0000	33.7463	33.7463	6.3500e-003	0.0000	33.9051
Paving	4.3000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0234</b>	<b>0.1822</b>	<b>0.1982</b>	<b>3.9000e-004</b>		<b>7.6800e-003</b>	<b>7.6800e-003</b>		<b>7.3400e-003</b>	<b>7.3400e-003</b>	<b>0.0000</b>	<b>33.7463</b>	<b>33.7463</b>	<b>6.3500e-003</b>	<b>0.0000</b>	<b>33.9051</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.9 Street Improvement - 2024**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2000e-004	0.0471	6.1800e-003	2.7000e-004	8.9500e-003	7.0000e-004	9.6500e-003	2.4600e-003	6.7000e-004	3.1300e-003	0.0000	25.9157	25.9157	4.0000e-005	4.0700e-003	27.1306
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0134</b>	<b>0.1414</b>	<b>0.1443</b>	<b>1.3000e-003</b>	<b>0.0857</b>	<b>2.0300e-003</b>	<b>0.0877</b>	<b>0.0234</b>	<b>1.9300e-003</b>	<b>0.0253</b>	<b>0.0000</b>	<b>123.0812</b>	<b>123.0812</b>	<b>6.6000e-004</b>	<b>0.0128</b>	<b>126.9253</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	tons/yr										MT/yr					
Off-Road	0.0191	0.1822	0.1982	3.9000e-004		7.6800e-003	7.6800e-003		7.3400e-003	7.3400e-003	0.0000	33.7463	33.7463	6.3500e-003	0.0000	33.9051
Paving	4.3000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0234</b>	<b>0.1822</b>	<b>0.1982</b>	<b>3.9000e-004</b>		<b>7.6800e-003</b>	<b>7.6800e-003</b>		<b>7.3400e-003</b>	<b>7.3400e-003</b>	<b>0.0000</b>	<b>33.7463</b>	<b>33.7463</b>	<b>6.3500e-003</b>	<b>0.0000</b>	<b>33.9051</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**3.9 Street Improvement - 2024**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2000e-004	0.0471	6.1800e-003	2.7000e-004	8.9500e-003	7.0000e-004	9.6500e-003	2.4600e-003	6.7000e-004	3.1300e-003	0.0000	25.9157	25.9157	4.0000e-005	4.0700e-003	27.1306
Vendor	1.7600e-003	0.0844	0.0145	6.0000e-004	0.0231	1.1000e-003	0.0242	6.6500e-003	1.0500e-003	7.7000e-003	0.0000	57.6226	57.6226	1.0000e-004	7.9100e-003	59.9821
Worker	0.0110	9.9700e-003	0.1237	4.3000e-004	0.0537	2.3000e-004	0.0539	0.0143	2.1000e-004	0.0145	0.0000	39.5429	39.5429	5.2000e-004	8.6000e-004	39.8126
<b>Total</b>	<b>0.0134</b>	<b>0.1414</b>	<b>0.1443</b>	<b>1.3000e-003</b>	<b>0.0857</b>	<b>2.0300e-003</b>	<b>0.0877</b>	<b>0.0234</b>	<b>1.9300e-003</b>	<b>0.0253</b>	<b>0.0000</b>	<b>123.0812</b>	<b>123.0812</b>	<b>6.6000e-004</b>	<b>0.0128</b>	<b>126.9253</b>

Dola/Lansit Addendum - Mojave Desert Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

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

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.535455	0.056260	0.172409	0.133149	0.028776	0.007661	0.007273	0.023440	0.000521	0.000192	0.028266	0.001153	0.005445

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

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

**Mitigated**

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

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	6.0000e-005
Unmitigated	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	6.0000e-005

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	6.0000e-005
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>6.0000e-005</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

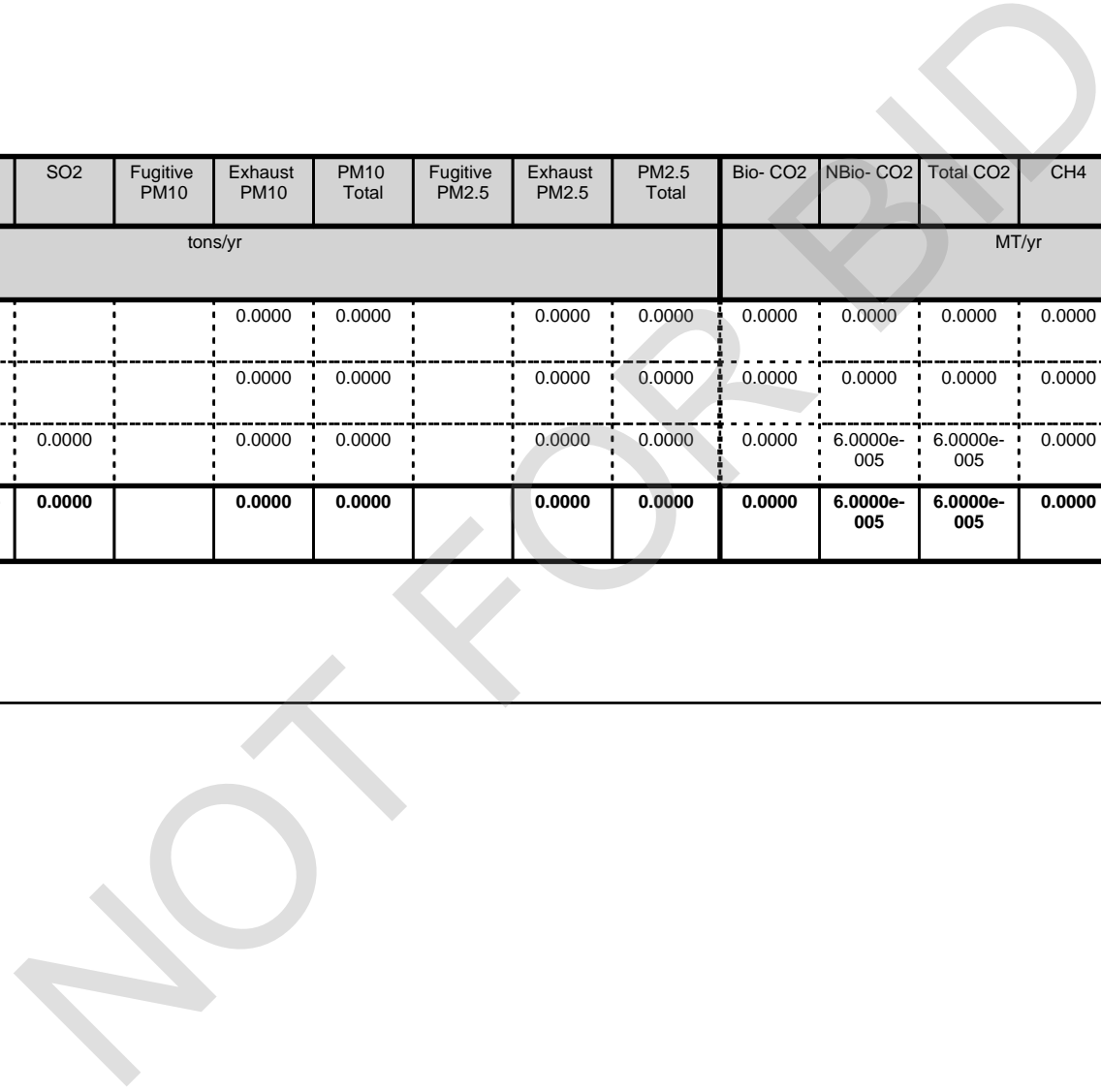
**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	6.0000e-005
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>6.0000e-005</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

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

**7.2 Water by Land Use**

**Unmitigated**

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

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**7.2 Water by Land Use**

Mitigated

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

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Category/Year

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

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**8.2 Waste by Land Use**

**Unmitigated**

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

**Mitigated**

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

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Dola/Lansit Addendum - Mojave Desert Air Basin, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

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

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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NOT FOR BIDDING

# **Appendix B**

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## Biological Resources Technical Report

NOT FOR BIDD

# **BIOLOGICAL RESOURCES TECHNICAL REPORT**

## **Dola Ditch Bridge and Lanzit Ditch Bridge Replacement Project**

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**Prepared for:**



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Department of Public Works  
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**July 2023**

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### Attachment 1: Figures

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### Attachment 3: CNDDDB Query Results

### Attachment 4: Special-Status Species Not Addressed

### Attachment 5: Project Species List

### Attachment 6: Project Photos

## **1.0 Introduction**

This report was prepared by Aspen Environmental Group (Aspen) on behalf of the San Bernardino County Department of Public Works (County) to describe the biological resources at the Dola Ditch and Lanzit Ditch Bridge Replacement Project (project). The project is located along National Trails Highway, known as California U.S. Highway 66/National Trails Highway (CA Highway 66/NTH), in San Bernardino County, California. The County proposes to replace the existing timber trestle bridges, known as the Dola Ditch Bridge (County Local Bridge No. 81, California Department of Transportation [Caltrans] Bridge No. 54C0285), and Lanzit Ditch Bridge (County Local Bridge No. 82, Caltrans Bridge No. 54C0285) to improve public safety and provide a reliable route for access throughout the eastern and central portion of the High Desert. This report provides baseline information on biological resources to support the regulatory review and permitting process.

## **2.0 Project and Property Description**

### **2.1 Project Description**

The project would replace the existing and structurally deficient 1930/1931 timber bridges with a new, engineered, American Association of State Highway and Transportation Officials approved, and prefabricated timber trestle “kit” bridge. The permanent footprint of the Project includes all areas that would be permanently altered, including activities such as excavation and fill placement. Attachment A, Figure 1 indicates areas of permanent and temporary impacts, based on construction and earthwork. Permanent impacts would include the length and width of the new bridge and substructure, as well as the proposed approach and departure guardrail system, and areas to be re-contoured during construction. Temporary impacts would be those that occur during construction such as impacts to soil and vegetation for equipment access alongside the bridge.

### **2.2 Project Location**

The project site is located along CA Highway 66/NTH (commonly known as Route 66), eight miles east of Amboy, San Bernardino County, California (Attachment A, Figure 1). The project site is located in Section 35, Township 6 North, Range 13 East (USGS Cadiz, CA 7.5-minute quadrangle). Topography in the project site is generally flat to very mildly sloping from north to south; elevations range from approximately 840 feet above mean sea level (AMSL) to the north, down to 815 feet AMSL to the south.

## **3.0 Methods**

### **3.1 Literature Review**

Prior to conducting field surveys, Aspen biologists reviewed available literature to identify special-status biological resources known from the vicinity of the project site. The literature and databases listed below were reviewed.

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) for the project site (USFWS, 2023a).
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CDFW, 2023a) for the following 7.5-minute USGS topographic quads within 10-miles of the project:

Amboy, Amboy Crater, Bristol Lake NW, Brown Buttes, Cadiz, Cadiz Lake NW, Cadiz Summit, Calumet Mine, Castle Dome, East of Siberia, Lead MNT. NE, and Van Winkle Wash,

- California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2023) for the same topographic quads.
- Lanzit Ditch Bridge Replacement Project Natural Environment Study (Caltrans and San Bernardino County, 2016a).
- Dola Ditch Bridge Replacement Project Natural Environment Study (Caltrans and San Bernardino County, 2016b).

The IPaC Resource List is provided in Attachment 2 and the CNDDDB results are provided as Attachment 3. Several special-status species identified during the literature review only occur in specialized native habitats that are absent from the project site or occur at higher or lower elevations. These plants and animals are listed in Attachment 4 but are not addressed further in this report.

### **3.2 Field Surveys**

Field surveys for desert tortoise were conducted by San Bernardino County biologist Milo Rivera on March 19, 24, 25 and April 8 and 9, 2014. Blackhawk Environmental biologists Kris Alberts and Seth Reimers conducted a general wildlife survey and habitat assessment for special-status wildlife species concurrently with a general plant survey, a habitat assessment for special-status plant species and vegetation mapping on May 21, 2014. An updated biological survey was also conducted on March 14, 2023, by Aspen biologist Nikolai Starzak. Mr. Starzak conducted a 100 percent coverage general botanical and wildlife survey and verified previous vegetation mapping. All plant and wildlife species observed were recorded in field notes, and special-status species locations were recorded using hand-held GPS units. All plant and wildlife species observed during the surveys are listed in Attachment 5. Representative site photos were captured during the survey and are included in Attachment 6.

The botanical survey was conducted in conformance with California Department of Fish and Wildlife (CDFW) guidelines (CDFW, 2018). The biologists did attempt to identify all plant species observed during the survey. Plants of uncertain identity were collected and identified later using keys, descriptions, and illustrations in Baldwin et al. (2012).

Previous vegetation mapping was verified by drawing tentative boundaries onto a high-resolution aerial image dated August 8, 2019, during the site visit which was conducted on March 14, 2023. These boundaries were then digitized into Geographic Information System (GIS) shapefiles and vegetation maps were created (see Attachment 1; Figure 2). Vegetation within the project site is further described below using the names and descriptions in *A Manual of California Vegetation* (Sawyer et al., 2009). Vegetation was mapped digitally using ArcGIS (version 10.7) and one-foot pixel aerial imagery. The smallest mapping unit was approximately 0.05-acre and most mapped vegetation boundaries are accurate to within approximately 5-ft. Any vegetation map is subject to imprecision for several reasons:

1. Vegetation types tend to intergrade on the landscape so that there are no true boundaries in the vegetation itself. In these cases, a mapped boundary represents best professional judgment.
2. Vegetation types as they are named and described tend to intergrade; that is, a given stand of real-world vegetation may not fit into any named type in the classification scheme used. Thus, a mapped and labeled polygon is given the best name available in the classification, but this name does not imply that the vegetation unambiguously matches its mapped name.

- Vegetation tends to be patchy. Small patches of one named type are often included within mapped polygons of another type. The size of these patches varies, depending on the minimum mapping units and scale of available aerial imagery.

## 4.0 General Biological Survey Results

### 4.1 Vegetation and Cover Types

Vegetation within the project site consists of upland vegetation and sparsely vegetated drainages. No riparian vegetation is present within the project site. All vegetation and land cover types are described in detail below, and acreages are presented in Table 1 and shown in Figure 2 (Attachment 1).

**Table 1. Vegetation and Other Cover Types on the Project Site (acres)**

Vegetation Type	Dola Ditch Bridge Project Site (Acres)	Lanzit Ditch Bridge Project site (Acres)
Creosote Bush Scrub	0.40	0.44
<b>Other Cover Types</b>		
Non-Vegetated Channel	0.20	0.34
Developed/Disturbed	0.93	0.97
<b>Total</b>	<b>1.53</b>	<b>1.75</b>

#### Vegetation Types

**Creosote Bush Scrub.** Creosote bush scrub is a sparsely vegetated community, dominated by creosote bush (*Larrea tridentata*) with a sub-dominance of white bursage (*Ambrosia dumosa*). Other shrubs present within this community include cheesebush (*Hymenocloa salsola*), Nevada ephedra (*Ephedra nevadensis*), and widely scattered shrubs and herbs. Creosote bush scrub is the dominant vegetation within and well beyond the boundary of the project site. Native and non-native grasses and forbs occur as seasonal groundcovers, including narrow-leaved johnstonella (*Johnstonella angustifolia*) and rattlesnake sandmat (*Euphorbia albomarginata*). Creosote bush scrub has a State rank of S5 and is therefore not recognized as a sensitive natural community by CDFW (CDFW, 2023c).

**Sparsely vegetated wash.** Dola Ditch and Lanzit Ditch are characterized by alluvial sands and generally not vegetated due to periodic sand deposition and scouring. Drainages on the north side of National Trails Highway merge together into Dola Ditch and Lanzit Ditch because of earthen berms and dikes that direct water flows into one primary channel before flowing below the bridges and continuing southward. Sparsely vegetated wash is not a vegetation type and is therefore not described in *A Manual of California Vegetation* and is also not recognized as a sensitive natural community by CDFW (CDFW, 2023c).

#### Other Cover Types

**Developed or disturbed.** This cover type includes all disturbed and developed areas within the project site including off-road vehicle roads that parallel the highway, earthen berms, dikes, paved roadways, compacted road shoulders and the bridge, and spoil piles that remain onsite from channel maintenance activities. Developed or Disturbed is not a vegetation type and is therefore not described in *A Manual of California Vegetation* and is also not recognized as a sensitive natural community by CDFW (CDFW, 2023c).

## 4.2 Sensitive Natural Communities

Sensitive vegetation communities are defined by CDFW (2018) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." The literature review did not identify any sensitive vegetation communities near the project site. No sensitive vegetation communities are present within the project site.

## 4.3 Wildlife Habitat

The term habitat refers to the environment and ecological conditions where a species is found. Wildlife habitat is often described in terms of vegetation, though a more thorough explanation includes detail such as availability or proximity to water, suitable nesting or denning sites, shade, foraging perches, cover sites to escape from predators, soils that are suitable for burrowing or hiding, proximity to noise and disturbance, and other factors that are unique to each species. For many wildlife species, vegetation reflects important components of habitat, including regional climate, physical structure, and biological productivity and food resources. Thus, the vegetation descriptions in Section 4.1 are useful overarching descriptors for wildlife habitat within the project site.

Wildlife and wildlife sign observed during the field surveys included species common in the region, such as desert iguana (*Dipsosaurus dorsalis*), western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), Great Basin whiptail (*Aspidoscelis tigris tigris*), horned lark (*Eremophila alpestris*), verdin (*Auriparus flaviceps*), black-tailed jackrabbit (*Lepus californicus*), and round-tailed ground squirrel (*Spermophilus tereticaudus*). Special-status wildlife species observed or otherwise detected during surveys or have potential to occur within the project site are discussed below in Section 5.0.

## 5.0 Special-Status Species Results

Based on the review of the literature and databases listed above, and on local expertise with the flora and fauna of the project site, lists of special-status plants and wildlife with potential to occur on the project site or in the project vicinity were compiled (Table 3). Plant and wildlife taxa are considered special-status species if they were classified in one or more of the categories listed in Table 2. All special-status plants and wildlife occurring in the region in habitats similar to those found on the project site are addressed in Table 3, with brief descriptions of habitat and distribution, conservation status, and probability of occurrence on the site.

**Table 2. Definitions of Special-Status Species**

Species Designation	Agency	Definition
Federal Endangered	USFWS	A species that is in danger of extinction throughout all or a significant portion of its range.
Federal Threatened	USFWS	A species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
Federal Candidate	USFWS	A species the US Fish and Wildlife Service (USFWS) has designated as a candidate for listing under Section 4 of the federal Endangered Species Act (ESA), published in its annual candidate review, and defined as a species that has sufficient information on its biological status and threats to propose it as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

**Table 2. Definitions of Special-Status Species**

<b>Species Designation</b>	<b>Agency</b>	<b>Definition</b>
Federal Proposed	USFWS	A species that the USFWS has proposed for listing under Section 4 of the ESA, by publishing a Proposed Rule in the Federal Register.
Protected under the federal Bald and Golden Eagle Protection Act (BGEPA)	USFWS	Bald and golden eagles are protected from take, including harassment, except as permitted by USFWS.
BLM Sensitive	BLM	BLM sensitive species are: (1) species listed or proposed for listing under the Endangered Species Act (ESA), and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA.
State Endangered	CDFW	A species that is in serious danger of becoming extinct throughout all or a significant portion of its range due to one or more causes, including loss or change in habitat, overexploitation, predation, competition, or disease.
State Threatened	CDFW	A species that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.
State Candidate	CDFW	A species that has been officially noticed by the California Fish and Game Commission as being under review by the CDFW for addition to the threatened or endangered species lists. CDFW candidate species are given no extra-legal protection under state laws.
Fully Protected	CDFW	Animal species fully protected under the California Fish and Game Code. The CDFW may not issue take authorization except for scientific purposes or as provided under SB 618 (2011).
Species of Special Concern	CDFW	A species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria: Is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role. Is on the federal, but not state list, of threatened or endangered species. Meets the state definition of threatened or endangered but has not formally been listed. Is experiencing or formerly experienced serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; or Has naturally small populations exhibiting high susceptibility to risk from any factor(s) that if realized, could lead to declines that would qualify it for state threatened or endangered status. This is an administrative designation and carries no formal legal status. This designation is intended to focus attention on animals at conservation risk, to stimulate research on poorly known species, and to achieve conservation and recovery before these species meet the California Endangered Species Act (CESA) criteria for listing. California Species of Special Concern are considered under the California Environmental Quality Act (CEQA) and require a discussion of impacts and appropriate mitigation to reduce impacts.
Watch List	CDFW	Taxa that were previously Species of Special Concern, but no longer merit that status or which do not meet criteria for designation as Species of Special Concern, but for which there is concern and a need for additional information to clarify status.
Special Animal	CDFW	An animal species that is tracked in the CNDDDB but has no other status at the state or federal level.

**Table 2. Definitions of Special-Status Species**

Species Designation	Agency	Definition
California Rare Plant Rank (CRPR) 1A	CDFW	Plants presumed to be extinct in California.
CRPR 1B	CDFW	Plants rare or endangered in California and elsewhere.
CRPR 2A	CDFW	Plants presumed extinct in California but more common elsewhere.
CRPR 2B	CDFW	Plants rare or endangered in California but more common elsewhere.
CRPR 3	CDFW	Plants about which more information is needed – a review list.
CRPR 4	CDFW	Plants of limited distribution – a watch list.

Plants or wildlife may be ranked as special-status species due to declining populations, vulnerability to habitat change, or restricted distributions. Certain species have been listed as threatened or endangered under the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). Others have not been listed, but declining populations or habitat availability cause concern for their long-term viability. These species of conservation concern appear on lists compiled by resource agencies or private conservation organizations. In this report, “special-status species” includes all plants and wildlife listed as threatened or endangered or included in these other compilations. All special-status plants and wildlife occurring in the region in habitats like those found on the project site are addressed in Table 3, with brief descriptions of habitat, distribution, conservation status, and probability of occurrence on the site.

**Table 3. Special-Status Species Addressed**

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
<b>PLANTS</b>				
<i>Androstephium breviflorum</i> <b>Small-flowered androstephium</b>	Perennial herb (bulb); open desert scrub, sandy to rocky soil within Mojavean desert scrub and desert dunes; about 300–5,300 ft. elev.; south Mojave Desert and north Sonoran Desert to western Colorado.	Mar-Apr	Fed: None CA: S2?, 2B.2	<b>Low:</b> Marginally suitable habitat present, occurrences located eight miles west of the project site.
<i>Cuscuta californica</i> var. <i>apiculata</i> <b>Pointed dodder</b>	Annual vine (parasitic); sandy soils within Mojavean desert scrub, Sonoran Desert scrub; about 0 to 1,700 ft. elev.	Feb-Aug	Fed: None CA: S3?, 3	<b>High:</b> Suitable habitat present, record within one mile of project site, unidentified <i>Cuscuta</i> observed on site.
<i>Ditaxis claryana</i> <b>Glandular ditaxis</b>	Perennial herb; Mojavean desert scrub, Sonoran Desert scrub; sandy soils; about 0 to 1,500 ft. elev.	Oct-Mar	Fed: None CA: S2, 2B.2	<b>Moderate:</b> Suitable habitat present. Historic record located four miles east of project site.

**Table 3. Special-Status Species Addressed**

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
<i>Johnstonella holoptera</i> <b>Winged cryptantha</b>	Annual herb; Mojavean and Sonoran desert scrub; about 330 to 5,500 ft. elev.; southern California mountains and deserts.	Mar-Apr	Fed: None CA: S4, 4.3	<b>Moderate:</b> Suitable habitat present; recent records with three miles of the project site.
<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i> <b>Desert beardtongue</b>	Perennial herb; sandy washes and rocky slopes in canyons; about 300-6,400 ft. elev.; scattered locations, Mojave and Colo. Deserts in California and Arizona.	Jan-May	Fed: None CA: S3, 2B.2	<b>Low:</b> Suitable habitat present within project site. No records within 10 miles of project site.
<b>INVERTEBRATES</b>				
<i>Oliarces clara</i> <b>Cheeseweed owlfly (cheeseweed moth lacewing)</b>	Generally associated with creosote bush; steep, shaded canyons in deserts with intermittent streams.	Apr-May	Fed: None CA: S2, SA	<b>Moderate:</b> Suitable habitat present, historic records located within six miles of project site.
<b>REPTILES</b>				
<i>Gopherus agassizii</i> <b>Desert tortoise</b>	Typically associated with gravelly flats or sandy soils with some clay. Can be found in creosote, shadscale, and Joshua tree series of Mojave Desert scrub. Occurs only in California, extreme southern Nevada, extreme southwest Utah, and extreme northwest Arizona. Ranges from below sea level to 2,225 m in elevation.	Spring-Fall	Fed: FT, CA: ST, S2S3	<b>Present:</b> Suitable habitat present. Known to occur within project site.
<b>BIRDS</b>				
<i>Aquila chrysaetos</i> <b>golden eagle</b>	Nests in remote trees and cliffs; but will use also use transmission line towers. Forages over shrublands and grasslands; breeds throughout western North America, winters to east coast.	Year-round	Fed: BGEPA, BLMS, CA: S3, FP, WL	<b>Minimal</b> (nesting), <b>Low</b> (foraging): No suitable nesting habitat present; Recent eBird sightings within six miles of the project site.
<i>Athene cunicularia</i> <b>Burrowing owl</b>	Nests mainly in wildlife burrows, usually in open grassland or shrubland communities; forages in open habitats. Occurs in California through western U.S. and Mexico.	Year-round	Fed: BLMS CA: S3, SSC	<b>Moderate</b> (nesting), <b>Present</b> (foraging): Suitable nesting habitat is limited. Sign observed on site.
<i>Falco mexicanus</i> <b>Prairie falcon</b>	Nests along cliff faces or rocky outcrops, forages over open spaces, agricultural fields. Occurs throughout arid western U.S. and Mexico.	Year-round	Fed: None CA: S4, WL	<b>Minimal</b> (nesting), <b>Present</b> (foraging): No suitable nesting habitat present, suitable foraging habitat is present. Known to occur within project site.

**Table 3. Special-Status Species Addressed**

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
<i>Lanius ludovicianus</i> <b>Loggerhead shrike</b>	Occurs in broken woodland, savannah, pinyon-juniper woodland, Joshua tree woodland, riparian woodland, desert oases, scrub, and washes; prefers open areas for foraging. Nesting widespread in North America.	Year-round	Fed: None CA: S4, SSC	<b>High</b> (nesting), <b>Present</b> (foraging): Suitable nesting habitat present. Observed foraging in project site.
<b>MAMMALS</b>				
<i>Macrotus californicus</i> <b>California leaf-nosed bat</b>	Desert shrublands and arid lowlands, W San Diego Co. to W Ariz., Baja and Sonora, Mexico; gen. roosts in mineshafts, forages over open shrublands.	Year-round	Fed: BLMS CA: SSC, S3	<b>Minimal</b> (Roosting), <b>Moderate</b> (Foraging): Suitable foraging habitat present, no suitable roosting habitat present.
<i>Vulpes macrotis arsipus</i> <b>Desert kit fox</b>	Arid areas with grasslands, agricultural lands, or scrub areas with scattered shrubby vegetation. Requires open, level areas with loose-textured, sandy loamy soils for digging dens. Found in southwest U.S. and Mexico.	Year-round	Fed: None CA: PF, SNR	<b>Present:</b> Unoccupied dens observed during surveys.

General references (botany): Baldwin et al., 2012; CDFW, 2023a; CDFW, 2023b; CNPS, 2023; and CCH, 2023. General references (wildlife): American Ornithologists Union, 1998 (including supplements through 2013); Barbour and Davis, 1969; eBird.org, 2023; Feldhamer et al., 2003; Garrett and Dunn, 1981; Hall, 1981; Jennings and Hayes, 1994; Stebbins, 2003; Wilson and Ruff, 1999; and Zeiner et al., 1990.

**Conservation Status**

**Federal designations (Fed):** (federal ESA, USFWS).

END: Federally listed, endangered.

THR: Federally listed, threatened.

Candidate: Sufficient data are available to support federal listing, but not yet listed.

Proposed: Formally proposed for the federal status shown.

BGEPA: Bald and Golden Eagle Protection Act

CAND: Sufficient data are available to support federal listing, but not yet listed.

BLMS: Bureau Land Management sensitive species.

**State designations (CA):** (CESA, CDFW)

END: State listed, endangered.

THR: State listed, threatened.

CAND: Sufficient data are available to support listing, but not yet listed.

RARE: State listed as rare (applied only to certain plants).

SSC: California Species of Special Concern. Considered vulnerable to extinction due to declining numbers, limited geographic ranges, or ongoing threats.

WL: Species that were either previously listed as SC and have not been state listed under CESA; or were previously state or federally listed and now are on neither list; or are on the list of "Fully Protected" species.

FP: Fully protected. May not be taken or possessed without permit from CDFW.

**CDFW Natural Diversity Data Base Designations:** Applied to special-status plants and sensitive plant communities; where correct category is uncertain, CDFW uses two categories or question marks.

S1: Fewer than 6 occurrences or fewer than 1000 individuals or less than 2000 acres.

S1.1: Very threatened

S1.2: Threatened

S1.3: No current threats known

S2: 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres (decimal suffixes same as above).

S3: 21-100 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres (decimal suffixes same as above).

S4: Apparently secure in California; this rank is clearly lower than S3 but factors exist to cause some concern, i.e., there is some threat or somewhat narrow habitat. No threat rank.

S5: Demonstrably secure or ineradicable in California. No threat rank.

SH: All California occurrences historical (i.e., no records in > 20 years).

SNR: Not ranked in California.

**California Rare Plant Rank designations.** Note: According to the California Native Plant Society (<http://www.cnps.org/cnps/rareplants/ranking.php>), plants ranked as CRPR 1A, 1B, and 2 meet definitions as threatened or endangered and are eligible for state listing. That interpretation of the state Endangered Species Act is not in general use.

1A: Plants presumed extinct in California.

1B: Plants rare and endangered in California and throughout their range.

2A: Plants presumed extinct in California but more common elsewhere in their range.

2B: Plants rare, threatened or endangered in California but more common elsewhere in their range.

3: Plants about which we need more information; a review list.

4: Plants of limited distribution; a watch list.

**California Rare Plant Rank Threat designation extensions:**

.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 Fairly endangered in California (20-80% occurrences threatened)

.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

**Definitions of occurrence probability:** Estimated occurrence probabilities are based on literature sources cited earlier, field surveys, and habitat analyses reported here.

*Present:* Observed on the site by qualified biologists.

*High:* Habitat is a type often utilized by the species and the site is within the known range of the species.

*Moderate:* Site is within the known range of the species and habitat on the site is a type occasionally used.

*Low:* Site is within the species' known range but habitat is rarely used, or the species was not found during focused surveys covering less than 100% of potential habitat or completed in marginal seasons.

*Minimal:* No suitable habitat on the site; or well outside the species' known elevational or geographic ranges; or a focused study covering 100% of all suitable habitat, completed during the appropriate season and during a year of appropriate rainfall, did not detect the species.

## 5.1 Special-Status Plants

### 5.1.1 Listed Threatened or Endangered Plants

This section describes plant species reported from the region that are listed as threatened or endangered under the FESA or CESA and are present or have a potential to be present on the project site. Several listed plant species were identified during the literature review but none of these species were observed or found to have at least a moderate potential to occur on the project site.

### 5.1.2 Other Special-Status Plants

In addition to the federal and state endangered species regulations noted above, the Bureau of Land Management (BLM), CDFW and CNPS maintain lists of plants of conservation concern. The CDFW compiles these species including CDFW and CNPS rankings as CRPR 1, 2, 3, or 4 in its compendium of "Special Plants" (CDFW, 2023b). These plants are treated here as "special-status species" and are discussed below.

**Pointed dodder (*Cuscuta californica* var. *apiculata*).** Pointed dodder has a CRPR of 3 (CDFW, 2023a). It is an annual vine in the morning glory family (Convolvulaceae). In California, pointed dodder is endemic to Riverside, San Bernardino, and San Diego Counties. It is found on sandy soils in Mojavean and Sonoran Desert scrub at elevations from 0 to 1,700 feet amsl and flowers from February to August (CNPS, 2023). Suitable habitat is present throughout much of the project site. A desiccated dodder (*Cuscuta* sp.) was found parasitizing white bursage (*Ambrosia dumosa*), smoke tree (*Psoralea argemone*), and creosote bush. Due to the desiccated state of the dodder, it was not possible to identify it to species. Though not observed during surveys, a recent occurrence is located along National Trails Highway, 0.9-miles west of the project site. Pointed dodder has a high potential to be present in the project site.

**Glandular ditaxis (*Ditaxis claryana*).** Glandular ditaxis has a CRPR of 2B.2 (CDFW, 2023a). It is a perennial herb in the spurge family (Euphorbiaceae). In California, glandular ditaxis is endemic to the Mojave and Sonoran Deserts in Imperial, Riverside, San Bernardino Counties. It is found on sandy soils within Mojavean and Sonoran Desert scrub at elevations from 0 to 1,500 feet amsl and flowers from October to

March (CNPS, 2023). Suitable habitat is present throughout much of the project site. Though not observed during surveys, several occurrences are located four miles west of the project site at the base of the Bristol Mountains. Glandular ditaxis has a moderate potential to be present in the project site.

**California Rare Plant Rank (CRPR) 4 Species.** One CRPR 4 species (i.e., a “watch list,” not indicating rarity) have at least a moderate potential to occur. Winged cryptantha (*Johnstonella holoptera*) was not observed in the project site. Several occurrences are located within five miles of the project site. Winged cryptantha was not observed in the project site but have potential to be present in the future.

## 5.2 Special-Status Wildlife

### 5.2.1 Listed Threatened or Endangered Wildlife

This section includes species listed as threatened or endangered under FESA or CESA which were detected or have a moderate or high potential to be present on the project site. One species listed under the FESA and CESA is documented to occur within the project site and is discussed below.

**Desert tortoise (*Gopherus agassizii*).** The desert tortoise is listed as threatened under FESA, and CESA. The desert tortoise occurs in the Mojave and Sonoran Deserts in southern California, southern Nevada, Arizona, and the southwestern tip of Utah in the U.S., as well as Sonora and northern Sinaloa in Mexico. The desert tortoise occupies a variety of habitats from flats and slopes, typically characterized by creosote bush scrub at lower elevations, to rocky slopes in blackbrush scrub and juniper woodland ecotones (transition zones) at higher elevations. Throughout most of the Mojave Desert, tortoises occur most commonly on gently sloping terrain with sandy-gravel soils and where there is herbaceous (non-woody) plants and sparse cover of low-growing shrubs. Surveys at the Nevada Test Site revealed that tortoise sign (e.g., scat, burrows, tracks, shells) was more abundant on upper alluvial fans and lower mountain slopes than on the valley bottom. Soils must be friable (easily crumbled) enough for digging burrows, but firm enough so that burrows do not collapse.

No live desert tortoises were observed within the project site. During surveys in 2014, three Class 3 burrows were found at the Lanzit Ditch Bridge project site. In addition, a Class 5 burrow was found on the north side of National Trails Highway during the reconnaissance survey in 2023 (Attachment A, Figure 3). The remains of a desert tortoise, one Class 3 burrow and two Class 5 burrows were found at the Dola Ditch Bridge project site during surveys in 2014 (Attachment A, Figure 3).

### 5.2.2 Species Protected Under the Federal Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d; BGEPA) prohibits take of bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*). The BGEPA defines *take* to include “pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, and disturbing.” The USFWS (2007a) further defines *disturb* as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

Golden eagles are observed periodically in the region but are not expected to utilize the project site for nesting because no nesting habitat is present. Golden eagles have a low potential to forage on the site given the small area of the project site and the limited amount of prey items.

### 5.2.3 California Wildlife Species of Special Concern

**Burrowing owl (*Athene cunicularia*).** The burrowing owl is a CDFW Species of Special Concern and a BLM sensitive species. The burrowing owl occurs throughout North and Central America west of the eastern edge of the Great Plains south to Panama. The winter range of the burrowing owl is much the same as the breeding range. In California, burrowing owls are yearlong residents of flat, open, dry grassland and desert habitats at lower elevations (Bates, 2006). They typically inhabit annual and perennial grasslands and scrublands characterized by low-growing vegetation and also may occur in areas that include trees and shrubs if the cover is less than 30% (Bates, 2006); however, they prefer treeless grasslands. Although burrowing owls prefer large, contiguous areas of treeless grasslands, they have also been observed in fallow agriculture fields, golf courses, cemeteries, road allowances, airports, vacant lots in residential areas and university campuses, and fairgrounds when nest burrows are present (Bates, 2006). The availability of numerous small mammal burrows, such as those of California ground squirrel (*Spermophilus beecheyi*), is a major factor in determining whether an area with apparently suitable habitat supports burrowing owls (Coulombe, 1971). Evidence of burrowing owls (pellets and whitewash) was observed at burrows during protocol desert tortoise surveys in 2014 at the Lanzit Ditch Bridge project site (Attachment A, Figure 3). Suitable nesting and foraging habitat are present throughout the project site. Based on the presence burrowing owl sign, it is expected that burrowing owls have a high potential to utilize the project site.

**Loggerhead shrike (*Lanius ludovicianus*).** The loggerhead shrike is a CDFW Species of Special Concern. The breeding range of the loggerhead shrike includes Alberta, Saskatchewan, and Manitoba in Canada; the majority of the United States except the Pacific Northwest; and Mexico (Yosef, 1996). This species is a common resident and winter visitor in lowlands and foothills throughout California. The loggerhead shrike prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. This species most often occurs in open-canopied valley foothill hardwood forests, valley-foothill hardwood-conifer forests, valley foothill riparian, pinyon-juniper woodlands, desert riparian, and Joshua tree habitats. A foraging loggerhead shrike was observed on the project site during surveys in 2014. The site provides suitable foraging and nesting habitat for loggerhead shrike. Loggerhead shrike are known to forage on the project site and have a high potential to nest within the project site.

**California leaf-nosed bat (*Macrotus californicus*).** California leaf-nosed bat is listed as a CDFW Special Animal. This species has a limited distribution which extends from northwestern Mexico (Sonora and Sinaloa) and Baja California into Arizona, southern Nevada, and southern California (WBWG, 2017). The California leaf-nosed bat appears to be confined to lowland Sonoran Desert habitat below 900 m. This species also appears to be totally dependent on either caves or mines for roosting. Although it has occasionally been found night roosting in buildings or bridges, its maternity, mating, and overwintering sites are all in mines or caves (WBWG, 2017). The project site lacks suitable roosting habitat for the California leaf-nosed bat. The species has potential to forage along within the project site along Dola Ditch and Lanzit Ditch. California leaf-nosed bat has low potential to roost within the project site and a moderate potential to forage.

### 5.2.3 Other Special-Status Wildlife Species

Three additional special-status species are reported from the surrounding area (CDFW, 2023a; Table 2): cheeseweed owl (*Oliarces clara*), prairie falcon (*Falco mexicanus*), desert kit fox (*Vulpes macrotis arsipus*). Cheeseweed owl were not observed within the project site during surveys, but the project site provides suitable habitat. A prairie falcon was observed foraging within the project site, no suitable

nesting habitat is present within the project site. Desert kit fox dens were observed during surveys for desert tortoise in 2014 throughout the project site (Attachment A, Figure 3).

### 5.3 Designated Critical Habitat

The literature review conducted prior to conducting field surveys determined that the project site is not within federally designated critical habitat for any species. The project site is located seven miles to the west of designated critical habitat for the desert tortoise (USFWS, 2023b).

### 5.4 Native Birds: Migratory Bird Treaty Act (MBTA) / California Fish and Game Code

The federal MBTA prohibits take of any migratory bird, including eggs or active nests, except as permitted by regulation (e.g., licensed hunting of waterfowl or upland game species). Under the MBTA, “migratory bird” is broadly defined as “any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle” and thus applies to most native bird species. California Fish and Game Code Section 3503 prohibits take, possession, or needless destruction of bird nests or eggs; Section 3503.5 prohibits take or possession of birds of prey or their eggs; and Section 3513 prohibits take or possession of any migratory nongame bird. With the exception of a few non-native birds, such as European starling (*Sturnus vulgaris*), the take of any birds or loss of active bird nests or young is regulated by these statutes. Most of these species have no other special conservation status as defined above.

The project site has shrubs, man-made structures, and open areas that may provide nesting habitat. Common birds are known to nest in the area and many of these are likely to nest on the project site.

Many adult birds would flee from equipment during project construction; however, nestlings and eggs would be vulnerable. If project activities include site grading or brush removal during nesting season, then it would likely destroy bird nests, including eggs or nestling birds. For most birds, these impacts can be avoided by scheduling initial clearing and grading outside the nesting season. Or, if initial clearing and grading are undertaken during nesting season, work may be limited only to areas where no nesting birds are present, as documented by pre-construction nest surveys.

Some birds are likely to nest in the project site during construction, even after initial grading and clearing have been completed. Depending on the species, birds may nest on the ground; in adjacent vegetation; or on construction equipment that is left overnight or during a long weekend. Due to the high probability that birds may nest on site during construction, regular monitoring and nest site management may be necessary throughout the breeding season.

### 5.5 Wildlife Movement

The ability for wildlife to move freely among populations and habitat areas is important to long-term genetic variation and demography. Fragmentation and isolation of natural habitat may cause loss of native species diversity in fragmented habitats. In the short term, wildlife movement may also be important to individual animals’ ability to occupy their home ranges, if their ranges extend across a potential movement barrier. These considerations are especially important for rare, threatened, or endangered species, and wide-ranging species such as large mammals, which exist in low population densities.

The California Essential Habitat Connectivity Project was commissioned by the California Department of Transportation (Caltrans) and CDFW to create a statewide assessment of essential habitat connectivity to

be used for conservation and infrastructure planning (Caltrans and CDFW 2010). One of its goals was to create the Essential Connectivity Map, which depicts large, relatively natural habitat blocks that support native biodiversity (natural landscape blocks) and areas essential for ecological connectivity between them (essential connectivity areas). This map does not reflect the needs of particular species but is based on overall biological connectivity and ecological integrity. A more detailed analysis is required to assess local and regional needs for connectivity and develop linkage designs based on the requirements of individual species (Caltrans and CDFW, 2010). The project site is not located within a Natural Landscape Block or Essential Habitat Connectivity Area. The project site is likely to support movement along Dola and Lanzit Ditches for common species such as coyote (*Canis latrans*), desert kit fox, black-tailed jackrabbits (*Lepus californicus*), and others.

## **6.0 Conclusions**

One FESA and CESA listed species, desert tortoise has been documented to occur within the project site. Special-status wildlife species observed, detected, or have at least a moderate potential to be present in the project site include prairie falcon, burrowing owl, loggerhead shrike, California long-nosed bat, and desert kit fox.

In addition to special-status wildlife, two high priority special-status plant species, pointed dodder, and glandular ditaxis have at least a moderate potential to be present. One additional lower priority species, winged cryptantha has at least a moderate potential to be present.

No sensitive natural communities are present within the project site. Critical habitat is not present within the project site. The project site is not located within any designated wildlife corridors and is not expected to impede wildlife movement through the project site or within the immediate surrounding area. The project site is likely to be used as a foraging or dispersal area for wildlife in the immediate vicinity of the project site.

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**Attachment 1 – Figures**

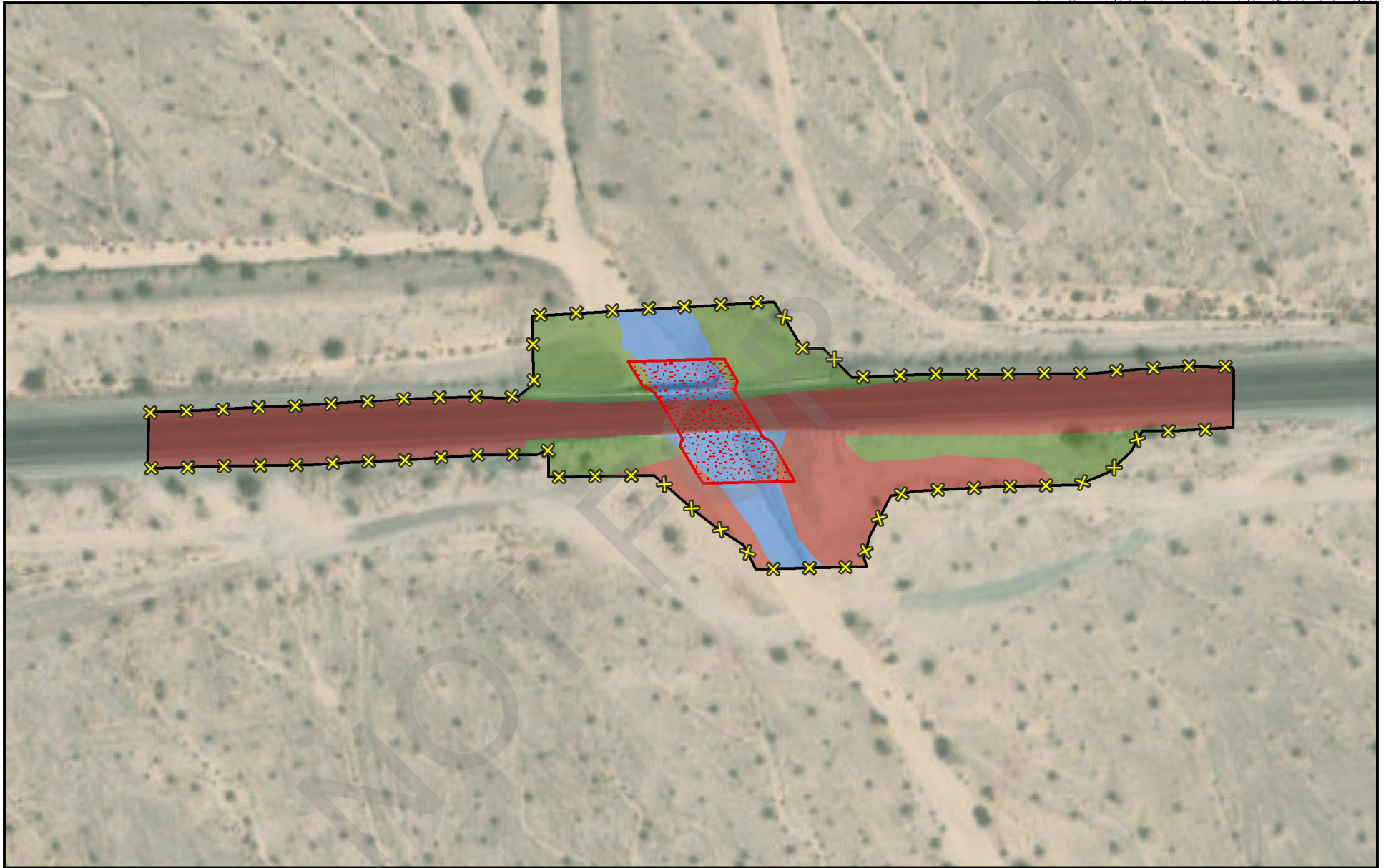
NOT FOR BID



Scale 1:6,000  
1 inch = 500 feet  
0 250 500 Feet

- Temporary Disturbance Area
- Permanent Disturbance Area
- Desert Tortoise Exclusion Fence

Figure 1  
Project Location






Scale 1:1,200




1 inch = 100 feet



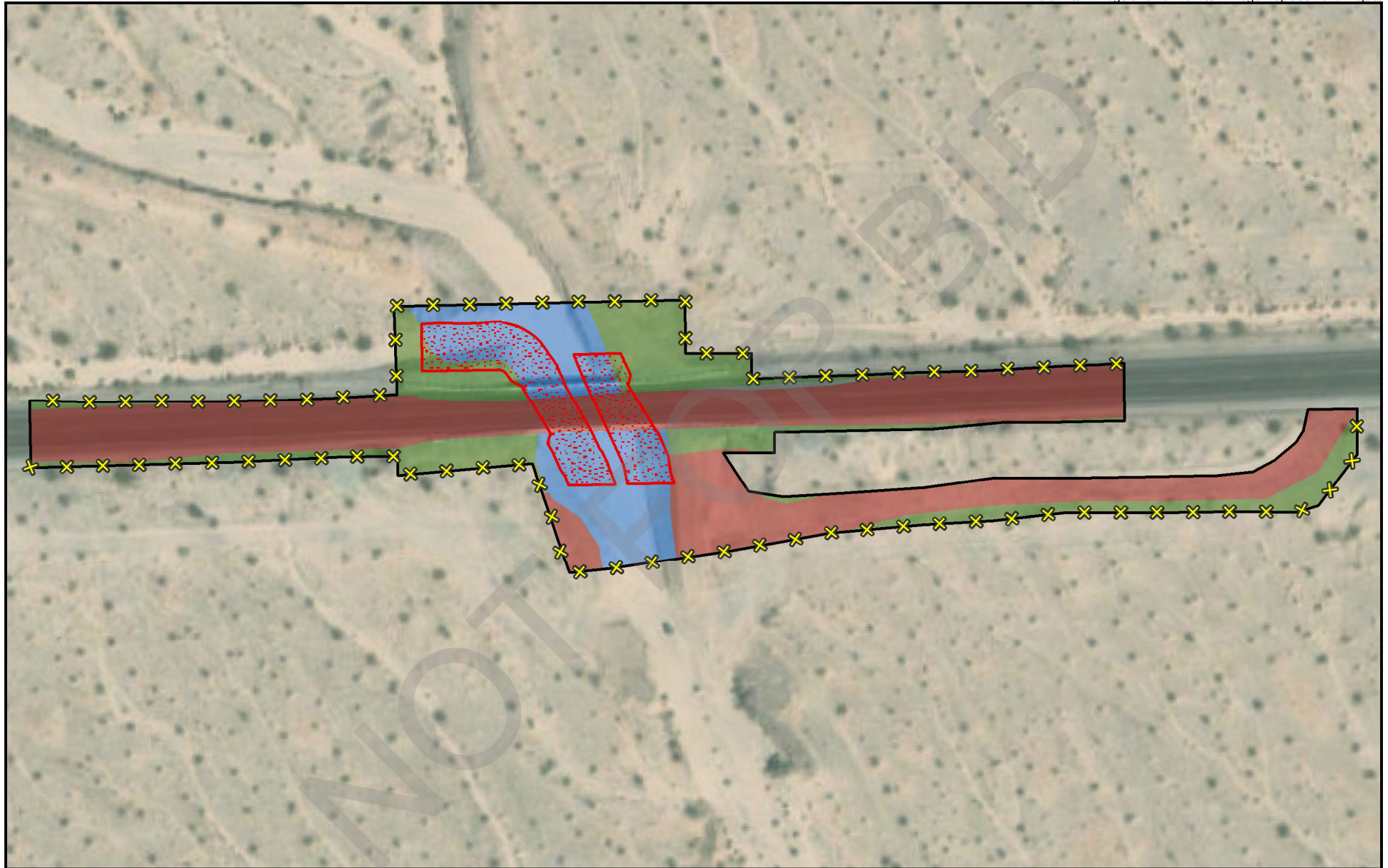
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Feet

-  Temporary Disturbance Area
-  Permanent Disturbance Area
-  Desert Tortoise Exclusion Fence

Vegetation/Cover Type

-  Mojave Creosote Bush Scrub
-  Non-Vegetated Channel
-  Disturbed/Developed

**Figure 2**  
**Vegetation Communities - Dola Ditch Bridge**






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

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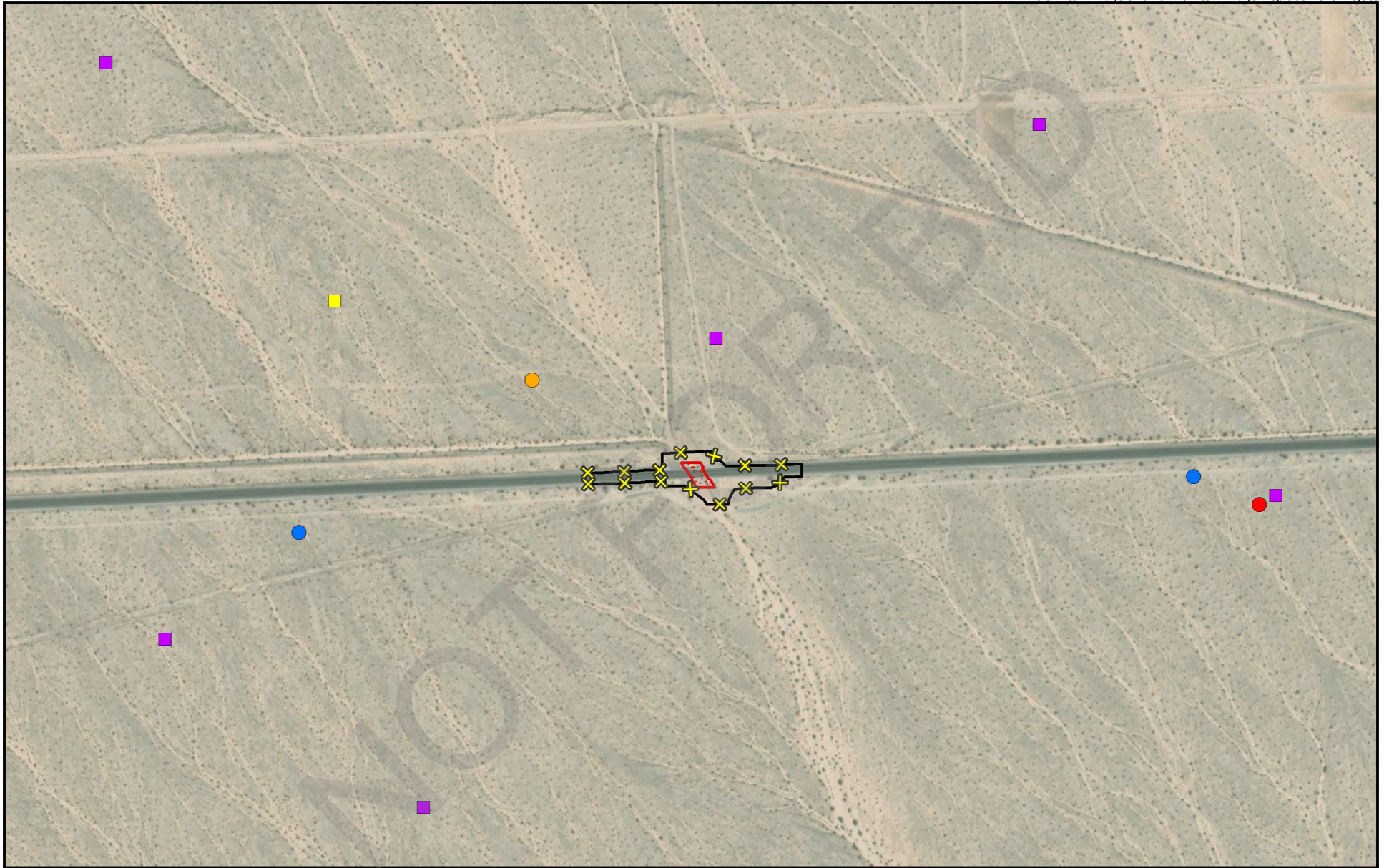
0 50 100  
Feet

-  Temporary Disturbance Area
-  Permanent Disturbance Area
-  Desert Tortoise Exclusion Fence

Vegetation/Cover Type

-  Mojave Creosote Bush Scrub
-  Non-Vegetated Channel
-  Disturbed/Developed




**Figure 2**  
**Vegetation Communities - Lanzit Ditch Bridge**





Scale 1:6,000

1 inch = 500 feet

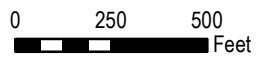


-  Temporary Disturbance Area
-  Permanent Disturbance Area
-  Desert Tortoise Exclusion Fence

Biological Resource Survey 2014

-  Inactive Kit Fox Burrow
-  Coyote Burrow

-  Class 3 Desert Tortoise Burrow
-  Class 5 Desert Tortoise Bone Fragments
-  Class 5 Desert Tortoise Burrow



**Figure 3**  
**Biological Resources - Dola Ditch Bridge**






Scale 1:3,600




1 inch = 300 feet




0 150 300  
Feet

-  Temporary Disturbance Area
-  Permanent Disturbance Area
-  Desert Tortoise Exclusion Fence

Biological Resource Survey 2014

-  Kit Fox Burrow
-  Burrowing Owl White Wash
-  Class 3 Desert Tortoise Burrow

Biological Resource Survey 2023

-  Class 5 Desert Tortoise Burrow

**Figure 3**  
**Biological Resources - Lanzit Ditch Bridge**

**Attachment 2 – Information for Planning and Consultation (IPaC) Results**

NOT FOR BID

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

San Bernardino County, California



## Local office

Carlsbad Fish And Wildlife Office

☎ (760) 431-9440

📅 (760) 431-5901

2177 Salk Avenue - Suite 250

NOT FOR BID  
NOT FOR CONSULTATION

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

- 
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Reptiles

NAME	STATUS
Desert Tortoise <i>Gopherus agassizii</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/4481">https://ecos.fws.gov/ecp/species/4481</a>	Threatened

## Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds  
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds  
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

There are no migratory birds of conservation concern expected to occur at this location.

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

## Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

### Fish hatcheries

There are no fish hatcheries at this location.

## Wetlands in the National Wetlands Inventory

# (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

[R4SBJ](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

**NOTE:** This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

## Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

## Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

## Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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**Attachment 3 – CNDDDB Query Results**

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**Selected Elements by Scientific Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Androstegium breviflorum</i></b> small-flowered androstegium	PMLIL06010	None	None	G5	S2?	2B.2
<b><i>Aquila chrysaetos</i></b> golden eagle	ABNKC22010	None	None	G5	S3	FP
<b><i>Athene cunicularia</i></b> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<b><i>Castela emoryi</i></b> Emory's crucifixion-thorn	PDSIM03030	None	None	G3G4	S2S3	2B.2
<b><i>Coryphantha alversonii</i></b> Alverson's foxtail cactus	PDCAC0X060	None	None	G3	S3	4.3
<b><i>Cryptantha clokeyi</i></b> Clokey's cryptantha	PDBOR0A3M0	None	None	G3	S3	1B.2
<b><i>Ditaxis claryana</i></b> glandular ditaxis	PDEUP080L0	None	None	G3G4	S2	2B.2
<b><i>Eriastrum harwoodii</i></b> Harwood's eriastrum	PDPLM030B1	None	None	G2	S2	1B.2
<b><i>Euphorbia jaegeri</i></b> Orocopia Mountains spurge	PDEUP0Q440	None	None	G1	S1	1B.1
<b><i>Falco mexicanus</i></b> prairie falcon	ABNKD06090	None	None	G5	S4	WL
<b><i>Gopherus agassizii</i></b> desert tortoise	ARAAF01012	Threatened	Threatened	G3	S2S3	
<b><i>Macrotus californicus</i></b> California leaf-nosed bat	AMACB01010	None	None	G3G4	S3	SSC
<b><i>Monardella mojavensis</i></b> Granite Mountains monardella	PDLAM181A0	None	None	G2	S2	1B.3
<b><i>Oliarces clara</i></b> cheeseweed owlfly (cheeseweed moth lacewing)	IINEU04010	None	None	G1G3	S2	
<b><i>Ovis canadensis nelsoni</i></b> desert bighorn sheep	AMALE04013	None	None	G4T4	S3	FP
<b><i>Penstemon albomarginatus</i></b> white-margined beardtongue	PDSCR1L070	None	None	G2	S1	1B.1
<b><i>Penstemon pseudospectabilis ssp. pseudospectabilis</i></b> desert beardtongue	PDSCR1L562	None	None	G4G5T4	S3	2B.2
<b><i>Penstemon stephensii</i></b> Stephens' beardtongue	PDSCR1L5W0	None	None	G3?	S3?	1B.3
<b><i>Saltugilia latimeri</i></b> Latimer's woodland-gilia	PDPLM0H010	None	None	G3	S3	1B.2
<b><i>Uma scoparia</i></b> Mojave fringe-toed lizard	ARACF15030	None	None	G3G4	S3S4	SSC

**Record Count: 20**



## Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



**Query Criteria:**

Quad

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**Attachment 4 – Special-Status Species Not Addressed**

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**Attachment 4. Special-Status Species Not Addressed<sup>1</sup>**

Latin Name	Common Name	Reason for Exclusion
<b>PLANTS</b>		
<i>Castela emoryi</i>	Emory's crucifixion-thorn	Conspicuous species not observed.
<i>Coryphantha alversonii</i>	Alverson's foxtail cactus	Conspicuous species not observed.
<i>Cryptantha clokeyi</i>	Clokey's cryptantha	Well below the species elevation range.
<i>Eriastrum harwoodii</i>	Harwood's eriastrum	No suitable dune habitat.
<i>Euphorbia jaegeri</i>	Orocopia Mountains spurge	Well below the species elevation range.
<i>Johnstonella costata</i>	Ribbed cryptantha	No suitable dune habitat.
<i>Monardella mojavensis</i>	Granite Mountains monardella	No suitable desert mountain habitat.
<i>Penstemon albomarginatus</i>	White-margined beardtongue	Well below the species elevation range.
<i>Penstemon stephensii</i>	Stephens' beardtongue	No rocky slopes present.
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	Well below the species elevation range.
<i>Salvia funerea</i>	Death Valley sage	No carbonate soils.
<b>INVERTEBRATES</b>		
<i>Danaus plexippus</i> pop. 1	Monarch – California overwintering population	Well east of overwintering range.
<b>REPTILES</b>		
<i>Uma scoparia</i>	Mojave fringe-toed lizard	No suitable dune habitat.
<b>MAMMALS</b>		
<i>Ovis canadensis nelsoni</i>	Desert bighorn sheep	No suitable desert foothill habitat.

**Note:**

<sup>1</sup> Special-status species reported from the region, but not addressed in this report due to habitat or geographic range.

**Attachment 5 – Project Species List**

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**Attachment 5. Project**

**List**

<i>Latin Name</i>	<i>Common Name</i>
<b>VASCULAR PLANTS</b>	
<b>Gymnosperms</b>	
EPHEDRACEAE	EPHEDRA FAMILY
<i>Ephedra nevadensis</i>	Ephedra
<b>Angiosperms (Dicotyledons)</b>	
ASTERACEAE	SUNFLOWER Family
<i>Ambrosia dumosa</i>	White bursage
<i>Encelia farinosa</i>	Brittlebush
<i>Ericameria nauseosa</i>	Mojave rabbitbrush
<i>Hymenocloa salsola</i>	Cheesebush
<i>Malacothrix glabrata</i>	Desert dandelion
<i>Rafinesquia neomexicana</i>	Desert chicory
BORAGINACEAE	BORAGE FAMILY
<i>Cryptantha angustifolia</i>	Cryptantha
CACTACEAE	CACTUS FAMILY
<i>Cylindropuntia echinocarpa</i>	Silver cholla
<i>Cylindropuntia ramosissima</i>	Pencil cholla
<i>Opuntia basilaris</i>	Beavertail cactus
CAPPARACEAE	CAPER FAMILY
<i>Isomeris arborea</i>	Bladderpod
CONVOLVULACEAE	GOURD FAMILY
<i>Cuscuta</i> spp.	Unid. dodder
EUPHORBIACEAE	SPURGE FAMILY
<i>Euphorbia albomarginata</i>	Rattlesnake spurge
<i>Stillingia spinulosa</i>	Broad leaved stillingia
FABACEAE	PEA FAMILY
<i>Psoralea argophylla</i>	Smoke tree
LOASACEAE	LOASA FAMILY
<i>Petalonyx thurberi</i> ssp. <i>thurberi</i>	Sandpaper plant
ONAGRACEAE	EVENING PRIMROSE FAMILY
<i>Oenothera deltoides</i> ssp. <i>deltoides</i>	Desert lantern
OROBANCHACEAE	OROBANCHE FAMILY
<i>Aphyllon cooperi</i>	Burweed strangler
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Chorizanthe rigida</i>	Rigid spiny herb
<i>Eriogonum inflatum</i>	Desert trumpet
ZYGOPHYLLACEAE	CALTROP FAMILY
<i>Larrea tridentata</i>	Creosote bush
<b>Angiosperms (Monocotyledons)</b>	
POACEAE	GRASS FAMILY
* <i>Schismus barbatus</i>	Old han schismus
<b>VERTEBRATE ANIMALS</b>	
<b>REPTILIA</b>	
<b>REPTILES</b>	
IGUANIDAE	IGUANAS
<i>Dipsosaurus dorsalis</i>	Desert iguana
PHRYNOSOMATIDAE	NORTH AMERICAN SPINY LIZARDS
<i>Callisaurus draconoides rhodostictus</i>	Western zebra-tailed lizard
<i>Phrynosoma platyrhinos calidiarum</i>	Southern desert horned lizard
<i>Uta stansburiana elegans</i>	Western side-blotched lizard

TEIIDAE	WHIPTAILS AND RACERUNNERS
<i>Aspidoscelis tigris tigris</i>	Great Basin whiptail
TESTUDINIDAE	TORTOISES
** <i>Gopherus agassizii</i>	Mojave desert tortoise
<b>AVES</b>	<b>BIRDS</b>
ALAUDIDAE	LARKS
<i>Eremophila alpestris</i>	Horned lark
COLUMBIDAE	PIGEONS AND DOVES
<i>Zenaida macroura</i>	Mourning dove
FALCONIDAE	FALCONS
<i>Falco mexicanus</i>	Prairie falcon
LANIIDAE	SHRIKES
** <i>Lanius ludovicianus</i>	Loggerhead shrike
REMIZIDAE	PENDULINE-TITS
<i>Auriparus flaviceps</i>	Verdin
STRIGIDAE	OWLS
** <i>Athene cunicularia</i>	Burrowing owl (sign)
CORVIDAE	CROWS AND JAYS
<i>Corvus corax</i>	Common raven
TROCHILIDAE	HUMMINGBIRDS
<i>Calypte anna</i>	Anna's hummingbird
TYRANNIDAE	TYRANT FLYCATCHERS
<i>Sayornis saya</i>	Say's phoebe
<b>MAMMALIA</b>	<b>MAMMALS</b>
GEOMYIDAE	POCKET GOPHER FAMILY
<i>Dipodomys sp.</i>	Kangaroo rat
<i>Neotoma sp.</i>	Woodrat
LEPORIDAE	RABBITS AND HARES
<i>Lepus californicus</i>	Black-tailed jackrabbit
SCIURIDAE	SQUIRRELS
<i>Ammospermophilus leucurus</i>	Antelope ground squirrel
<i>Spermophilus tereticaudus</i>	Round-tailed ground squirrel
CANIDAE	FOXES, WOLVES AND COYOTES
<i>Canis latrans</i>	Coyote
** <i>Vulpes macrotis arsipus</i>	Desert kit fox

Species introduced to California are indicated by an asterisk. Special-status species are indicated by two asterisks. This list includes only species observed on the site. Other species may have been overlooked or unidentifiable due to season (amphibians are active during rains, reptiles during summer, some birds (and bats) migrate out of the area for summer or winter, some mammals hibernate, many plants are identifiable only in spring). Plants were identified using keys, descriptions, and illustrations in Baldwin et al (2012). Plant taxonomy and nomenclature generally follow Baldwin et al. (2012). Wildlife taxonomy and nomenclature generally follow Stebbins (2003) for amphibians and reptiles, AOU (1998) for birds, and Wilson and Ruff (1999) for mammals.

**Attachment 6 – Project Photos**

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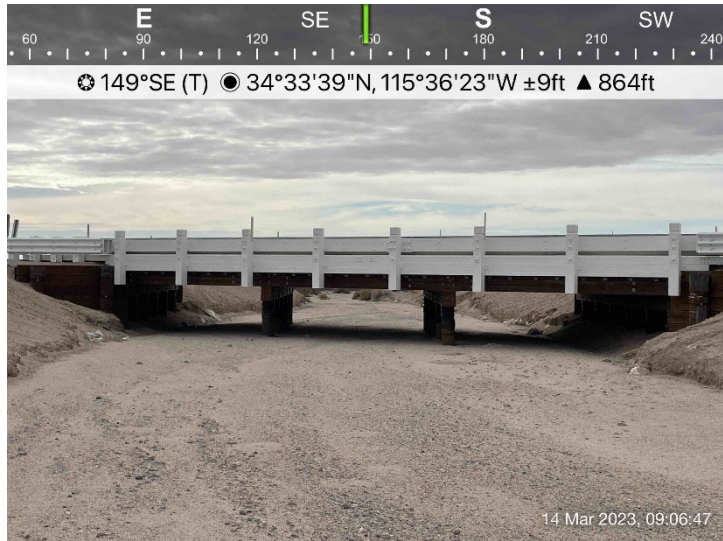


Photo 1: Downstream view of Dolan Ditch Bridge, facing south on March 14, 2023.



Photo 2: Upstream view of Dolan Ditch Bridge, facing north on March 14, 2023.



Photo 3: Creosote bush scrub facing southwest from northeast portion of Dolan Ditch project site on March 14, 2023.



Photo 4: Ephemeral drainage on north side of Dolan Ditch Bridge on March 14, 2023.