

APPENDIX D
RECORD OF NON-APPLICABILITY AND AIR
CALCULATIONS

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RECORD OF NON-APPLICABILITY (RONA) FOR CLEAN AIR ACT CONFORMITY

Supplemental Environmental Impact Statement for Land Acquisition and Airspace Establishment to Support Large-Scale Marine Air Ground Task Force Live-Fire and Maneuver Training, Marine Corps Air Ground Combat Center, Twentynine Palms, California

INTRODUCTION

The U.S. Environmental Protection Agency published Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule, in the 30 November 1993 Federal Register (40 CFR Parts 6, 51, and 93). The Department of the Navy published Interim Guidance on Compliance with the Clean Air Act (CAA) General Conformity Rule in the Marine Corps Order P5090.2A, Change 3, dated 26 August 2013. These publications provide implementing guidance to document CAA conformity determination requirements.

Federal regulations state that no department, agency, or instrumentality of the federal government shall engage in, support in any way or provide financial assistance for, license to permit, or approve any activity that does not conform to an applicable implementation plan. It is the responsibility of the federal agency to determine whether a federal action conforms to the applicable implementation plan, before the action is taken (40 CFR Part 1 51.850[a]).

The General Conformity Rule applies to Federal actions proposed within areas which are designated as either nonattainment or maintenance areas for a National Ambient Air Quality Standard (NAAQS) for any of the criteria pollutants (i.e., carbon monoxide [CO], ozone [O₃], sulfur dioxide [SO₂], nitrogen oxides [NO_x], suspended particulate matter between 2.5 and 10 microns in diameter [PM₁₀] and less than 2.5 microns in diameter [PM_{2.5}], and lead [Pb]). Former nonattainment areas that have attained a NAAQS are designated as maintenance areas. Emissions of pollutants for which an area is in attainment are exempt from conformity analyses.

The Proposed Action would occur within the Mojave Desert Air Basin (MDAB) portion of San Bernardino County. The MDAB is a severe-15 O₃ nonattainment area, and is a moderate nonattainment area for PM₁₀. The MDAB attains the NAAQS for all other criteria pollutants. Therefore, only project emissions of O₃ (or its precursors, volatile organic compounds [VOCs] and NO_x), and PM₁₀ are analyzed for conformity rule applicability.

The annual *de minimis* levels for this region are listed in Table D-1. Federal actions may be exempt from conformity determinations if they do not exceed designated *de minimis* levels (40 CFR Part 1, § 51.853[b]).

Table D-1. *De minimis* Levels for Criteria Pollutants in the Mojave Desert Air Basin

Criteria Pollutant	<i>de minimis</i> Level (tons/year)
VOCs	25
NO _x	25
PM ₁₀	100

PROPOSED ACTION

Action Proponent: Department of the Navy

Location: Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, California

Proposed Action Name: Supplemental Environmental Impact Statement (SEIS) for Land Acquisition and Airspace Establishment to Support Large-Scale Marine Air Ground Task Force Live-Fire and Maneuver Training, Marine Corps Air Ground Combat Center, Twentynine Palms, California

Proposed Action Summary: The SEIS has been prepared to analyze the potential environmental impacts of a No-Action Alternative and two additional action alternatives addressing different methodologies and locations for implementing a Desert Tortoise Translocation Program in support of Marine Expeditionary Brigade (MEB)-sized training exercises. The No-Action Alternative would implement the 2011 General Translocation Plan considered in the 2012 Final Environmental Impact Statement and the Land Acquisition Biological Opinion. Alternative 1 would implement a March 2016 desert tortoise translocation plan and Alternative 2 would implement the revised translocation plan developed in June 2016. Alternatives 1 and 2 primarily differ from the No-Action Alternative in the size, number, and location of recipient and control areas.

Air Emissions Summary: It has been estimated that all construction activities would be completed over the course of 3 months and would begin in fiscal year (FY) 2017. Air emissions would primarily result from the use of vehicles traveling to and from the recipient and control sites and from construction of tortoise exclusion fencing and signage and off-highway vehicle (OHV) barrier fencing. Tortoises would be transported by hand, via truck, or by helicopter to the recipient sites. During operations, vehicles would travel to the recipient sites infrequently to monitor tortoises and repair fencing. Dust suppression methods would continue to be employed as necessary. A portion of the fencing at certain recipient sites would be removed after two years, in FY 2019, and the removal is expected to take approximately 1 month.

Estimated emissions due to implementation of the Proposed Action are shown in Tables D-2, D-3, and D-4. The data presented in these tables represents the estimated emissions with implementation of the No-Action Alternative, Alternative 1, and Alternative 2. Based on the air quality analysis, the maximum estimated emissions would be below conformity *de minimis* threshold levels for the MDAB. Therefore, no significant impact to air quality would occur.

Table D-2. Total Emissions Resulting from Implementation of the No-Action Alternative

Emission Source	Emissions (tons/year) VOCs	Emissions (tons/year) NO _x	Emissions (tons/year) CO	Emissions (tons/year) SO ₂	Emissions (tons/year) PM ₁₀	Emissions (tons/year) PM _{2.5}
Construction Emissions	0.0704	0.7625	0.4043	0.0011	0.1116	0.0381
Total Emissions (lbs/day)	0.0704	0.7625	0.4043	0.0011	0.1116	0.0381
Conformity <i>de minimis</i> Limits	25	25	NA	NA	100	NA
Exceeds Conformity <i>de minimis</i> Limits?	No	No	No	No	No	No

Legend: CO = carbon monoxide; NA = not applicable; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 microns in diameter but greater than 2.5 microns in diameter; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; SO₂ = sulfur dioxide; VOCs = volatile organic compounds.

Table D-3. Total Emissions Resulting from Implementation of Alternative 1

Emission Source	Emissions (tons/year) VOCs	Emissions (tons/year) NO _x	Emissions (tons/year) CO	Emissions (tons/year) SO ₂	Emissions (tons/year) PM ₁₀	Emissions (tons/year) PM _{2.5}
Construction Emissions	0.1074	1.1517	0.6287	0.0017	0.0938	0.0498
Helicopter Emissions	0.0002	0.0060	0.0031	NA	0.0050	NA
Total Emissions (tons/year)	0.1076	1.1577	0.6318	0.0017	0.0988	0.0498
Conformity <i>de minimis</i> Limits	25	25	NA	NA	100	NA
Exceeds Conformity <i>de minimis</i> Limits?	No	No	No	No	No	No

Legend: CO = carbon monoxide; NA = not applicable; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 microns in diameter but greater than 2.5 microns in diameter; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; SO₂ = sulfur dioxide; VOCs = volatile organic compounds.

Table D-4. Total Emissions Resulting from Implementation of Alternative 2

Emission Source	Emissions (tons/year) VOCs	Emissions (tons/year) NO _x	Emissions (tons/year) CO	Emissions (tons/year) SO ₂	Emissions (tons/year) PM ₁₀	Emissions (tons/year) PM _{2.5}
Construction Emissions	0.1074	1.1517	0.6287	0.0017	0.0895	0.0493
Helicopter Emissions	0.0002	0.0060	0.0031	NA	0.0050	NA
Total Emissions (tons/year)	0.1076	1.1577	0.6318	0.0017	0.0945	0.0493
Conformity <i>de minimis</i> Limits	25	25	NA	NA	100	NA
Exceeds Conformity <i>de minimis</i> Limits?	No	No	No	No	No	No

Legend: CO = carbon monoxide; NA = not applicable; NO_x = nitrogen oxides; PM₁₀ = particulate matter less than 10 microns in diameter but greater than 2.5 microns in diameter; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; SO₂ = sulfur dioxide; VOCs = volatile organic compounds.

Affected Air Basin: Mojave Desert Air Basin

Date RONA Prepared: December 21, 2016

RONA Prepared By: MCAGCC Twentynine Palms with direct support from Cardno

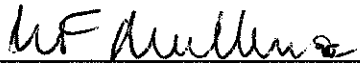
ATTAINMENT AREA STATUS AND EMISSIONS EVALUATION CONCLUSION

The MDAB is a severe-15 nonattainment area for the 8-hour O₃ NAAQS; VOCs and NO_x are precursors to the formation of O₃. The MDAB is also a moderate nonattainment area for PM₁₀. Emissions associated with construction and operational activities for the Proposed Action were calculated using the California Emissions Estimation Model, which is the current air quality model for land use projects in California. Emissions were then compared with *de minimis* thresholds for the MDAB.

The Marine Corps concludes that *de minimis* thresholds for applicable criteria pollutants would not be exceeded as a result of implementation of the Proposed Action. The emissions data supporting that conclusion are shown in Tables D-2, D-3, and D-4, which is a summary of the calculations, methodology, and data attached to this RONA. Therefore, the Marine Corps concludes that further formal conformity determination procedures are not required.

RONA APPROVAL

To the best of my knowledge, the information presented in this RONA is correct and accurate, and I concur in the finding that the Proposed Action does not require a formal CAA conformity determination.



W.F. MULLEN III
Brigadier General, United States Marine Corps

22 Dec 16
Date

29 Palms Land Acquisition and Airspace Establishment SEIS: No-Action Alternative
Mojave Desert Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.00	0	147.04	0	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project specific input, desert setting

Construction Phase - Project-specific phases

Off-road Equipment - Off-Highway Trucks = pickup truck, water truck; Bore/Drill Rigs = vibrating post driver

Off-road Equipment - Off-Highway Trucks = pickup truck, water truck; Bore/Drill Rigs = gas powered auger

Grading - All acres project acreage will be disturbed during fence installation.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	120.00	30.00
tblConstructionPhase	NumDays	120.00	30.00
tblConstructionPhase	PhaseEndDate	2/10/2017	2/11/2017
tblConstructionPhase	PhaseEndDate	3/24/2017	3/25/2017
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	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblOffRoadEquipment	PhaseName	NA	Tortoise Translocation
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblOffRoadEquipment	PhaseName	NA	Tortoise Translocation
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	8.00	0.00

Note: NA = Not Applicable

3.0 Construction Detail

Construction Phase

Phase ID	Phase Name	Activity	Start Date	End Date	Days/Week	Hours/Day	Notes
1	Fence Installation	Site Preparation	1/1/2017	2/11/2017	5	30	NA
2	Tortoise Translocation	Site Preparation	2/12/2017	3/25/2017	5	30	NA

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fence Installation	Bore/Drill Rigs	1	4.00	205	0.50
Fence Installation	Generator Sets	1	8.00	84	0.74
Fence Installation	Off-Highway Trucks	2	8.00	400	0.38
Fence Installation	Trenchers	1	4.00	80	0.50
Tortoise Translocation	Bore/Drill Rigs	1	4.00	205	0.50
Tortoise Translocation	Off-Highway Trucks	2	8.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fence Installation	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Tortoise Translocation	3	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Not Applicable

3.2 Fence Installation - 2017

Unmitigated Construction On-Site

Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0780	0.0000	0.0780	8.4200e-003	0.0000	8.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0411	0.4315	0.2331	5.8000e-004	0.0000	0.0192	0.0192	0.0000	0.0180	0.0180	0.0000	53.5504	53.5504	0.0145	0.0000	53.8548
Total	0.0411	0.4315	0.2331	5.8000e-004	0.0780	0.0192	0.0972	8.4200e-003	0.0180	0.0265	0.0000	53.5504	53.5504	0.0145	0.0000	53.8548

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	1.7100e-003	0.0157	3.0000e-005	2.4400e-003	2.0000e-005	2.4600e-003	6.5000e-004	2.0000e-005	6.6000e-004	0.0000	2.0678	2.0678	1.3000e-004	0.0000	2.0705
Total	8.1000e-004	1.7100e-003	0.0157	3.0000e-005	2.4400e-003	2.0000e-005	2.4600e-003	6.5000e-004	2.0000e-005	6.6000e-004	0.0000	2.0678	2.0678	1.3000e-004	0.0000	2.0705

Mitigated Construction On-Site

Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0780	0.0000	0.0780	8.4200e-003	0.0000	8.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0411	0.4315	0.2331	5.8000e-004	0.0000	0.0192	0.0192	0.0000	0.0180	0.0180	0.0000	53.5503	53.5503	0.0145	0.0000	53.8548
Total	0.0411	0.4315	0.2331	5.8000e-004	0.0780	0.0192	0.0972	8.4200e-003	0.0180	0.0265	0.0000	53.5503	53.5503	0.0145	0.0000	53.8548

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	1.7100e-003	0.0157	3.0000e-005	2.4400e-003	2.0000e-005	2.4600e-003	6.5000e-004	2.0000e-005	6.6000e-004	0.0000	2.0678	2.0678	1.3000e-004	0.0000	2.0705
Total	8.1000e-004	1.7100e-003	0.0157	3.0000e-005	2.4400e-003	2.0000e-005	2.4600e-003	6.5000e-004	2.0000e-005	6.6000e-004	0.0000	2.0678	2.0678	1.3000e-004	0.0000	2.0705

3.3 Tortoise Translocation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	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	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372
Total	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372

Unmitigated Construction Off-Site

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

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	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372
Total	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372

Mitigated Construction Off-Site

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Not Applicable

4.2 Trip Summary Information

Not Applicable

4.3 Trip Type Information

0.434564	0.068056	0.178415	0.157220	0.054651	0.008723	0.006985	0.074355	0.001157	0.001000	0.009707	0.000674	0.004492
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4.4 Fleet Mix

Not Applicable

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

5.3 Energy by Land Use - Electricity

Unmitigated

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

Mitigated

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

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	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	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

7.1 Mitigation Measures Water

Not Applicable

8.0 Waste Detail

8.1 Mitigation Measures Waste

Not Applicable

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Not Applicable	0	0	0	0	0	0

10.0 Vegetation

Not Applicable

29 Palms Land Acquisition and Airspace Establishment SEIS: Alternative 1

Mojave Desert Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.00	0	78.60	0	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project-specific acreage, desert setting.

Construction Phase - Project-specific construction phases.

Off-road Equipment - Off-highway trucks = pickup truck, water truck; bore/drill rigs = vibrating post driver.

Off-road Equipment - Off-highway trucks = pickup truck, water truck; bore/drill rigs = vibrating post driver.

Off-road Equipment - Off-highway trucks = pickup truck, water truck; bore/drill rigs = gas-powered auger.

Grading - All project acreage will be disturbed during fence installation.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	40.00	45.00
tblConstructionPhase	NumDays	40.00	15.00
tblConstructionPhase	NumDays	40.00	30.00
tblConstructionPhase	PhaseStartDate	3/4/2017	3/6/2017
tblConstructionPhase	PhaseStartDate	3/25/2017	3/27/2017
tblLandUse	LotAcreage	70.59	78.60
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	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblOffRoadEquipment	PhaseName	NA	Fence Installation-OHV only
tblOffRoadEquipment	PhaseName	NA	Tortoise Translocation
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblOffRoadEquipment	PhaseName	NA	Fence Installation-OHV only
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblOffRoadEquipment	PhaseName	NA	Fence Installation-OHV only
tblOffRoadEquipment	PhaseName	NA	Tortoise Translocation
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	10.00	0.00

Note: NA = Not Applicable

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fence Installation	Site Preparation	1/1/2017	3/3/2017	5	45	NA
2	Fence Installation-OHV only	Site Preparation	3/6/2017	3/24/2017	5	15	NA
3	Tortoise Translocation	Site Preparation	3/27/2017	5/5/2017	5	30	NA

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fence Installation	Bore/Drill Rigs	1	4.00	205	0.50
Fence Installation	Generator Sets	1	8.00	84	0.74
Fence Installation	Off-Highway Trucks	2	8.00	400	0.38
Fence Installation	Trenchers	1	2.00	80	0.50
Fence Installation-OHV only	Bore/Drill Rigs	1	4.00	205	0.50
Fence Installation-OHV only	Generator Sets	1	8.00	84	0.74
Fence Installation-OHV only	Off-Highway Trucks	2	8.00	400	0.38
Tortoise Translocation	Bore/Drill Rigs	1	4.00	205	0.50
Tortoise Translocation	Off-Highway Trucks	2	8.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fence Installation	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fence Installation-OHV only	4	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Tortoise Translocation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Not Applicable

3.2 Fence Installation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0400	0.0000	0.0400	4.3200e-003	0.0000	4.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0586	0.6208	0.3339	8.6000e-004	0.0000	0.0267	0.0267	0.0000	0.0251	0.0251	0.0000	78.5184	78.5184	0.0212	0.0000	78.9634
Total	0.0586	0.6208	0.3339	8.6000e-004	0.0400	0.0267	0.0668	4.3200e-003	0.0251	0.0295	0.0000	78.5184	78.5184	0.0212	0.0000	78.9634

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	2.5700e-003	0.0236	4.0000e-005	3.6700e-003	3.0000e-005	3.6900e-003	9.7000e-004	2.0000e-005	1.0000e-003	0.0000	3.1017	3.1017	1.9000e-004	0.0000	3.1057
Total	1.2100e-003	2.5700e-003	0.0236	4.0000e-005	3.6700e-003	3.0000e-005	3.6900e-003	9.7000e-004	2.0000e-005	1.0000e-003	0.0000	3.1017	3.1017	1.9000e-004	0.0000	3.1057

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	0.0400	0.0000	0.0400	4.3200e-003	0.0000	4.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0586	0.6208	0.3339	8.6000e-004	0.0000	0.0267	0.0267	0.0000	0.0251	0.0251	0.0000	78.5183	78.5183	0.0212	0.0000	78.9634
Total	0.0586	0.6208	0.3339	8.6000e-004	0.0400	0.0267	0.0668	4.3200e-003	0.0251	0.0295	0.0000	78.5183	78.5183	0.0212	0.0000	78.9634

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	2.5700e-003	0.0236	4.0000e-005	3.6700e-003	3.0000e-005	3.6900e-003	9.7000e-004	2.0000e-005	1.0000e-003	0.0000	3.1017	3.1017	1.9000e-004	0.0000	3.1057
Total	1.2100e-003	2.5700e-003	0.0236	4.0000e-005	3.6700e-003	3.0000e-005	3.6900e-003	9.7000e-004	2.0000e-005	1.0000e-003	0.0000	3.1017	3.1017	1.9000e-004	0.0000	3.1057

3.3 Fence Installation-OHV only - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	1.6700e-003	0.0000	1.6700e-003	1.8000e-004	0.0000	1.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0185	0.1981	0.1061	2.8000e-004	0.0000	8.2200e-003	8.2200e-003	0.0000	7.7400e-003	7.7400e-003	0.0000	25.5704	25.5704	6.8800e-003	0.0000	25.7149
Total	0.0185	0.1981	0.1061	2.8000e-004	1.6700e-003	8.2200e-003	9.8900e-003	1.8000e-004	7.7400e-003	7.9200e-003	0.0000	25.5704	25.5704	6.8800e-003	0.0000	25.7149

3.4 Tortoise Translocation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	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	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372
Total	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	1.0500e-003	9.6700e-003	2.0000e-005	1.5000e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2725	1.2725	8.0000e-005	0.0000	1.2742
Total	5.0000e-004	1.0500e-003	9.6700e-003	2.0000e-005	1.5000e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2725	1.2725	8.0000e-005	0.0000	1.2742

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	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372
Total	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	1.0500e-003	9.6700e-003	2.0000e-005	1.5000e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2725	1.2725	8.0000e-005	0.0000	1.2742
Total	5.0000e-004	1.0500e-003	9.6700e-003	2.0000e-005	1.5000e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2725	1.2725	8.0000e-005	0.0000	1.2742

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Not Applicable

4.2 Trip Summary Information

Not Applicable

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

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.434564	0.068056	0.178415	0.157220	0.054651	0.008723	0.006985	0.074355	0.001157	0.001000	0.009707	0.000674	0.004492

4.4 Fleet Mix

Not Applicable

5.3 Energy by Land Use - Electricity

Unmitigated

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

Mitigated

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

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	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	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

7.1 Mitigation Measures Water

Not Applicable

8.0 Waste Detail

8.1 Mitigation Measures Waste

Not Applicable

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
NA	0	0	0	0	0	0

10.0 Vegetation

Not Applicable

29 Palms Land Acquisition and Airspace Establishment SEIS: Alternative 2

Mojave Desert Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.00	0	70.59	0	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project-specific acreage, desert setting.

Construction Phase - Project-specific construction phases.

Off-road Equipment - Off-highway trucks = pickup truck, water truck; bore/drill rigs = vibrating post driver.

Off-road Equipment - Off-highway trucks = pickup truck, water truck; bore/drill rigs = vibrating post driver.

Off-road Equipment - Off-highway trucks = pickup truck, water truck; bore/drill rigs = gas-powered auger.

Grading - All project acreage will be disturbed during fence installation

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	40.00	45.00
tblConstructionPhase	NumDays	40.00	15.00
tblConstructionPhase	NumDays	40.00	30.00
tblConstructionPhase	PhaseStartDate	3/4/2017	3/6/2017
tblConstructionPhase	PhaseStartDate	3/25/2017	3/27/2017
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	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblOffRoadEquipment	PhaseName	NA	Fence Installation-OHV only
tblOffRoadEquipment	PhaseName	NA	Tortoise Translocation
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblOffRoadEquipment	PhaseName	NA	Fence Installation-OHV only
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblOffRoadEquipment	PhaseName	NA	Fence Installation-OHV only
tblOffRoadEquipment	PhaseName	NA	Tortoise Translocation
tblOffRoadEquipment	PhaseName	NA	Fence Installation
tblProjectCharacteristics	OperationalYear	2014	2017
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	10.00	0.00

Note: NA = Not Applicable

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fence Installation	Site Preparation	1/1/2017	3/3/2017	5	45	NA
2	Fence Installation-OHV only	Site Preparation	3/6/2017	3/24/2017	5	15	NA
3	Tortoise Translocation	Site Preparation	3/27/2017	5/5/2017	5	30	NA

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fence Installation	Bore/Drill Rigs	1	4.00	205	0.50
Fence Installation	Generator Sets	1	8.00	84	0.74
Fence Installation	Off-Highway Trucks	2	8.00	400	0.38
Fence Installation	Trenchers	1	2.00	80	0.50
Fence Installation-OHV only	Bore/Drill Rigs	1	4.00	205	0.50
Fence Installation-OHV only	Generator Sets	1	8.00	84	0.74
Fence Installation-OHV only	Off-Highway Trucks	2	8.00	400	0.38
Tortoise Translocation	Bore/Drill Rigs	1	4.00	205	0.50
Tortoise Translocation	Off-Highway Trucks	2	8.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fence Installation	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fence Installation-OHV only	4	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Tortoise Translocation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Not Applicable

3.2 Fence Installation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0358	0.0000	0.0358	3.8600e-003	0.0000	3.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0586	0.6208	0.3339	8.6000e-004	0.0000	0.0267	0.0267	0.0000	0.0251	0.0251	0.0000	78.5184	78.5184	0.0212	0.0000	78.9634
Total	0.0586	0.6208	0.3339	8.6000e-004	0.0358	0.0267	0.0625	3.8600e-003	0.0251	0.0290	0.0000	78.5184	78.5184	0.0212	0.0000	78.9634

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	2.5700e-003	0.0236	4.0000e-005	3.6700e-003	3.0000e-005	3.6900e-003	9.7000e-004	2.0000e-005	1.0000e-003	0.0000	3.1017	3.1017	1.9000e-004	0.0000	3.1057
Total	1.2100e-003	2.5700e-003	0.0236	4.0000e-005	3.6700e-003	3.0000e-005	3.6900e-003	9.7000e-004	2.0000e-005	1.0000e-003	0.0000	3.1017	3.1017	1.9000e-004	0.0000	3.1057

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	0.0358	0.0000	0.0358	3.8600e-003	0.0000	3.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0586	0.6208	0.3339	8.6000e-004	0.0000	0.0267	0.0267	0.0000	0.0251	0.0251	0.0000	78.5183	78.5183	0.0212	0.0000	78.9634
Total	0.0586	0.6208	0.3339	8.6000e-004	0.0358	0.0267	0.0625	3.8600e-003	0.0251	0.0290	0.0000	78.5183	78.5183	0.0212	0.0000	78.9634

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	2.5700e-003	0.0236	4.0000e-005	3.6700e-003	3.0000e-005	3.6900e-003	9.7000e-004	2.0000e-005	1.0000e-003	0.0000	3.1017	3.1017	1.9000e-004	0.0000	3.1057
Total	1.2100e-003	2.5700e-003	0.0236	4.0000e-005	3.6700e-003	3.0000e-005	3.6900e-003	9.7000e-004	2.0000e-005	1.0000e-003	0.0000	3.1017	3.1017	1.9000e-004	0.0000	3.1057

3.4 Tortoise Translocation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	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	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372
Total	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	1.0500e-003	9.6700e-003	2.0000e-005	1.5000e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2725	1.2725	8.0000e-005	0.0000	1.2742
Total	5.0000e-004	1.0500e-003	9.6700e-003	2.0000e-005	1.5000e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2725	1.2725	8.0000e-005	0.0000	1.2742

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	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372
Total	0.0285	0.3292	0.1555	4.6000e-004	0.0000	0.0119	0.0119	0.0000	0.0110	0.0110	0.0000	42.6627	42.6627	0.0131	0.0000	42.9372

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	1.0500e-003	9.6700e-003	2.0000e-005	1.5000e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2725	1.2725	8.0000e-005	0.0000	1.2742
Total	5.0000e-004	1.0500e-003	9.6700e-003	2.0000e-005	1.5000e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2725	1.2725	8.0000e-005	0.0000	1.2742

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Not Applicable

4.2 Trip Summary Information

Not Applicable

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

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.434564	0.068056	0.178415	0.157220	0.054651	0.008723	0.006985	0.074355	0.001157	0.001000	0.009707	0.000674	0.004492

4.4 Fleet Mix

Not Applicable

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

5.3 Energy by Land Use - Electricity

Unmitigated

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

Mitigated

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

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	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	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

7.1 Mitigation Measures Water

Not Applicable

8.0 Waste Detail

8.1 Mitigation Measures Waste

Not Applicable

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
NA	0	0	0	0	0	0

10.0 Vegetation

Not Applicable

**29 Palms Land Acquisition and Airspace Establishment: Alternatives 1 and 2
Helicopter Emissions**

Annual Estimated Emissions from the Proposed Project within the MDAB: Alternatives 1 & 2

Emission Source	Emissions (tons/year) VOCs	Emissions (tons/year) NO_x	Emissions (tons/year) CO	Emissions (tons/year) SO₂	Emissions (tons/year) PM₁₀	Emissions (tons/year) PM_{2.5}	Metric tons per year CO₂	Metric tons per year CH₄	Metric tons per year N₂O	Metric tons per year CO₂e
Helicopter Emissions	0.0002	0.0060	0.0031	N/A	0.0050	N/A	63.9413	N/A	N/A	63.9413
Total Emissions (tons/year)	0.0002	0.0060	0.0031	N/A	0.0050	N/A	63.9413	N/A	N/A	63.9413

Notes: The CO₂e for helicopter emissions was calculated via the USEPA's Greenhouse Gas Equivalencies Calculator, located at: <http://www2.epa.gov/energy/greenhouse-gas-equivalencies-calculator>
N/A = not available or not applicable