Appendix A

Air Quality, Energy, and Greenhouse Gas Estimates

Pope Creek Weed Management Project

Napa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on Project Schedule

Off-road Equipment - Other Material Handling Equipment - Morookas, Other Construction Equipment - UTV

Off-road Equipment - Other Construction Equipment - Helicopter

Off-road Equipment - Based on Equipment Info

Trips and VMT - Roughly 5 workers per day

Grading - Material imported for road/ramps.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	20.00
tblConstructionPhase	NumDays	0.00	30.00
tblConstructionPhase	NumDays	0.00	1.00
tblGrading	MaterialExported	0.00	100.00
tblGrading	MaterialImported	0.00	150.00
tblOffRoadEquipment	HorsePower	172.00	20.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	168.00	150.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Unit C - Helicopter
tblOffRoadEquipment	PhaseName		Unit C - Helicopter
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	20.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	3.00	10.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	7.9300e-003	0.0690	0.0763	1.4000e-004	9.8300e-003	3.2800e-003	0.0131	4.7500e-003	3.0100e-003	7.7600e-003	0.0000	12.0683	12.0683	3.0700e-003	0.0000	12.1449
Maximum	**7.9300e-003**	**0.0690**	**0.0763**	**1.4000e-004**	**9.8300e-003**	**3.2800e-003**	**0.0131**	**4.7500e-003**	**3.0100e-003**	**7.7600e-003**	**0.0000**	**12.0683**	**12.0683**	**3.0700e-003**	**0.0000**	**12.1449**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	7.9300e-003	0.0690	0.0763	1.4000e-004	9.8300e-003	3.2800e-003	0.0131	4.7500e-003	3.0100e-003	7.7600e-003	0.0000	12.0683	12.0683	3.0700e-003	0.0000	12.1449
Maximum	**7.9300e-003**	**0.0690**	**0.0763**	**1.4000e-004**	**9.8300e-003**	**3.2800e-003**	**0.0131**	**4.7500e-003**	**3.0100e-003**	**7.7600e-003**	**0.0000**	**12.0683**	**12.0683**	**3.0700e-003**	**0.0000**	**12.1449**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2020	7-31-2020	0.0763	0.0763
		Highest	0.0763	0.0763

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	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-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
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-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
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	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	Unit A and Heavy Eq part of Unit D	Site Preparation	5/1/2020	5/28/2020	5	20	
2	Units B, E, F, and hand tool part of D	Site Preparation	5/29/2020	7/9/2020	5	30	
3	Unit C - Helicopter	Site Preparation	7/10/2020	7/10/2020	5	1	

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; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Unit A and Heavy Eq part of Unit D	Excavators	2	2.00	158	0.38
Unit A and Heavy Eq part of Unit D	Graders	0	8.00	187	0.41
Unit A and Heavy Eq part of Unit D	Other Construction Equipment	1	8.00	20	0.42
Unit A and Heavy Eq part of Unit D	Other Material Handling Equipment	2	2.00	150	0.40
Unit A and Heavy Eq part of Unit D	Rubber Tired Dozers	1	1.00	247	0.40
Unit A and Heavy Eq part of Unit D	Skid Steer Loaders	2	6.00	65	0.37
Unit A and Heavy Eq part of Unit D	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Units B, E, F, and hand tool part of D	Graders	0	8.00	187	0.41
Units B, E, F, and hand tool part of D	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Unit C - Helicopter	Graders	0	8.00	187	0.41
Unit C - Helicopter	Other Construction Equipment	1	4.00	300	0.42
Unit C - Helicopter	Rubber Tired Dozers	0	0.00	247	0.40
Unit C - Helicopter	Tractors/Loaders/Backhoes	0	0.00	97	0.37

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
Unit A and Heavy Eq part of Unit D	8	10.00	0.00	31.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Units B, E, F, and hand tool part of D	0	10.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Unit C - Helicopter	1	10.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Unit A and Heavy Eq part of Unit D - 2020

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					7.5500e-003	0.0000	7.5500e-003	4.1400e-003	0.0000	4.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6900e-003	0.0622	0.0671	1.0000e-004		3.1900e-003	3.1900e-003		2.9400e-003	2.9400e-003	0.0000	8.9068	8.9068	2.8800e-003	0.0000	8.9788
Total	**6.6900e-003**	**0.0622**	**0.0671**	**1.0000e-004**	**7.5500e-003**	**3.1900e-003**	**0.0107**	**4.1400e-003**	**2.9400e-003**	**7.0800e-003**	**0.0000**	**8.9068**	**8.9068**	**2.8800e-003**	**0.0000**	**8.9788**

3.2 Unit A and Heavy Eq part of Unit D - 2020

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	1.3000e-004	4.6300e-003	9.0000e-004	1.0000e-005	2.6000e-004	2.0000e-005	2.8000e-004	7.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.1813	1.1813	6.0000e-005	0.0000	1.1828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.8000e-004	2.8800e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6826	0.6826	2.0000e-005	0.0000	0.6831
Total	**5.2000e-004**	**4.9100e-003**	**3.7800e-003**	**2.0000e-005**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**2.8000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.8639**	**1.8639**	**8.0000e-005**	**0.0000**	**1.8659**

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					7.5500e-003	0.0000	7.5500e-003	4.1400e-003	0.0000	4.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6900e-003	0.0622	0.0671	1.0000e-004		3.1900e-003	3.1900e-003		2.9400e-003	2.9400e-003	0.0000	8.9068	8.9068	2.8800e-003	0.0000	8.9788
Total	**6.6900e-003**	**0.0622**	**0.0671**	**1.0000e-004**	**7.5500e-003**	**3.1900e-003**	**0.0107**	**4.1400e-003**	**2.9400e-003**	**7.0800e-003**	**0.0000**	**8.9068**	**8.9068**	**2.8800e-003**	**0.0000**	**8.9788**

3.2 Unit A and Heavy Eq part of Unit D - 2020

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	1.3000e-004	4.6300e-003	9.0000e-004	1.0000e-005	2.6000e-004	2.0000e-005	2.8000e-004	7.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.1813	1.1813	6.0000e-005	0.0000	1.1828
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.8000e-004	2.8800e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6826	0.6826	2.0000e-005	0.0000	0.6831
Total	**5.2000e-004**	**4.9100e-003**	**3.7800e-003**	**2.0000e-005**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**2.8000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.8639**	**1.8639**	**8.0000e-005**	**0.0000**	**1.8659**

3.3 Units B, E, F, and hand tool part of D - 2020

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	0.0000	0.0000	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**

3.3 Units B, E, F, and hand tool part of D - 2020

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	5.8000e-004	4.2000e-004	4.3200e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0239	1.0239	3.0000e-005	0.0000	1.0247
Total	**5.8000e-004**	**4.2000e-004**	**4.3200e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0239**	**1.0239**	**3.0000e-005**	**0.0000**	**1.0247**

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	0.0000	0.0000	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**

3.3 Units B, E, F, and hand tool part of D - 2020

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	5.8000e-004	4.2000e-004	4.3200e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0239	1.0239	3.0000e-005	0.0000	1.0247
Total	**5.8000e-004**	**4.2000e-004**	**4.3200e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0239**	**1.0239**	**3.0000e-005**	**0.0000**	**1.0247**

3.4 Unit C - Helicopter - 2020

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	1.2000e-004	1.4600e-003	9.1000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.2395	0.2395	8.0000e-005	0.0000	0.2415
Total	**1.2000e-004**	**1.4600e-003**	**9.1000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.2395**	**0.2395**	**8.0000e-005**	**0.0000**	**0.2415**

3.4 Unit C - Helicopter - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0341	0.0341	0.0000	0.0000	0.0342
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0341**	**0.0341**	**0.0000**	**0.0000**	**0.0342**

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	1.2000e-004	1.4600e-003	9.1000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.2395	0.2395	8.0000e-005	0.0000	0.2415
Total	**1.2000e-004**	**1.4600e-003**	**9.1000e-004**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.2395**	**0.2395**	**8.0000e-005**	**0.0000**	**0.2415**

3.4 Unit C - Helicopter - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.4000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0341	0.0341	0.0000	0.0000	0.0342
Total	**2.0000e-005**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0341**	**0.0341**	**0.0000**	**0.0000**	**0.0342**

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	14.70	6.60	6.60	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
User Defined Recreational	0.578403	0.037565	0.170055	0.116185	0.024443	0.006261	0.017557	0.036177	0.003853	0.001839	0.005587	0.001024	0.001053

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

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	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	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	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-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	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	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			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

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

11.0 Vegetation

Pope Creek Weed Management Project

Napa County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on Project Schedule

Off-road Equipment - Other Material Handling Equipment - Morookas, Other Construction Equipment - UTV

Off-road Equipment - Other Construction Equipment - Helicopter

Off-road Equipment - Based on Equipment Info

Trips and VMT - Roughly 5 workers per day

Grading - Material imported for road/ramps.

Pope Creek Weed Management Project - Napa County, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	20.00
tblConstructionPhase	NumDays	0.00	30.00
tblConstructionPhase	NumDays	0.00	1.00
tblGrading	MaterialExported	0.00	100.00
tblGrading	MaterialImported	0.00	150.00
tblOffRoadEquipment	HorsePower	172.00	20.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	168.00	150.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Unit C - Helicopter
tblOffRoadEquipment	PhaseName		Unit C - Helicopter
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	20.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	3.00	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.7228	6.6924	7.1106	0.0122	0.8646	0.3214	1.1860	0.4434	0.2957	0.7391	0.0000	1,193.3536	1,193.3536	0.3260	0.0000	1,201.5045
Maximum	**0.7228**	**6.6924**	**7.1106**	**0.0122**	**0.8646**	**0.3214**	**1.1860**	**0.4434**	**0.2957**	**0.7391**	**0.0000**	**1,193.3536**	**1,193.3536**	**0.3260**	**0.0000**	**1,201.5045**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.7228	6.6924	7.1106	0.0122	0.8646	0.3214	1.1860	0.4434	0.2957	0.7391	0.0000	1,193.3536	1,193.3536	0.3260	0.0000	1,201.5045
Maximum	**0.7228**	**6.6924**	**7.1106**	**0.0122**	**0.8646**	**0.3214**	**1.1860**	**0.4434**	**0.2957**	**0.7391**	**0.0000**	**1,193.3536**	**1,193.3536**	**0.3260**	**0.0000**	**1,201.5045**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	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**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	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	Unit A and Heavy Eq part of Unit D	Site Preparation	5/1/2020	5/28/2020	5	20	
2	Units B, E, F, and hand tool part of D	Site Preparation	5/29/2020	7/9/2020	5	30	
3	Unit C - Helicopter	Site Preparation	7/10/2020	7/10/2020	5	1	

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; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Pope Creek Weed Management Project - Napa County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Unit A and Heavy Eq part of Unit D	Excavators	2	2.00	158	0.38
Unit A and Heavy Eq part of Unit D	Graders	0	8.00	187	0.41
Unit A and Heavy Eq part of Unit D	Other Construction Equipment	1	8.00	20	0.42
Unit A and Heavy Eq part of Unit D	Other Material Handling Equipment	2	2.00	150	0.40
Unit A and Heavy Eq part of Unit D	Rubber Tired Dozers	1	1.00	247	0.40
Unit A and Heavy Eq part of Unit D	Skid Steer Loaders	2	6.00	65	0.37
Unit A and Heavy Eq part of Unit D	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Units B, E, F, and hand tool part of D	Graders	0	8.00	187	0.41
Units B, E, F, and hand tool part of D	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Unit C - Helicopter	Graders	0	8.00	187	0.41
Unit C - Helicopter	Other Construction Equipment	1	4.00	300	0.42
Unit C - Helicopter	Rubber Tired Dozers	0	0.00	247	0.40
Unit C - Helicopter	Tractors/Loaders/Backhoes	0	0.00	97	0.37

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
Unit A and Heavy Eq part of Unit D	8	10.00	0.00	31.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Units B, E, F, and hand tool part of D	0	10.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Unit C - Helicopter	1	10.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Unit A and Heavy Eq part of Unit D - 2020

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					0.7554	0.0000	0.7554	0.4142	0.0000	0.4142			0.0000			0.0000
Off-Road	0.6695	6.2147	6.7139	0.0101		0.3193	0.3193		0.2938	0.2938		981.8043	981.8043	0.3175		989.7426
Total	**0.6695**	**6.2147**	**6.7139**	**0.0101**	**0.7554**	**0.3193**	**1.0747**	**0.4142**	**0.2938**	**0.7079**		**981.8043**	**981.8043**	**0.3175**		**989.7426**

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	0.0127	0.4532	0.0878	1.2300e-003	0.0270	1.5200e-003	0.0285	7.4000e-003	1.4500e-003	8.8500e-003		131.0800	131.0800	6.2600e-003		131.2364
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0406	0.0246	0.3090	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4693	80.4693	2.2400e-003		80.5255
Total	**0.0533**	**0.4777**	**0.3968**	**2.0400e-003**	**0.1092**	**2.0700e-003**	**0.1112**	**0.0292**	**1.9600e-003**	**0.0312**		**211.5494**	**211.5494**	**8.5000e-003**		**211.7619**

3.2 Unit A and Heavy Eq part of Unit D - 2020

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					0.7554	0.0000	0.7554	0.4142	0.0000	0.4142			0.0000			0.0000
Off-Road	0.6695	6.2147	6.7139	0.0101		0.3193	0.3193		0.2938	0.2938	0.0000	981.8043	981.8043	0.3175		989.7426
Total	**0.6695**	**6.2147**	**6.7139**	**0.0101**	**0.7554**	**0.3193**	**1.0747**	**0.4142**	**0.2938**	**0.7079**	**0.0000**	**981.8043**	**981.8043**	**0.3175**		**989.7426**

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	0.0127	0.4532	0.0878	1.2300e-003	0.0270	1.5200e-003	0.0285	7.4000e-003	1.4500e-003	8.8500e-003		131.0800	131.0800	6.2600e-003		131.2364
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0406	0.0246	0.3090	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4693	80.4693	2.2400e-003		80.5255
Total	**0.0533**	**0.4777**	**0.3968**	**2.0400e-003**	**0.1092**	**2.0700e-003**	**0.1112**	**0.0292**	**1.9600e-003**	**0.0312**		**211.5494**	**211.5494**	**8.5000e-003**		**211.7619**

3.3 Units B, E, F, and hand tool part of D - 2020

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	0.0000	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**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0406	0.0246	0.3090	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4693	80.4693	2.2400e-003		80.5255
Total	**0.0406**	**0.0246**	**0.3090**	**8.1000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**80.4693**	**80.4693**	**2.2400e-003**		**80.5255**

3.3 Units B, E, F, and hand tool part of D - 2020

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	0.0000	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**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0406	0.0246	0.3090	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4693	80.4693	2.2400e-003		80.5255
Total	**0.0406**	**0.0246**	**0.3090**	**8.1000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**80.4693**	**80.4693**	**2.2400e-003**		**80.5255**

3.4 Unit C - Helicopter - 2020

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	0.2491	2.9297	1.8154	5.4500e-003		0.1066	0.1066		0.0981	0.0981		528.0451	528.0451	0.1708		532.3146
Total	**0.2491**	**2.9297**	**1.8154**	**5.4500e-003**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**0.0981**	**0.0981**		**528.0451**	**528.0451**	**0.1708**		**532.3146**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0406	0.0246	0.3090	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4693	80.4693	2.2400e-003		80.5255
Total	**0.0406**	**0.0246**	**0.3090**	**8.1000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**80.4693**	**80.4693**	**2.2400e-003**		**80.5255**

3.4 Unit C - Helicopter - 2020

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	0.2491	2.9297	1.8154	5.4500e-003		0.1066	0.1066		0.0981	0.0981	0.0000	528.0451	528.0451	0.1708		532.3146
Total	**0.2491**	**2.9297**	**1.8154**	**5.4500e-003**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**0.0981**	**0.0981**	**0.0000**	**528.0451**	**528.0451**	**0.1708**		**532.3146**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0406	0.0246	0.3090	8.1000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		80.4693	80.4693	2.2400e-003		80.5255
Total	**0.0406**	**0.0246**	**0.3090**	**8.1000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**80.4693**	**80.4693**	**2.2400e-003**		**80.5255**

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
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	14.70	6.60	6.60	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
User Defined Recreational	0.578403	0.037565	0.170055	0.116185	0.024443	0.006261	0.017557	0.036177	0.003853	0.001839	0.005587	0.001024	0.001053

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					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

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

11.0 Vegetation

Pope Creek Weed Management Project

Napa County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on Project Schedule

Off-road Equipment - Other Material Handling Equipment - Morookas, Other Construction Equipment - UTV

Off-road Equipment - Other Construction Equipment - Helicopter

Off-road Equipment - Based on Equipment Info

Trips and VMT - Roughly 5 workers per day

Grading - Material imported for road/ramps.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	20.00
tblConstructionPhase	NumDays	0.00	30.00
tblConstructionPhase	NumDays	0.00	1.00
tblGrading	MaterialExported	0.00	100.00
tblGrading	MaterialImported	0.00	150.00
tblOffRoadEquipment	HorsePower	172.00	20.00
tblOffRoadEquipment	HorsePower	172.00	300.00
tblOffRoadEquipment	HorsePower	168.00	150.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Unit C - Helicopter
tblOffRoadEquipment	PhaseName		Unit C - Helicopter
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	20.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	3.00	10.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.7252	6.7113	7.1075	0.0121	0.8646	0.3214	1.1860	0.4434	0.2957	0.7391	0.0000	1,185.2620	1,185.2620	0.3263	0.0000	1,193.4184
Maximum	**0.7252**	**6.7113**	**7.1075**	**0.0121**	**0.8646**	**0.3214**	**1.1860**	**0.4434**	**0.2957**	**0.7391**	**0.0000**	**1,185.2620**	**1,185.2620**	**0.3263**	**0.0000**	**1,193.4184**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.7252	6.7113	7.1075	0.0121	0.8646	0.3214	1.1860	0.4434	0.2957	0.7391	0.0000	1,185.2620	1,185.2620	0.3263	0.0000	1,193.4184
Maximum	**0.7252**	**6.7113**	**7.1075**	**0.0121**	**0.8646**	**0.3214**	**1.1860**	**0.4434**	**0.2957**	**0.7391**	**0.0000**	**1,185.2620**	**1,185.2620**	**0.3263**	**0.0000**	**1,193.4184**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	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**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	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	Unit A and Heavy Eq part of Unit D	Site Preparation	5/1/2020	5/28/2020	5	20	
2	Units B, E, F, and hand tool part of D	Site Preparation	5/29/2020	7/9/2020	5	30	
3	Unit C - Helicopter	Site Preparation	7/10/2020	7/10/2020	5	1	

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; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Unit A and Heavy Eq part of Unit D	Excavators	2	2.00	158	0.38
Unit A and Heavy Eq part of Unit D	Graders	0	8.00	187	0.41
Unit A and Heavy Eq part of Unit D	Other Construction Equipment	1	8.00	20	0.42
Unit A and Heavy Eq part of Unit D	Other Material Handling Equipment	2	2.00	150	0.40
Unit A and Heavy Eq part of Unit D	Rubber Tired Dozers	1	1.00	247	0.40
Unit A and Heavy Eq part of Unit D	Skid Steer Loaders	2	6.00	65	0.37
Unit A and Heavy Eq part of Unit D	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Units B, E, F, and hand tool part of D	Graders	0	8.00	187	0.41
Units B, E, F, and hand tool part of D	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Unit C - Helicopter	Graders	0	8.00	187	0.41
Unit C - Helicopter	Other Construction Equipment	1	4.00	300	0.42
Unit C - Helicopter	Rubber Tired Dozers	0	0.00	247	0.40
Unit C - Helicopter	Tractors/Loaders/Backhoes	0	0.00	97	0.37

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
Unit A and Heavy Eq part of Unit D	8	10.00	0.00	31.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Units B, E, F, and hand tool part of D	0	10.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Unit C - Helicopter	1	10.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Unit A and Heavy Eq part of Unit D - 2020

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					0.7554	0.0000	0.7554	0.4142	0.0000	0.4142			0.0000			0.0000
Off-Road	0.6695	6.2147	6.7139	0.0101		0.3193	0.3193		0.2938	0.2938		981.8043	981.8043	0.3175		989.7426
Total	**0.6695**	**6.2147**	**6.7139**	**0.0101**	**0.7554**	**0.3193**	**1.0747**	**0.4142**	**0.2938**	**0.7079**		**981.8043**	**981.8043**	**0.3175**		**989.7426**

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	0.0131	0.4654	0.0943	1.2100e-003	0.0270	1.5500e-003	0.0286	7.4000e-003	1.4800e-003	8.8800e-003		129.0269	129.0269	6.5800e-003		129.1915
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0426	0.0312	0.2993	7.5000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.4309	74.4309	2.1400e-003		74.4843
Total	**0.0557**	**0.4966**	**0.3936**	**1.9600e-003**	**0.1092**	**2.1000e-003**	**0.1113**	**0.0292**	**1.9900e-003**	**0.0312**		**203.4578**	**203.4578**	**8.7200e-003**		**203.6757**

3.2 Unit A and Heavy Eq part of Unit D - 2020

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					0.7554	0.0000	0.7554	0.4142	0.0000	0.4142			0.0000			0.0000
Off-Road	0.6695	6.2147	6.7139	0.0101		0.3193	0.3193		0.2938	0.2938	0.0000	981.8043	981.8043	0.3175		989.7426
Total	**0.6695**	**6.2147**	**6.7139**	**0.0101**	**0.7554**	**0.3193**	**1.0747**	**0.4142**	**0.2938**	**0.7079**	**0.0000**	**981.8043**	**981.8043**	**0.3175**		**989.7426**

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	0.0131	0.4654	0.0943	1.2100e-003	0.0270	1.5500e-003	0.0286	7.4000e-003	1.4800e-003	8.8800e-003		129.0269	129.0269	6.5800e-003		129.1915
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0426	0.0312	0.2993	7.5000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.4309	74.4309	2.1400e-003		74.4843
Total	**0.0557**	**0.4966**	**0.3936**	**1.9600e-003**	**0.1092**	**2.1000e-003**	**0.1113**	**0.0292**	**1.9900e-003**	**0.0312**		**203.4578**	**203.4578**	**8.7200e-003**		**203.6757**

3.3 Units B, E, F, and hand tool part of D - 2020

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	0.0000	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**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0426	0.0312	0.2993	7.5000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.4309	74.4309	2.1400e-003		74.4843
Total	**0.0426**	**0.0312**	**0.2993**	**7.5000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**74.4309**	**74.4309**	**2.1400e-003**		**74.4843**

3.3 Units B, E, F, and hand tool part of D - 2020

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	0.0000	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**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0426	0.0312	0.2993	7.5000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.4309	74.4309	2.1400e-003		74.4843
Total	**0.0426**	**0.0312**	**0.2993**	**7.5000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**74.4309**	**74.4309**	**2.1400e-003**		**74.4843**

3.4 Unit C - Helicopter - 2020

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	0.2491	2.9297	1.8154	5.4500e-003		0.1066	0.1066		0.0981	0.0981		528.0451	528.0451	0.1708		532.3146
Total	**0.2491**	**2.9297**	**1.8154**	**5.4500e-003**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**0.0981**	**0.0981**		**528.0451**	**528.0451**	**0.1708**		**532.3146**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0426	0.0312	0.2993	7.5000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.4309	74.4309	2.1400e-003		74.4843
Total	**0.0426**	**0.0312**	**0.2993**	**7.5000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**74.4309**	**74.4309**	**2.1400e-003**		**74.4843**

3.4 Unit C - Helicopter - 2020

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	0.2491	2.9297	1.8154	5.4500e-003		0.1066	0.1066		0.0981	0.0981	0.0000	528.0451	528.0451	0.1708		532.3146
Total	**0.2491**	**2.9297**	**1.8154**	**5.4500e-003**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**0.0981**	**0.0981**	**0.0000**	**528.0451**	**528.0451**	**0.1708**		**532.3146**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0426	0.0312	0.2993	7.5000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.4309	74.4309	2.1400e-003		74.4843
Total	**0.0426**	**0.0312**	**0.2993**	**7.5000e-004**	**0.0822**	**5.5000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**74.4309**	**74.4309**	**2.1400e-003**		**74.4843**

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
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	14.70	6.60	6.60	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
User Defined Recreational	0.578403	0.037565	0.170055	0.116185	0.024443	0.006261	0.017557	0.036177	0.003853	0.001839	0.005587	0.001024	0.001053

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					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

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

11.0 Vegetation

Fuel Consumption Summary

Maintenance Activitiy Fuel Consumption	**Gasoline**	**Diesel**
Maintenance Activity On-Road Vehicles	216	106
Maintenance Activity Off-Road Equipment		1,032
Total For Construction	**216**	**1,138**

	Phase	Vehicle Type	Construction Phase Days	Trips Per Day	Total Trips	Miles Per Trip	Total Miles	Fuel Type	Gasoline		Diesel	
									Weighted Fuel Economy (miles/gallon)	Fuel Consumption (gallons)	Weighted Fuel Economy (miles/gallon)	Fuel Consumption (gallons)
Construction On-Road Vehicles	Unit A and Heavy Eq part of Unit D	Worker	20	10	200	10.8	2,160	LDA,LDT1, LD	25.35886403	84.66	32.37842133	0.40
		Vendor	20	0	0	6.6	-	HHDT, MHDT			7.209501693	-
		Hauling			31	20	620	HHDT			5.916885226	105
	Units B, E, F, and hand tool part of D	Worker	30	10	300	10.8	3,240	LDA,LDT1, LD	25.35886403	127.00	32.37842133	0.60
		Vendor	30	0	0	6.6	-	HHDT, MHDT			7.209501693	-
		Hauling			0	20	-	HHDT			5.916885226	-
	Unit C - Helicopter	Worker	1	10	10	10.8	108	LDA,LDT1, LD	25.35886403	4.23	32.37842133	0.02
		Vendor	1	0	0	6.6	-	HHDT, MHDT			7.209501693	-
		Hauling			0	20	-	HHDT			5.916885226	-
								Total Fuel Consumption (Gallons)		215.89		105.81

Notes:

1. Fuel Consumption is total miles multiplied by the percent gasoline or diesel respectively and then divided by fuel economy. It was assumed all MHDT and HHDT are diesel. LDA, LDT1, and LDT2 were assumed to be a mix of gasoline and diesel as ratioed by their VMT.

	LDA,LDT1,LDT2	MHDT	HHDT
Gasoline %	99.40%	0	0
Diesel %	0.60%	1	1

	Offroad Equipment Type	Amount	Days in Phase	Usage Hours	Horse Power	Load Factor	Fuel Consumption Rate lb/hp-hr	Diesel Fuel Consumption (gallons)
Unit A and Heavy Eq part of Unit D	Excavators	2	20	2	158	0.38	0.367	248
Unit A and Heavy Eq part of Unit D	Other Construction Equipmen	1	20	8	20	0.42	0.408	77
Unit A and Heavy Eq part of Unit D	Other Material Handling Equip	2	20	2	150	0.4	0.367	248
Unit A and Heavy Eq part of Unit D	Rubber Tired Dozers	1	20	1	247	0.4	0.367	102
Unit A and Heavy Eq part of Unit D	Skid Steer Loaders	2	20	6	65	0.37	0.408	331
Unit C - Helicopter	Other Construction Equipmen	1	1	4	300	0.42	0.367	26
Total Diesel Fuel Use from Construction Off-Road								1,032

1. Equipment list is from CalEEMod.
2. Fuel Consumption is 0.408 for less than 100 hp and .367 if greater than or equal to 100 hp based on CARB Off-Road Diesel Engine Emission Factors
3. To convert to gallons the conversion factor of 7.1089 lb/gallon is used
4. Fuel consumption is amount multiplied by usage hours, days in phase, horsepower, loadfactor, and fuel consumption rate divided by conversion factor.

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Appendix B

Biological Resources Appendix

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Jericho Valley (3812274) OR Knoxville (3812273) OR Guinda (3812272) OR Aetna Springs (3812264) OR Walter Springs (3812263) OR Brooks (3812262) OR St. Helena (3812254) OR Chiles Valley (3812253) OR Lake Berryessa (3812252))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Amorpha californica var. napensis Napa false indigo	PDFAB08012	None	None	G4T2	S2	1B.2
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Astragalus claranus Clara Hunt's milk-vetch	PDFAB0F240	Endangered	Threatened	G1	S1	1B.1
Astragalus rattanii var. jepsonianus Jepson's milk-vetch	PDFAB0F7E1	None	None	G4T3	S3	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Brodiaea leptandra narrow-anthered brodiaea	PMLIL0C022	None	None	G3?	S3?	1B.2
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Calystegia collina ssp. oxyphylla Mt. Saint Helena morning-glory	PDCON04032	None	None	G4T3	S3	4.2
Castilleja rubicundula var. rubicundula pink creamsacs	PDSCR0D482	None	None	G5T2	S2	1B.2
Ceanothus confusus Rincon Ridge ceanothus	PDRHA04220	None	None	G1	S1	1B.1
Ceanothus divergens Calistoga ceanothus	PDRHA04240	None	None	G2	S2	1B.2
Ceanothus purpureus holly-leaved ceanothus	PDRHA04160	None	None	G2	S2	1B.2
Ceanothus sonomensis Sonoma ceanothus	PDRHA04420	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Erigeron greenei Greene's narrow-leaved daisy	PDAST3M5G0	None	None	G3	S3	1B.2
Eriogonum nervulosum Snow Mountain buckwheat	PDPGN08440	None	None	G2	S2	1B.2
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Fritillaria pluriflora adobe-lily	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Grimmia torenii Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Harmonia hallii Hall's harmonia	PDAST650A0	None	None	G2?	S2?	1B.2
Hesperolinon bicarpellatum two-carpellate western flax	PDLIN01020	None	None	G2	S2	1B.2
Hesperolinon drymarioides drymaria-like western flax	PDLIN01090	None	None	G2	S2	1B.2
Hesperolinon sharsmithiae Sharsmith's western flax	PDLIN010E0	None	None	G2Q	S2	1B.2
Juglans hindsii Northern California black walnut	PDJUG02040	None	None	G1	S1	1B.1
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3	SSC
Layia septentrionalis Colusa layia	PDAST5N0F0	None	None	G2	S2	1B.2
Leptosiphon jepsonii Jepson's leptosiphon	PDPLM09140	None	None	G3	S3	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lupinus sericatus Cobb Mountain lupine	PDFAB2B3J0	None	None	G2?	S2?	1B.2
Myotis evotis long-eared myotis	AMACC01070	None	None	G5	S3	
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Navarretia leucocephala ssp. bakeri Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
Navarretia paradoxinota Porter's navarretia	PDPLM0C160	None	None	G2	S2	1B.3
Navarretia rosulata Marin County navarretia	PDPLM0C0Z0	None	None	G2	S2	1B.2
Northern Interior Cypress Forest Northern Interior Cypress Forest	CTT83220CA	None	None	G2	S2.2	
Northern Vernal Pool Northern Vernal Pool	CTT44100CA	None	None	G2	S2.1	
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Penstemon newberryi var. sonomensis Sonoma beardtongue	PDSCR1L483	None	None	G4T2	S2	1B.3
Plagiobothrys hystriculus bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Sidalcea keckii Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
Sidalcea oregana ssp. hydrophila marsh checkerbloom	PDMAL110K2	None	None	G5T2	S2	1B.2
Streptanthus brachiatus ssp. hoffmanii Freed's jewelflower	PDBRA2G071	None	None	G2T2	S2	1B.2
Streptanthus hesperidis green jewelflower	PDBRA2G510	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Streptanthus morrisonii ssp. elatus	PDBRA2G0S1	None	None	G2T1	S1	1B.2
Three Peaks jewelflower						
Streptanthus morrisonii ssp. kruckebergii	PDBRA2G0S4	None	None	G2T1	S1	1B.2
Kruckeberg's jewelflower						
Trichostema ruygtii	PDLAM220H0	None	None	G1G2	S1S2	1B.2
Napa bluecurls						
Vandykea tuberculata	IICOLX7010	None	None	G1	S1	
serpentine cypress long-horned beetle						
Wildflower Field	CTT42300CA	None	None	G2	S2.2	
Wildflower Field						

Record Count: 65

Plant List

78 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3812274, 3812273, 3812272, 3812264, 3812263, 3812262, 3812254 3812253 and 3812252;

Modify Search Criteria Export to Excel Modify Columns Modify Sort Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Allium fimbriatum var. purdyi	Purdy's onion	Alliaceae	perennial bulbiferous herb	Apr-Jun	4.3	S3	G4G5T3
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	Apr-Jul	1B.2	S2	G4T2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3
Antirrhinum virga	twig-like snapdragon	Plantaginaceae	perennial herb	Jun-Jul	4.3	S3?	G3?
Arabis modesta	modest rockcress	Brassicaceae	perennial herb	Mar-Jul	4.3	S3	G3
Arabis oregana	Oregon rockcress	Brassicaceae	perennial herb	May	4.3	S3	G3G4Q
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	May-Jul(Aug)	4.2	S3	G3
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	Apr-Jun	4.2	S3	G3
Astragalus claranus	Clara Hunt's milk-vetch	Fabaceae	annual herb	Mar-May	1B.1	S1	G1
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	Jun-Sep	4.3	S4	G4
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S3	G4T3
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	1B.2	S3?	G3?
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	Apr-Jul	4.3	S3	G3
Calyptridium quadripetalum	four-petaled pussypaws	Montiaceae	annual herb	Apr-Jun	4.3	S4	G4
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	4.2	S3	G4T3
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	1B.2	S2	G5T2
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.1	S1	G1

Ceanothus divergens	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	1B.2	S2	G2
Ceanothus purpureus	holly-leaved ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.2	S2	G2
Ceanothus sonomensis	Sonoma ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	1B.2	S2	G2
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
Clarkia gracilis ssp. tracyi	Tracy's clarkia	Onagraceae	annual herb	Apr-Jul	4.2	S3	G5T3
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	May-Jun	4.3	S4	G4
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jul-Aug	4.3	S3	G4G5T3
Cryptantha dissita	serpentine cryptantha	Boraginaceae	annual herb	Apr-Jun	1B.2	S2	G2
Cryptantha rostellata	red-stemmed cryptantha	Boraginaceae	annual herb	Apr-Jun	4.2	S3	G4
Cypripedium montanum	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	4.2	S4	G4
Delphinium uliginosum	swamp larkspur	Ranunculaceae	perennial herb	May-Jun	4.2	S3	G3
Equisetum palustre	marsh horsetail	Equisetaceae	perennial rhizomatous herb	unk	3	S1S3	G5
Erigeron biolettii	streamside daisy	Asteraceae	perennial herb	Jun-Oct	3	S3?	G3?
Erigeron greenei	Greene's narrow-leaved daisy	Asteraceae	perennial herb	May-Sep	1B.2	S3	G3
Eriogonum nervulosum	Snow Mountain buckwheat	Polygonaceae	perennial rhizomatous herb	Jun-Sep	1B.2	S2	G2
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Erythranthe nudata	bare monkeyflower	Phrymaceae	annual herb	May-Jun	4.3	S4	G4
Erythronium helenae	St. Helena fawn lily	Liliaceae	perennial bulbiferous herb	Mar-May	4.2	S3	G3
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
Fritillaria purdyi	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.3	S4	G4
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss		1B.3	S2	G2
Harmonia hallii	Hall's harmonia	Asteraceae	annual herb	Apr-Jun	1B.2	S2?	G2?
Harmonia nutans	nodding harmonia	Asteraceae	annual herb	Mar-May	4.3	S3	G3
Helianthus exilis	serpentine sunflower	Asteraceae	annual herb	Jun-Nov	4.2	S3	G3
Hesperolinon bicarpellatum	two-carpellate western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2
Hesperolinon drymarioides	drymaria-like western flax	Linaceae	annual herb	May-Aug	1B.2	S2	G2
Hesperolinon sharsmithiae	Sharsmith's western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2Q
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1

Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	1B.2	S2	G2
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	1B.2	S2S3	G2G3
Leptosiphon latisectus	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
Lilium bolanderi	Bolander's lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	4.2	S3S4	G4
Lomatium hooveri	Hoover's lomatium	Apiaceae	perennial herb	Apr-Jul	4.3	S3	G3
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	Mar-Jun	4.3	S3	G3
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
Malacothamnus helleri	Heller's bush-mallow	Malvaceae	perennial deciduous shrub	May-Jul	3.3	S3	G3Q
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4
Microseris sylvatica	sylvan microseris	Asteraceae	perennial herb	Mar-Jun	4.2	S4	G4
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	4.3	S3	G3
Navarretia cotulifolia	cotula navarretia	Polemoniaceae	annual herb	May-Jun	4.2	S4	G4
Navarretia heterandra	Tehama navarretia	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
Navarretia jepsonii	Jepson's navarretia	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Navarretia paradoxinota	Porter’s navarretia	Polemoniaceae	annual herb	May-Jun(Jul)	1B.3	S2	G2
Navarretia rosulata	Marin County navarretia	Polemoniaceae	annual herb	May-Jul	1B.2	S2	G2
Orobanche valida ssp. howellii	Howell's broomrape	Orobanchaceae	perennial herb (parasitic)	Jun-Sep	4.3	S3	G4T3
Penstemon newberryi var. sonomensis	Sonoma beardtongue	Plantaginaceae	perennial herb	Apr-Aug	1B.3	S2	G4T2
Plagiobothrys hystriculus	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4
Senecio clevelandii var. clevelandii	Cleveland's ragwort	Asteraceae	perennial herb	Jun-Jul	4.3	S3	G4?T3Q
Sidalcea keckii	Keck's checkerbloom	Malvaceae	annual herb	Apr-May(Jun)	1B.1	S2	G2
Sidalcea oregana ssp. hydrophila	marsh checkerbloom	Malvaceae	perennial herb	(Jun)Jul-Aug	1B.2	S2	G5T2
Streptanthus brachiatus ssp. hoffmanii	Freed's jewelflower	Brassicaceae	perennial herb	May-Jul	1B.2	S2	G2T2
Streptanthus hesperidis	green jewelflower	Brassicaceae	annual herb	May-Jul	1B.2	S2	G2
Streptanthus morrisonii ssp. elatus	Three Peaks jewelflower	Brassicaceae	perennial herb	Jun-Sep	1B.2	S1	G2T1
Streptanthus morrisonii ssp. kruckebergii	Kruckeberg's jewelflower	Brassicaceae	perennial herb	Apr-Jul	1B.2	S1	G2T1

Thelypodium brachycarpum	short-podded thelypodium	Brassicaceae	perennial herb	May-Aug	4.2	S3	G3
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	Apr-Jul	4.2	S3	G3
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	Jun-Oct	1B.2	S1S2	G1G2

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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-speci c (e.g., vegetation/species surveys) and project-speci c (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 de ned 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.

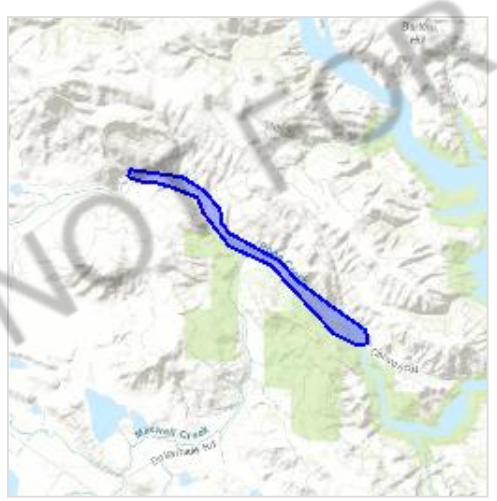
Project information

NAME

Pope Creek Weed Management Project

LOCATION

Napa County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

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 in uence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly a ected 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 e ects 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 o ce 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. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] 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[2]).

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.
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:

Birds

NAME	STATUS

Northern Spotted Owl Strix occidentalis caurina There is **nal** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1123	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **nal** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpaci cus There is **nal** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
California Freshwater Shrimp Syncaris paci ca No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7903	Endangered

Flowering Plants

NAME	STATUS
Clara Hunt's Milk-vetch Astragalus clarianus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3300	Endangered
Keck's Checker-mallow Sidalcea keckii There is **nal** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5704	Endangered

Critical habitats

Potential e ects 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[1] and the Bald and Golden Eagle Protection Act[2].

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 http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may nd in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED,

WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in o shore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in o shore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of con dence in the presence score. One can have higher con dence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

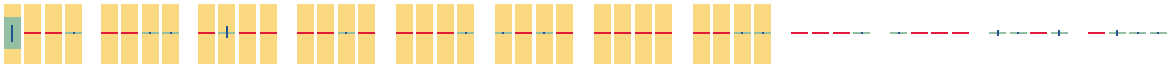
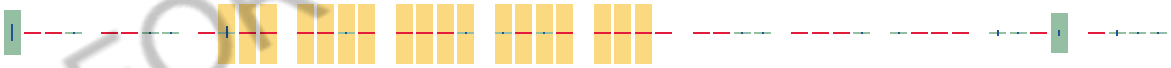
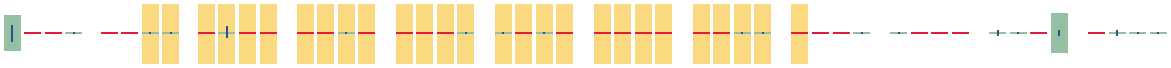
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

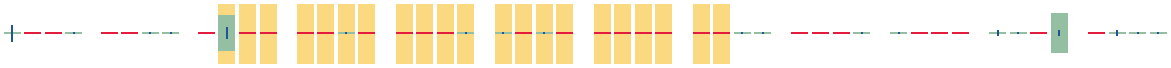
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort – no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Bald Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in off shore areas from certain types of development or activities.)												
Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in off shore areas from certain types of development or activities.)												
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												
Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												
Spotted Towhee BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												

Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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 and/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 migratory birds potentially occurring in my speci ed 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 ltered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identi ed 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 AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my speci ed 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 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, migrating or present year-round in my project 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 refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. 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 speci ed. 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 shing).

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 speci ed 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 con rm 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 con rmed. 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

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:

FRESHWATER FORESTED/SHRUB WETLAND
- PSSA
- PFOA

RIVERINE
- R3USA
- R3UBH
- R4SBA
- R3UBHx

A full description for each wetland code can be found at the National Wetlands Inventory website

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 identi ed 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 classi cation 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 veri cation 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 eld work. There may be occasional di erences in polygon boundaries or classi cations 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 tuber cid 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 de ne and describe wetlands in a di erent manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to de ne 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 modi cations within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning speci ed agency regulatory programs and proprietary jurisdictions that may
a ect such activities.

Table B-1. Special Status Plants

Name	Listing status* (Federal/ State/CRPR)	Habitat and Flowering Period	Potential to Occur in the Project
Allium fimbriatum var. *purdyi* Purdy's onion	- / - / 4.3	Cismontane woodland, chaparral. Open, rocky places usually in serpentine chaparral; 300-600 m.	**None.** The Proposed Project is not within the elevation range for this species.
Amorpha californica var. *napensis* Napa false indigo	- / - / 1B.2	Broadleafed upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 30-735 m	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Amsinckia lunaris bent-flowered fiddleneck	- / - / 1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 3-795 m.	**None.** Suitable habitat is not present in the Proposed Project.
Antirrhinum virga twig-like snapdragon	- / - / 4.3	Chaparral, lower montane coniferous forest. Rocky openings; often on serpentine. 100-2015 m.	**Possible.** Suitable habitat is present in the Proposed Project.
Arabis modesta modest rockcress	- / - / 4.3	Chaparral, lower montane coniferous forest. Intergrades with *A. oregana* in Siskiyou County; may be a variety of that plant. 120-800 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Arabis oregana Oregon rockcress	- / - / 4.3	Chaparral, lower montane coniferous forest. Serpentine. 600-1830 m.	**None.** The Proposed Project is not within the elevation range for this species.
Asclepias solanoana serpentine milkweed	- / - / 4.2	Chaparral, cismontane woodland, lower montane coniferous forest. Grows on serpentine soils; confined to clearings and gentle slopes with southern exposure. 230-1860 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Astragalus breweri Brewer's milk-vetch	- / - / 4.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Grassy flats, meadows moist in spring, and open slopes in chaparral. Commonly on or near volcanic or serpentine soils. 90-730 m.	**None.** Suitable habitat is not present in the Proposed Project.

Name	Listing status* (Federal/ State/CRPR)	Habitat and Flowering Period	Potential to Occur in the Project
Astragalus claranus Clara Hunt's milk-vetch	FE / ST / 1B.1	Cismontane woodland, valley and foothill grassland, chaparral. Open grassy hillsides, especially on exposed shoulders in thin, volcanic clay soil moist in spring. 95-235 m.	**None.** Suitable habitat is not present in the Proposed Project.
Astragalus clevelandii Cleveland's milk-vetch	- / - / 4.3	Chaparral, cismontane woodland, riparian forest. Ultramafic seeps and creeks; sandy stream banks, gravel bars moist in spring, hillside seeps on slopes. 200-1500 m.	**Present.** This species was found in the Proposed Project area during 2014 surveys.
Astragalus rattanii var. *jepsonianus* Jepson's milk-vetch	- / - / 1B.2	Cismontane woodland, valley and foothill grassland, chaparral. Commonly on serpentine in grassland or openings in chaparral. 175-1005 m.	**Possible.** Suitable habitat is present in the Proposed Project.
Balsamorhiza macrolepis big-scale balsamroot	- / - / 1B.2	Chaparral, valley and foothill grassland, cismontane woodland. Sometimes on serpentine. 35-1465 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Brodiaea leptandra narrow-anthered brodiaea	- / - / 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Volcanic substrates. 30-590 m.	**None.** Suitable habitat is not present in the Proposed Project.
Calamagrostis ophitidis serpentine reed grass	- / - / 4.3	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland. Serpentine, rocky sites. 90-1065 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Calyptridium quadripetalum four-petaled pussypaws	- / - / 4.3	Chaparral, lower montane coniferous forest. Sandy or gravelly areas; generally serpentine. 315-2040 m.	**None.** The Proposed Project is not within the elevation range for this species.
Calystegia collina ssp. *oxyphylla* Mt. Saint Helena morning-glory	- / - / 4.2	Chaparral, lower montane coniferous forest, valley and foothill grassland. On serpentine barrens, slopes, and hillsides. 280-1010 m.	**None.** The Proposed Project is not within the elevation range for this species.

Name	Listing status* (Federal/ State/CRPR)	Habitat and Flowering Period	Potential to Occur in the Project
Castilleja ambigua var. *ambigua* johnny-nip	- / - / 4.2	Coastal bluff scrub, coastal scrub, coastal prairie, marshes and swamps, valley and foothill grassland, vernal pool margins. 0-435 m.	**None.** Suitable habitat is not present in the Proposed Project.
Castilleja rubicundula var. *rubicundula* pink creamsacs	- / - / 1B.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Openings in chaparral or grasslands. On serpentine. 20-915 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Ceanothus confusus Rincon Ridge ceanothus	- / - / 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland. Known from volcanic or serpentine soils, dry shrubby slopes. 150-1280 m.	**None.** Suitable habitat is not present in the Proposed Project.
Ceanothus divergens Calistoga ceanothus	- / - / 1B.2	Chaparral. Rocky, serpentine or volcanic sites. 100-950 m.	**None.** Suitable habitat is not present in the Proposed Project.
Ceanothus purpureus holly-leaved ceanothus	- / - / 1B.2	Chaparral, cismontane woodland. Rocky, volcanic slopes. 140-720 m.	**None.** Suitable habitat is not present in the Proposed Project.
Ceanothus sonomensis Sonoma ceanothus	- / - / 1B.2	Chaparral. Sandy, serpentine or volcanic soils. 140-795 m.	**None.** Suitable habitat is not present in the Proposed Project.
Centromadia parryi ssp. *parryi* pappose tarplant	- / - / 1B.2	Chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernally mesic, often alkaline sites. 1-500 m.	**None.** Suitable habitat is not present in the Proposed Project.
Clarkia gracilis ssp. *tracyi* Tracy's clarkia	- / - / 4.2	Chaparral. Openings, usually on serpentine. 65-650 m.	**Possible.** Suitable habitat is present in the Proposed Project.
Collomia diversifolia serpentine collomia	- / - / 4.3	Chaparral, cismontane woodland. On ultramafic soils, rocky or gravelly sites. 300-600 m.	**Possible.** Suitable habitat is present in the Proposed Project.
Cordylanthus tenuis ssp. *brunneus* serpentine bird's-beak	- / - / 4.3	Chaparral, closed-cone coniferous forest, cismontane woodland. On barren, rocky serpentine soil. 475-915 m.	**None.** The Proposed Project is not within the elevation range for this species.
Cryptantha dissita serpentine cryptantha	- / - / 1B.2	Chaparral. Serpentine outcrops. 135-735 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.

Name	Listing status* (Federal/ State/CRPR)	Habitat and Flowering Period	Potential to Occur in the Project
Cryptantha rostellata red-stemmed cryptantha	- / - / 4.2	Cismontane woodland, valley and foothill grassland. Often gravelly, volcanic openings; often roadsides. 40-800 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Cypripedium montanum mountain lady's-slipper	- / - / 4.2	Lower montane coniferous forest, broadleafed upland forest, cismontane woodland, north coast coniferous forest. On dry, undisturbed slopes. 185-2225 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Delphinium uliginosum swamp larkspur	- / - / 4.2	Chaparral, valley and foothill grassland. In moist drainages, meadows, and creek beds, on mesic ultramafic substrates. 340-610 m.	**Possible.** Suitable habitat is present in the Proposed Project.
Equisetum palustre marsh horsetail	- / - / 3	Marshes and swamps. 45-1000 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Erigeron biolettii streamside daisy	- / - / 3	Broadleafed upland forest, cismontane woodland, north coast coniferous forest. Dry slopes, rocks, ledges along rivers; mesic sites. 30-1100 m.	**Possible.** Suitable habitat is present in the Proposed Project.
Erigeron greenei Greene's narrow-leaved daisy	- / - / 1B.2	Chaparral. Serpentine and volcanic substrates, generally in shrubby vegetation. 90-835 m.	**Present.** This species was found in the Proposed Project area during 2014 surveys.
Eriogonum nervulosum Snow Mountain buckwheat	- / - / 1B.2	Chaparral. Dry serpentine outcropsand barrens. 445-2105 m.	**None.** The Proposed Project is not within the elevation range for this species.
Eryngium jepsonii Jepson's coyote-thistle	- / - / 1B.2	Vernal pools, valley and foothill grassland. Clay. 3-305 m.	**None.** Suitable habitat is not present in the Proposed Project.
Erythranthe nudata bare monkeyflower	- / - / 4.3	Chaparral, cismontane woodland. Moist areas, often along drainages and roadsides in serpentine seeps. 250-700 m.	**Possible.** Suitable habitat is present in the Proposed Project.

Name	Listing status* (Federal/ State/CRPR)	Habitat and Flowering Period	Potential to Occur in the Project
Erythronium helenae St. Helena fawn lily	- / - / 4.2	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Often associated with serpentine; also on volcanic soils. Commonly grows in the open, inter-shrub spaces. 350-1220 m.	**None.** The Proposed Project is not within the elevation range for this species.
Fritillaria pluriflora adobe-lily	- / - / 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Usually on clay soils; sometimes serpentine. 45-945 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Fritillaria purdyi Purdy's fritillary	- / - / 4.3	Chaparral, cismontane woodland, lower montane coniferous forest. Usually on serpentine. 175-2255 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Grimmia torenii Toren's grimmia	- / - / 1B.3	Cismontane woodland, lower montane coniferous forest, chaparral. Openings, rocky, boulder and rock walls, carbonate, volcanic. 325-1160 m.	**None.** The Proposed Project is not within the elevation range for this species.
Harmonia hallii Hall's harmonia	- / - / 1B.2	Chaparral. Serpentine hills and ridges. Open, rocky areas within chaparral. 335-945 m.	**None.** The Proposed Project is not within the elevation range for this species.
Harmonia nutans nodding harmonia	- / - / 4.3	Chaparral, cismontane woodland. Rocky, volcanic substrates. 75-975 m.	**None.** Suitable habitat is not present in the Proposed Project.
Helianthus exilis serpentine sunflower	- / - / 4.2	Chaparral, cismontane woodland. Serpentine seeps. 150-1525 m.	**Present.** This species was found in the Proposed Project area during 2014 surveys.
Hesperolinon bicarpellatum two-carpellate western flax	- / - / 1B.2	Chaparral. Serpentine barrens at edge of chaparral. 175-825 m.	**Possible.** Suitable habitat is present in the Proposed Project. An unconfirmed identification of this species occurred during 2014 surveys.

Name	Listing status* (Federal/ State/CRPR)	Habitat and Flowering Period	Potential to Occur in the Project
Hesperolinon drymarioides drymaria-like western flax	- / - / 1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland. Serpentine soils, mostly within chaparral. 400-1100 m.	**None.** The Proposed Project is not within the elevation range for this species.
Hesperolinon sharsmithiae Sharsmith's western flax	- / - / 1B.2	Chaparral. Serpentine substrates. 180-670 m.	**Present.** Observed in the Proposed Project in 2013.
Juglans hindsii Northern California black walnut	- / - / 1B.1	Riparian forest, riparian woodland. Few extant native stands remain; widely naturalized. Deep alluvial soil, associated with a creek or stream. 0-640 m.	**None.** Suitable habitat is not present in the Proposed Project.
Layia septentrionalis Colusa layia	- / - / 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 15-1100 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Leptosiphon jepsonii Jepson's leptosiphon	- / - / 1B.2	Chaparral, cismontane woodland. Open to partially shaded grassy slopes. On volcanic soils or the periphery of serpentine substrates. 55-855 m.	**Possible.** Suitable habitat is present in the Proposed Project.
Leptosiphon latisectus broad-lobed leptosiphon	- / - / 4.3	Broadleafed upland forest, cismontane woodland. 170-1500 m.	**None.** Suitable habitat is not present in the Proposed Project.
Lilium bolanderi Bolander's lily	- / - / 4.2	Lower montane coniferous forest, chaparral. Dry clayey ultramafic soils; growing in the open, on stony ground. 30-1600 m.	**None.** Suitable habitat is not present in the Proposed Project.
Lomatium hooveri Hoover's lomatium	- / - / 4.3	Chaparral, cismontane woodland. Serpentine soils, or rarely volcanic soils. 300-885 m.	**None.** The Proposed Project is not within the elevation range for this species.

Name	Listing status* (Federal/ State/CRPR)	Habitat and Flowering Period	Potential to Occur in the Project
Lomatium repostum Napa lomatium	- / - / 4.3	Chaparral, cismontane woodland. Rocky areas in volcanic and serpentine soils with mixed chaparral and black oak woodland communities. 90-830 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Lupinus sericatus Cobb Mountain lupine	- / - / 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, broadleafed upland forest. In stands of knobcone pine-oak woodland, on open wooded slopes in gravelly soils; sometimes on serpentine. 120-1390 m.	**None.** Suitable habitat is not present in the Proposed Project.
Malacothamnus helleri Heller's bush-mallow	- / - / 3.3	Chaparral, riparian woodland. Sandstone, gravel. 305-635 m.	**None.** The Proposed Project is not within the elevation range for this species.
Micropus amphibolus Mt. Diablo cottonweed	- / - / 3.2	Valley and foothill grassland, cismontane woodland, chaparral, broadleafed upland forest. Bare, grassy or rocky slopes. 45-825 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Microseris sylvatica sylvan microseris	- / - / 4.2	Chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, valley and foothill grassland. Serpentine. 45-1500 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Monardella viridis green monardella	- / - / 4.3	Broadleafed upland forest, chaparral, cismontane woodland. 100-1010 m.	**Possible.** Suitable habitat is present in the Proposed Project.
Navarretia cotulifolia cotula navarretia	- / - / 4.2	Chaparral, cismontane woodland, valley and foothill grassland. Adobe soils. 4-1830 m.	**None.** Suitable habitat is not present in the Proposed Project.
Navarretia heterandra Tehama navarretia	- / - / 4.3	Vernal pools, valley and foothill grassland. Mesic sites in grassland or vernal pools. 30-1010 m.	**None.** Suitable habitat is not present in the Proposed Project.
Navarretia jepsonii Jepson's navarretia	- / - / 4.3	Chaparral, valley and foothill grassland, cismontane woodland. Habitat edges, drying flats; sometimes on serpentine. 175-855 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.

Name	Listing status* (Federal/ State/CRPR)	Habitat and Flowering Period	Potential to Occur in the Project
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	- / - / 1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils. 3-1680 m.	**None.** Suitable habitat is not present in the Proposed Project.
Navarretia paradoxinota Porter's navarretia	- / - / 1B.3	Meadows and seeps. Serpentinite, openings, vernally mesic, often drainages. 175-875 m.	**Possible.** Suitable habitat is present in the Proposed Project.
Navarretia rosulata Marin County navarretia	- / - / 1B.2	Closed-cone coniferous forest, chaparral. Dry, open rocky places; can occur on serpentine. 185-640 m.	**None.** Suitable habitat is not present in the Proposed Project.
Orobanche valida ssp. *howellii* Howell's broomrape	- / - / 4.3	Chaparral. On rocky volcanic or serpentine slopes in open chaparral; reported on *Garrya fremontii, Quercus chrysolepis*. 180-1740 m.	**None.** Suitable habitat is not present in the Proposed Project.
Penstemon newberryi var. *sonomensis* Sonoma beardtongue	- / - / 1B.3	Chaparral. Crevices in rock outcrops and talus slopes. 180-1405 m.	**None.** Suitable habitat is not present in the Proposed Project.
Plagiobothrys hystriculus bearded popcornflower	- / - / 1B.1	Vernal pools, valley and foothill grassland. Wet sites. 1-275 m.	**None.** Suitable habitat is not present in the Proposed Project.
Ranunculus lobbii Lobb's aquatic buttercup	- / - / 4.2	Cismontane woodland, valley and foothill grassland, vernal pools, north coast coniferous forest. Mesic sites. 15-470 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Senecio clevelandii var. *clevelandii* Cleveland's ragwort	- / - / 4.3	Chaparral. Mesic serpentine soil, along creeks and in moist meadows. 365-900 m.	**Present.** This species was found in the Proposed Project area during 2014 surveys.
Sidalcea keckii Keck's checkerbloom	FE / - / 1B.1	Cismontane woodland, valley and foothill grassland. Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes. 85-505 m.	**None.** Suitable habitat is not present in the Proposed Project.

Name	Listing status* (Federal/ State/CRPR)	Habitat and Flowering Period	Potential to Occur in the Project
Sidalcea oregana ssp. *hydrophila* marsh checkerbloom	- / - / 1B.2	Meadows and seeps, riparian forest. Wet soil of streambanks, meadows. 455-2030 m.	**None.** The Proposed Project is not within the elevation range for this species.
Streptanthus brachiatus ssp. *hoffmanii* Freed's jewelflower	- / - / 1B.2	Chaparral, cismontane woodland. Serpentine rock outcrops, primarily in geothermal development areas. 485-1040 m.	**None.** The Proposed Project is not within the elevation range for this species.
Streptanthus hesperidis green jewelflower	- / - / 1B.2	Chaparral, cismontane woodland. Openings in chaparral or woodland; serpentine, rocky sites. 240-765 m.	**None.** The Proposed Project is not within the elevation range for this species.
Streptanthus morrisonii ssp. *elatus* Three Peaks jewelflower	- / - / 1B.2	Chaparral. Serpentine barrens, outcrops, and talus; 240-735 m.	**None.** The Proposed Project is not within the elevation range for this species.
Streptanthus morrisonii ssp. *kruckebergii* Kruckeberg's jewelflower	- / - / 1B.2	Cismontane woodland. Scattered serpentine outcrops near the Lake/Napa County line. 240-665 m.	**None.** The Proposed Project is not within the elevation range for this species.
Thelypodium brachycarpum short-podded thelypodium	- / - / 4.2	Chaparral, lower montane coniferous forest, meadows and seeps. Serpentine gravel and alkaline soils. In Oregon, on the alluvial clays of river plains and lake basins. 670-2560 m.	**None.** The Proposed Project is not within the elevation range for this species.
Toxicoscordion fontanum marsh zigadenus	- / - / 4.2	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps. Vernally moist or marshy areas; often on serpentine areas. 15-1000 m.	**Present.** This species was found in the Proposed Project area during 2014 surveys.
Trichostema ruygtii Napa bluecurls	- / - / 1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest. Often in open, sunny areas. Also has been found in vernal pools. 30-680 m.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.

* List of Abbreviations for Federal and State Species Status follow below:

FE = Federally Endangered

FT = Federally Threatened

SE = State Endangered

ST = State Threatened

SR = State Rare

California Rare Plant Rank (CRPR):

1A = presumed extirpated or extinct in California, and rare or extinct elsewhere

1B = rare, threatened, or endangered in California and elsewhere

2A = presumed extirpated in California, but more common elsewhere

2B = rare, threatened, or endangered in California, but more common elsewhere

3 = plants about which more information is needed

4 = plants of limited distribution

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

X.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

X.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Table B-2. Special Status Animal Species

Scientific name	Listing status* (Federal/ State)	Habitat	Potential to Occur in the Proposed Project
Invertebrates			
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT/-	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	**None.** The Proposed Project is not within the range of this species.
Syncaris pacifica California freshwater shrimp	FE/SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**None.** Suitable habitat is not present in the Proposed Project.
Amphibians			
Dicamptodon ensatus California giant salamander	-/-, SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**None.** Suitable habitat is not present in the Proposed Project.
Rana boylii foothill yellow-legged frog	-/CST, SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	**Possible.** This species has been observed in Pope Creek in the past (CDFW 2019) and suitable habitat occurs within the Proposed Project.
Rana draytonii California red-legged frog	FT/-, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project and the nearest record is over 4 miles away (CDFW 2019)
Reptiles			
Emys (=*Actinemys*) *marmorata* western pond turtle	-/-, SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Present.** This species was observed in the Proposed Project during field visits.

Scientific name	Listing status* (Federal/ State)	Habitat	Potential to Occur in the Proposed Project
Fish			
Hypomesus transpacificus Delta smelt	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	**None.** Suitable habitat is not present in the Proposed Project.
Oncorhynchus mykiss irideus steelhead - central California coast DPS	FT/-	From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	**None.** Suitable habitat is not present in the Proposed Project.
Birds			
Agelaius tricolor tricolored blackbird	-/ST, SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	**None.** Suitable habitat is not present in the Proposed Project.
Aquila chrysaetos golden eagle	-/-, FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Athene cunicularia burrowing owl	-/SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**None.** Suitable habitat is not present in the Proposed Project.
Buteo swainsoni Swainson's hawk	-/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project, but the quantity of foraging habitat is expected to be insufficient.
Chaetura vauxi Vaux's swift	-/SSC	Redwood, Douglas-fir, & other coniferous forests. Nests in large hollow trees & snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes.	**Present.** This species was observed in the Proposed Project.
Haliaeetus leucocephalus bald eagle	FD/SE, FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**Present.** An active bald eagle nest was observed approximately 400 feet northeast of the Proposed Project.

Scientific name	Listing status* (Federal/ State)	Habitat	Potential to Occur in the Proposed Project
Pandion haliaetus osprey	-/-	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	**Possible.** Suitable habitat is present in the Proposed Project.
Progne subis purple martin	-/SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snag.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Riparia riparia bank swallow	-/ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**None.** Suitable habitat is not present in the Proposed Project.
Setophaga petechia Yellow warbler	-/SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	**Present.** This species was observed in the Proposed Project.
Strix occidentalis caurina northern spotted owl	FT/ST	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	**None.** Suitable habitat is not present in the Proposed Project.
Mammals			
Antrozous pallidus pallid bat	-/SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.
Corynorhinus townsendii Townsend's big-eared bat	-/SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**None.** Suitable habitat is not present in the Proposed Project.
Lasiurus blossevillii western red bat	-/SSC	Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Not Expected.** Marginally suitable habitat is present in the Proposed Project.

* List of Abbreviations for Federal and State Species Status follow below:

FE = Federally Endangered	SE = State Endangered
FT = Federally Threatened	ST = State Threatened
FD = Federally Delisted	CST = Candidate State Threatened
	SSC = Species of Special Concern
	FP = State Fully Protected

None: the Proposed Project area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.

Not Expected: suitable habitat or key habitat elements might be present but might be of poor quality or isolated from the nearest extant occurrences, and/or the species is not known to occur in the Proposed Project area.

Possible: presence of suitable habitat or key habitat elements in the Proposed Project area with potentially support the species.

Present: the species was either observed directly or its presence was confirmed by field investigations or in previous studies in the Proposed Project area.

Appendix C

Cultural Resources Assessment Report

Technical Report

CULTURAL RESOURCES ASSESSMENT REPORT

Pope Creek Weed Management Project

August 2019

Prepared for

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Program Director

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Acronyms and Abbreviations

BLM	Bureau of Land Management
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources System
Corps	U.S. Army Corps of Engineers
CRHR	California Register of Historical Resources
IS/MND	initial study/mitigated negative declaration
MLD	most likely descendant
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
PRC	Public Resources Code
RCD	Resource Conservation District
TCR	tribal cultural resource
USC	United States Code

Executive Summary

The Napa County Resource Conservation District (RCD) proposes to implement the Pope Creek Weed Management Project (Proposed Project or Project) along a 2.7-mile reach of Pope Creek in northern Napa County, California. Target invasive plant species are tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

This cultural resources assessment report supports the Initial Study/Mitigated Negative Declaration (IS/MND) that is being prepared pursuant to the requirements of the California Environmental Quality Act (CEQA) of 1970 (as amended) and the State CEQA guidelines (14 California Code of Regulations 15000 et seq.). The report also supports obligations under Section 106 of the National Historic Preservation Act as a portion of the Proposed Project is on land under the jurisdiction of the U.S. Bureau of Land Management (BLM).

This report documents cultural resources inventory methods and results as required for compliance with federal and California regulations. The study consisted of a literature review to identify any previously recorded cultural resources that could be affected by the Proposed Project, and a field survey to locate any archaeological sites that may exist but have not yet been recorded. No cultural resources were identified as the result of the pedestrian survey.

This report has been prepared based on certain key assumptions made by Horizon that substantially affect its conclusions and recommendations. These assumptions are that the information gathered during the record search is up to date and accurate, and that the field survey results accurately identified the presence or absence of archaeological resources visible on the ground surface. These assumptions, although thought to be reasonable and appropriate, may not prove to be true in the future. Horizon's conclusions and recommendations are conditioned upon these assumptions.

The archaeological inventory was performed based on information obtained at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), as well as on direct observation of site conditions and other information generally applicable as of June 2019 The conclusions and recommendations herein are therefore based on information available up to that point in time. Further information may come to light in the future that could substantially change the conclusions found herein.

Information obtained from these sources in this timeframe is assumed to be correct and complete. Horizon does not assume any liability for findings or lack of findings based upon misrepresentation of information presented to Horizon or for items that are not visible, made visible, accessible, or present at the time of the Project area inventory.

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1 Introduction

1.1 Project Location

The Proposed Project is located along a 2.7-mile reach of Pope Creek, a major tributary to Lake Berryessa in northern Napa County, California (**Figure 1 and Figure 2**). It is in Pope Creek Canyon, about 2.3 miles west of Lake Berryessa, and 2.75 miles east of Pope Valley along Pope Canyon Road.

Land use in the Pope Creek watershed is largely open space and agricultural land-uses. Within the Proposed Project reach, there are parcels owned by California Department of Fish and Wildlife (CDFW), Bureau of Land Management (BLM), and private landowners. The parcels owned by CDFW and BLM are managed for wildlife conservation and wilderness preservation. The area is depicted on the Walter Springs, Untied States Geological Survey 7.5-minute topographic quadrangle, Township 9 North, Range 4-5 West, Sections 7, 12, 17, 18 (**Figure 3**).

1.2 Project Description

Several invasive plant species have spread within Pope Creek over time and have resulted in degradation of creek and riparian habitat quality. Tamarisk (*Tamarix* sp.) is the dominant invasive plant species in Pope Creek, along with, but to a lesser extent, Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). Adverse effects of tamarisk infestations include altered channel morphology and degraded floodplain functions, decreased or altered plant and animal diversity, increased evapotranspiration, and increased fire risk (Sher et al. 2010). These adverse outcomes appear evident in portions of Pope Creek. Tamarisk can outcompete many native riparian species and establish dense monocultures that drastically reduce species diversity. Within portions of Pope Creek, mature stands of tamarisk are so dense that the stream can no longer migrate within the floodplain. This degrades channel functions and results in a simplified channel form that lacks habitat heterogeneity and complexity.

The non-profit Tuleyome initially identified the need for invasive plant control within Pope Creek. The distribution of target invasive plant species was mapped in 2013 and 2014. The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

Invasive plant management in Pope Creek will include both chemical and mechanical treatments, such as using excavators and dozers, as well as herbicidal controls using cut-stump approaches or aerial applications. Biological control using tamarisk leaf beetle (*Diorhabda elongata*) may also be used. Treatment recommendations for each reach are primarily based on the level of infestation and accessibility for treatment. In many cases, the mechanical removal can be accomplished using heavy machinery as well as hand tools, such as chainsaws and brushcutters.

1.3 Area of Potential Effects

The extent of the Area of Potential Effects (APE) is considered the entire reach of Pope Creek that has management activity proposed (see **Figure 4**). This area is about 167 acres. However, the actual area of disturbance will be limited to the root zone of the target species, which are mostly within the existing

creek bed, for removal and all efforts to avoid areas that may harm native species will be taken. The APE also includes all of the staging areas. The vertical extent of the APE is limited to the root zone of the target species for removal. No trenching or other forms of excavation are proposed.

1.4 Regulatory Setting

1.4.1 State of California Regulations

CEQA and State CEQA Guidelines

The proposed Program seeks to comply with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] 21000 et seq.) and the CEQA guidelines (California Code of Regulations [CCR], Title 14, Chapter 3), which determine, in part, whether a project has a significant effect on a unique archaeological resource (per PRC 21083.2) or a historical resource (per PRC 21084.1).

CEQA guidelines in CCR 15064.5 notes that "a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." Lead agencies are required to identify potentially feasible measures or alternatives to avoid or mitigate significant adverse changes in the significance of a historical resource before such projects are approved. According to the CEQA guidelines, historical resources are:

- Listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (per PRC 5024.1(k));
- Included in a local register of historical resources (per PRC 5020.1) or identified as significant in a historical resource survey meeting the requirements of PRC 5024.1(g); or
- Determined by a lead state agency to be historically significant.

CEQA guidelines in CCR 15064.5 also applies to unique archaeological resources as defined in PRC 21084.1.

Assembly Bill 52, which went into effect on July 1, 2015, requires, per PRC 21080.3.1, that CEQA lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if requested by the tribe, and if the agency intends to release a negative declaration, mitigated negative declaration, or environmental impact report for a project. The bill also specifies, under PRC 21084.2, that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource (TCR) is considered a project that may have a significant effect on the environment. This latter language is scheduled to be added to the CEQA checklist in the near future.

As defined in Section 21074(a) of the PRC, TCRs are:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   a. Included or determined to be eligible for inclusion in the CRHR; or

   b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section

5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

TCRs are further defined under Section 21074(b) and (c) as follows:

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms to the criteria of subdivision (a).

Mitigation measures for TCRs must be developed in consultation with the affected California Native American tribe pursuant to the newly chaptered Section 21080.3.2 or according to Section 21084.3. Section 21084.3 identifies mitigation measures that include avoidance and preservation of TCRs and treating TCRs with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource.

The lead State agency for the project will consult with Native American tribes pursuant to PRC 21080.3.1. The results of that consultation are not included in this report.

California Register of Historical Resources

PRC Section 5024.1 establishes the CRHR. This register lists all California properties considered to be significant historical resources. The CRHR includes all properties listed, or determined to be eligible for listing, in the National Register of Historic Places (NRHP), including properties evaluated under Section 106 of the National Historic Preservation Act (NHPA). The criteria for listing are similar to those of the NRHP. Criteria for listing in the CRHR include resources that:

(1) Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(2) Are associated with the lives of persons important in our past;

(3) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

(4) Have yielded, or may be likely to yield, information important in prehistory or history.

The regulations set forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

1.4.2 Federal Regulations

A portion of the Proposed Project includes land under BLM jurisdiction. As a result, the Project, constitutes a federal undertaking as defined by Title 54 United States Code (USC) Section 300101 of the NHPA and mandates compliance with 54 USC Section 306108, commonly known as Section 106 of the NHPA, and its implementing regulations found under Title 36 of the Code of Federal Regulations (CFR) Section 800, as amended in 2001. To comply with Section 106 of the NHPA, the project proponent must

"take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register."

The implementing regulations of the NHPA require that cultural resources be evaluated for eligibility to the NRHP if they cannot be avoided by an undertaking (proposed project). To determine site significance through application of NRHP criteria, several levels of potential significance that reflect different (although not necessarily mutually exclusive) values must be considered. As provided in Title 36 CFR Section 60.4, "the quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association" and must be considered within the historic context. Resources must also be at least 50 years old, except in rare cases, and, to meet eligibility criteria of the NRHP, must:

(A) Be associated with events that have made a significant contribution to the broad patterns of our history; or

(B) Be associated with the lives of persons significant in our past; or

(C) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(D) Have yielded, or may be likely to yield, information important in prehistory or history.

For archaeological sites evaluated under Criterion (D), integrity requires that the site remain sufficiently intact to convey information necessary to address specific important research questions.

Cultural resources also may be considered separately under the National Environmental Protection Act per Title 42 USC Sections 4321 through 4327. These sections require federal agencies to consider potential environmental impacts and appropriate mitigation measures for projects with federal involvement.

1.4.3 Napa County Regulations

The Napa County 2008 General Plan (Napa County 2008) addresses cultural resources under its Community Character element. Two goals have been identified for cultural resources:

> **Goal CC-4:** Identify and preserve Napa County's irreplaceable cultural and historic resources for present and future generations to appreciate and enjoy.
>
> **Goal CC-5:** Encourage the reuse of historic buildings by providing incentives for their rehabilitation and reuse.

Goal CC-4 is the most applicable to the proposed Program, as the Program would not be involved in the rehabilitation and reuse of historic buildings.

The General Plan also contains 15 policies to support the goals, most of which reinforce the county's desire to preserve cultural resources or focus on preserving historic buildings in response to Goal CC-5. The following policy is most aligned with the purpose of the SMP.

> **Policy CC-23:** The County supports continued research into and documentation of the county's history and prehistory, and shall protect significant cultural resources from inadvertent damage during grading, excavation, and construction activities.

Action Item CC-23.1: In areas identified in the Baseline Data Report as having a significant potential for containing significant archaeological resources, require completion of an archival study and, if warranted by the archival study, a detailed on-site survey or other work as part of the environmental review process for discretionary projects.

Action Item CC-23.2: Impose the following conditions on all discretionary projects in areas which do not have a significant potential for containing archaeological or paleontological resources:

- "The Planning Department shall be notified immediately if any prehistoric, archaeologic[al], or paleontologic[al] artifact is uncovered during construction. All construction must stop and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action."
- "All construction must stop if any human remains are uncovered, and the County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the procedures outlined in CEQA Section 15064.5 (d) and (e) shall be followed."

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Figure 1
Project Vicinity

Pope Creek
Weed Management Project
Cultural Resources Assessment

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0 0.125 0.25 0.5 Miles

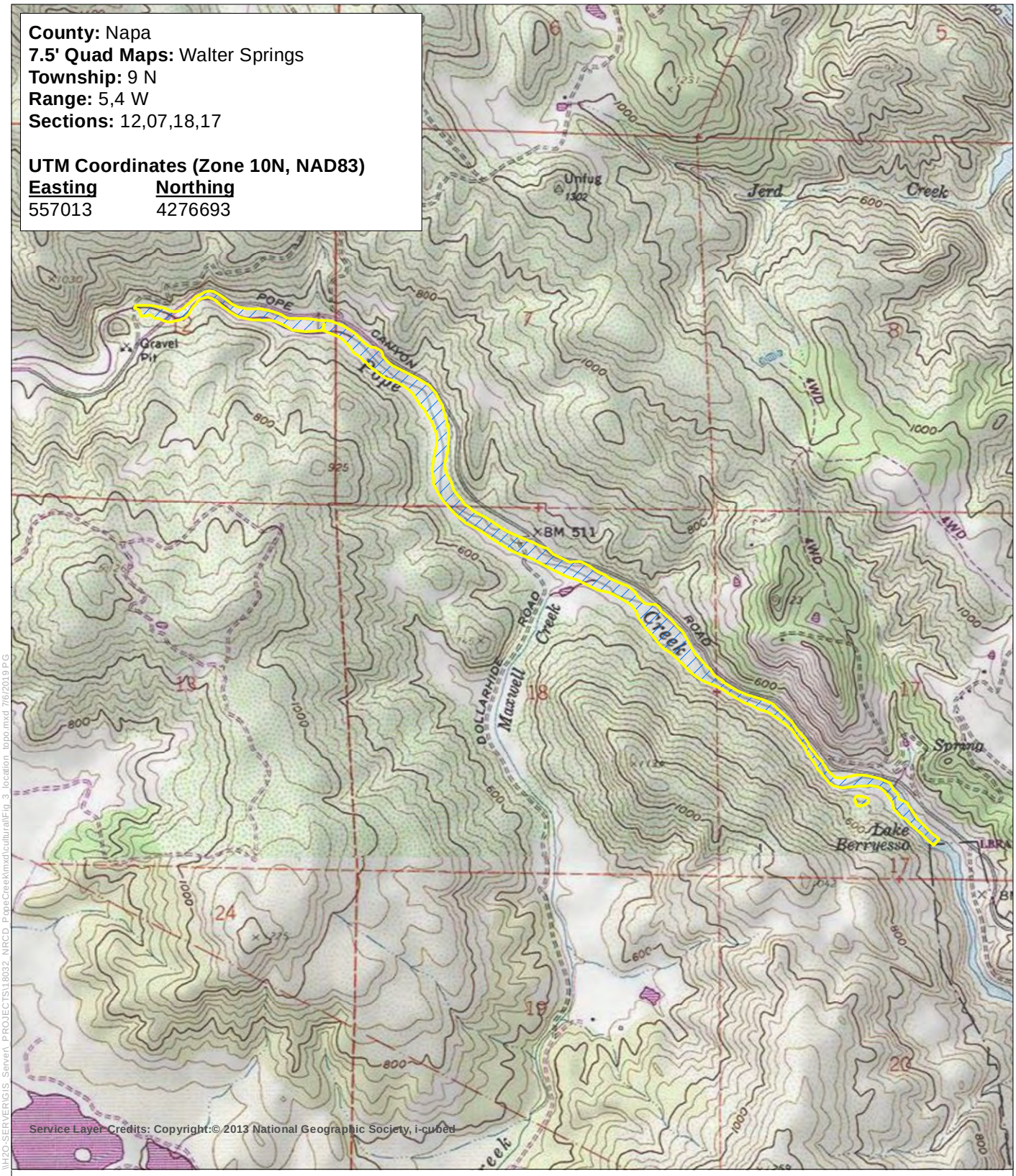
Area_of_potential_effects

Streams

Horizon WATER and ENVIRONMENT

Figure 2
Project Location

Pope Creek
Vegetation Restoration
Cultural Resources Assessment



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Project Area

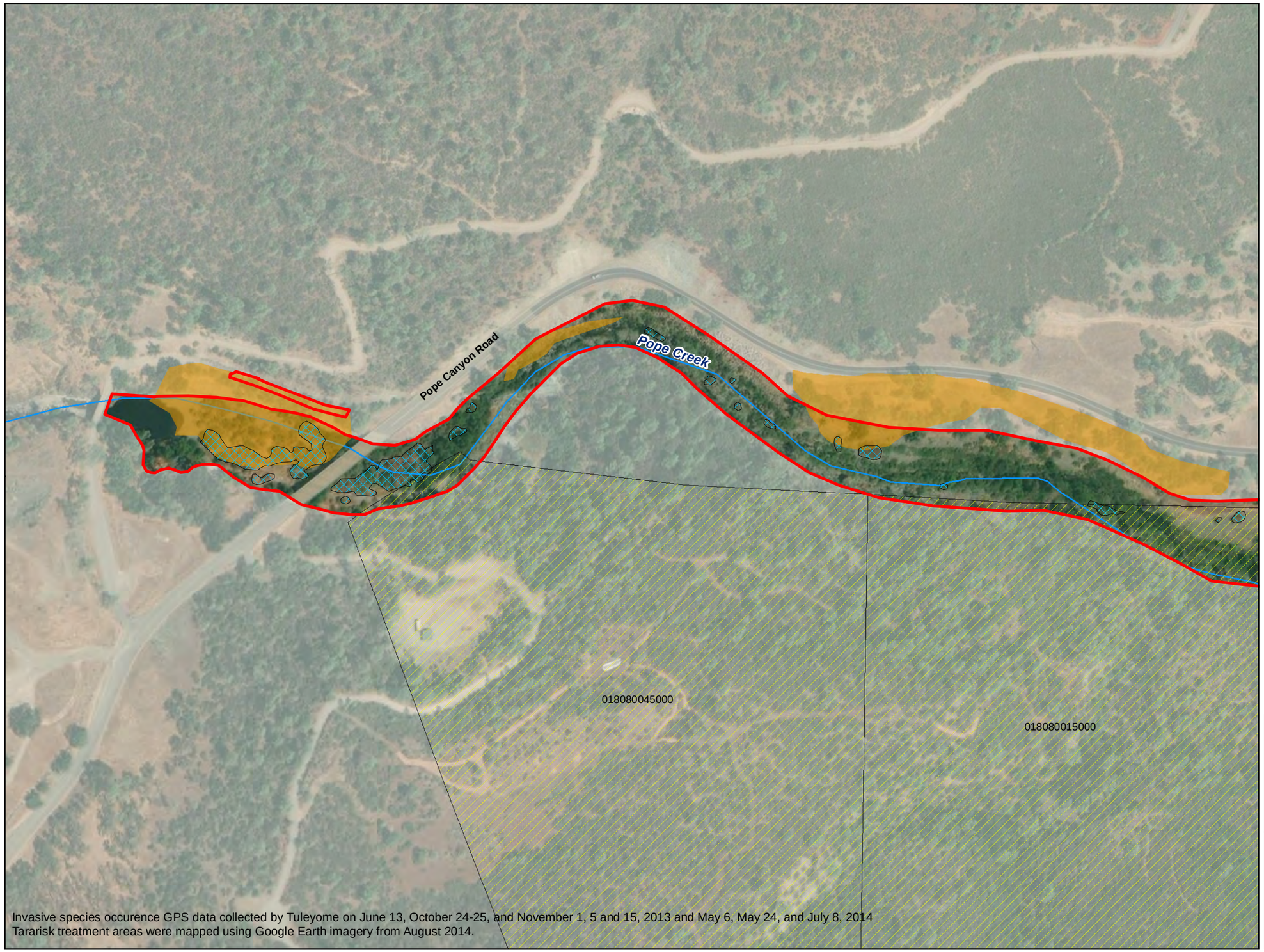
Horizon WATER and ENVIRONMENT

Figure 3
Project Location (Topo)

Pope Creek
Vegetation Restoration
Cultural Resources Assessment

Pope Creek
Weed Management Plan

Figure 4
Area of Potential Effects



Area of Potential Effects
Tamarisk Treatment Areas
Area Surveyed
Access Denied
Streams

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Feet

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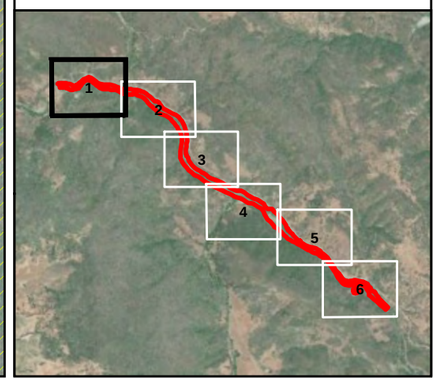

Invasive species occurence GPS data collected by Tuleyome on June 13, October 24-25, and November 1, 5 and 15, 2013 and May 6, May 24, and July 8, 2014
Tararisk treatment areas were mapped using Google Earth imagery from August 2014.

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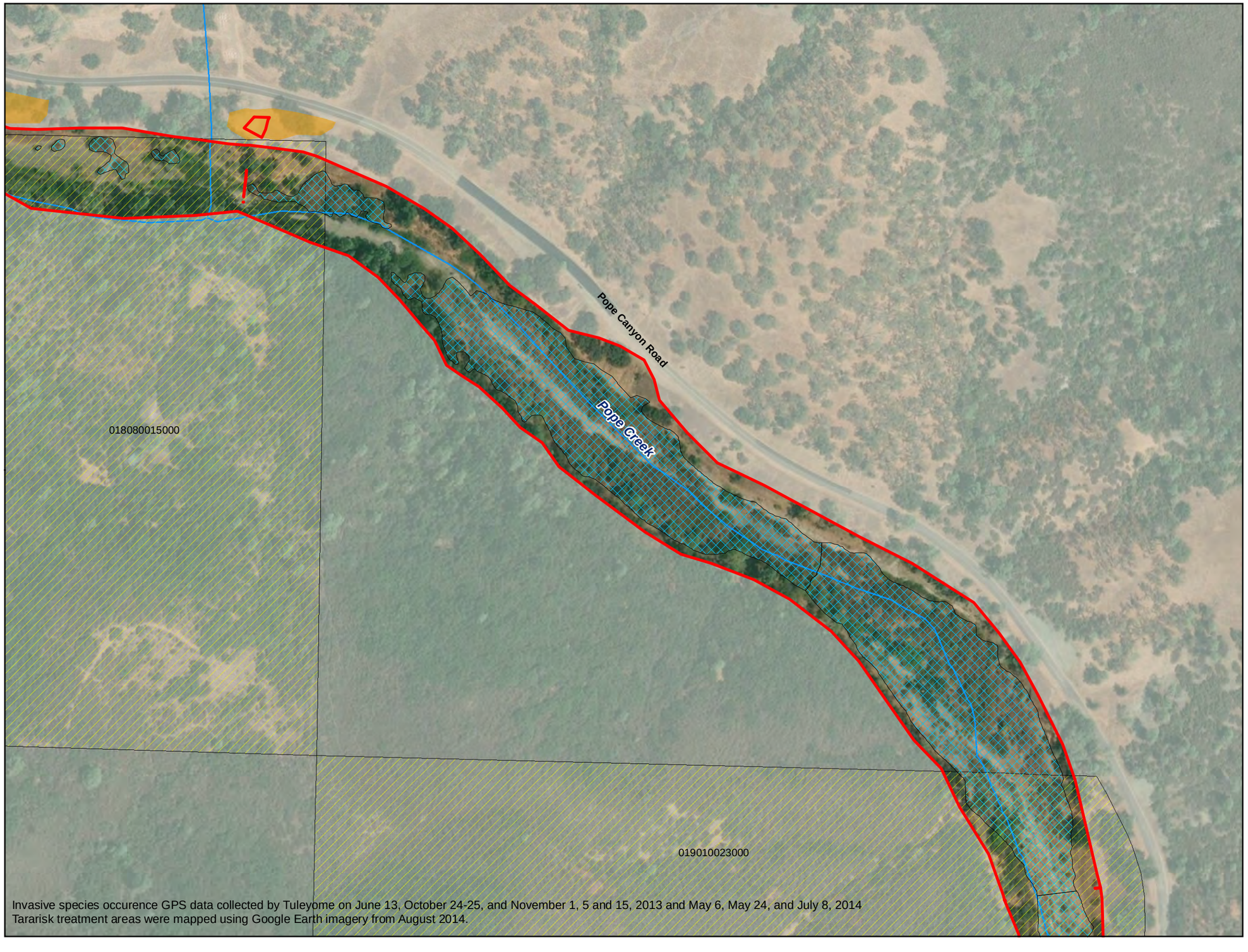
Pope Creek
Weed Management Plan

Figure 4
Area of Potential Effects

Page 2 of 6



Area of Potential Effects
Tamarisk Treatment Areas
Area Surveyed
Access Denied
Streams

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Feet

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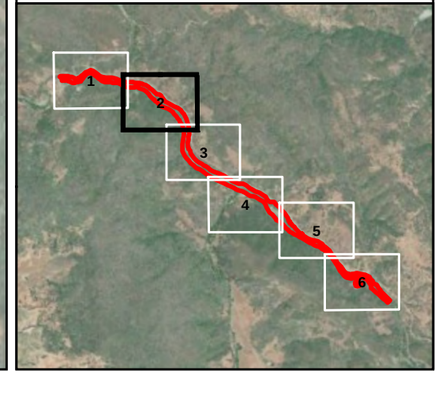

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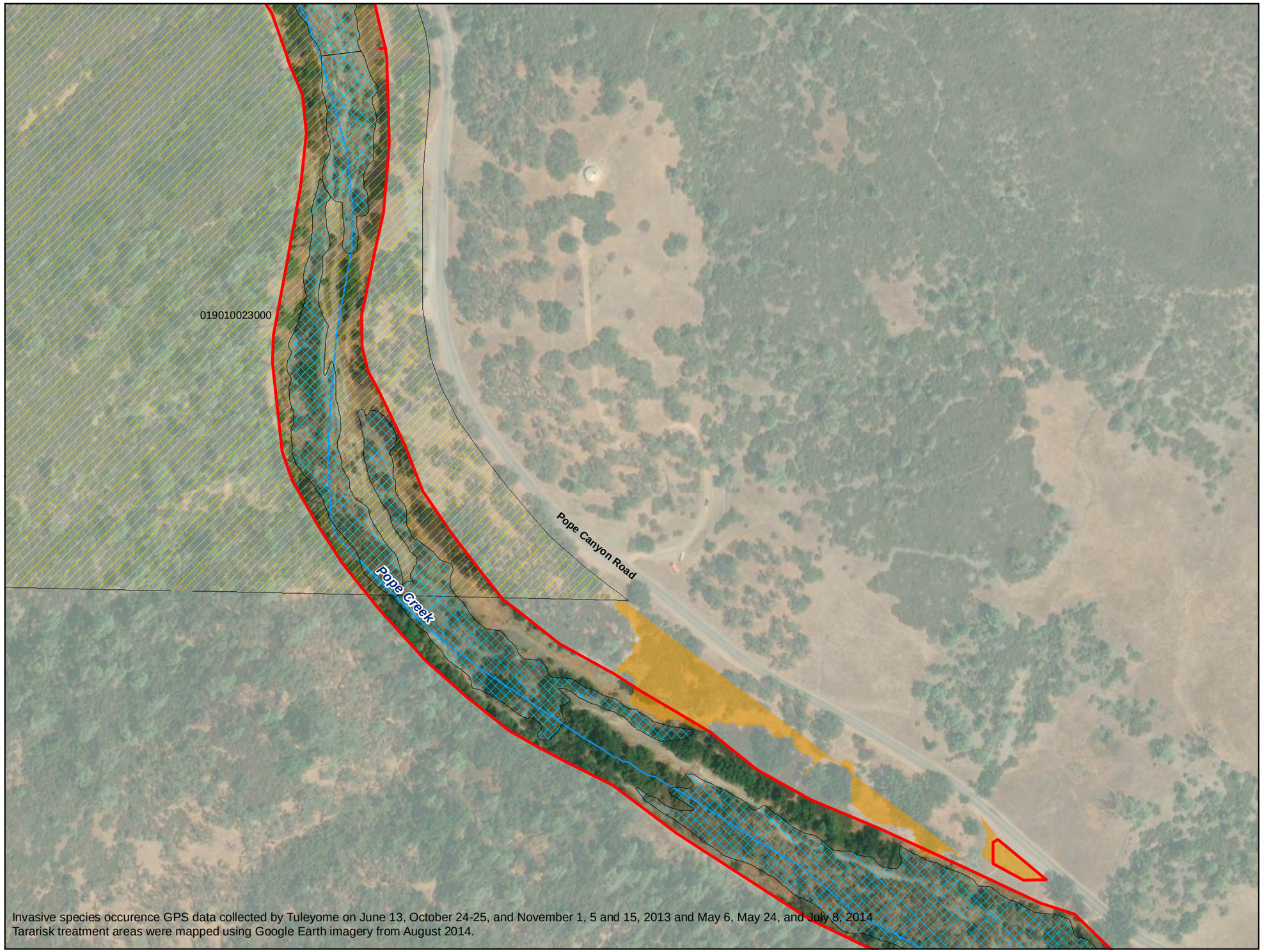
Pope Creek
Weed Management Plan

Figure 4
Area of Potential Effects



Area of Potential Effects
Tamarisk Treatment Areas
Area Surveyed
Access Denied
Streams

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Feet

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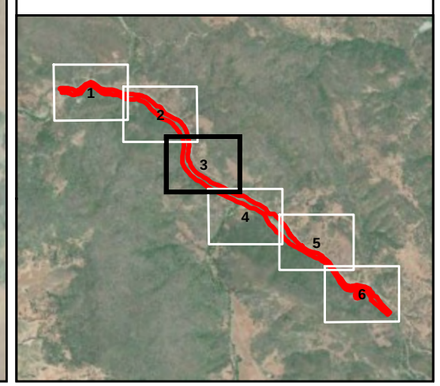

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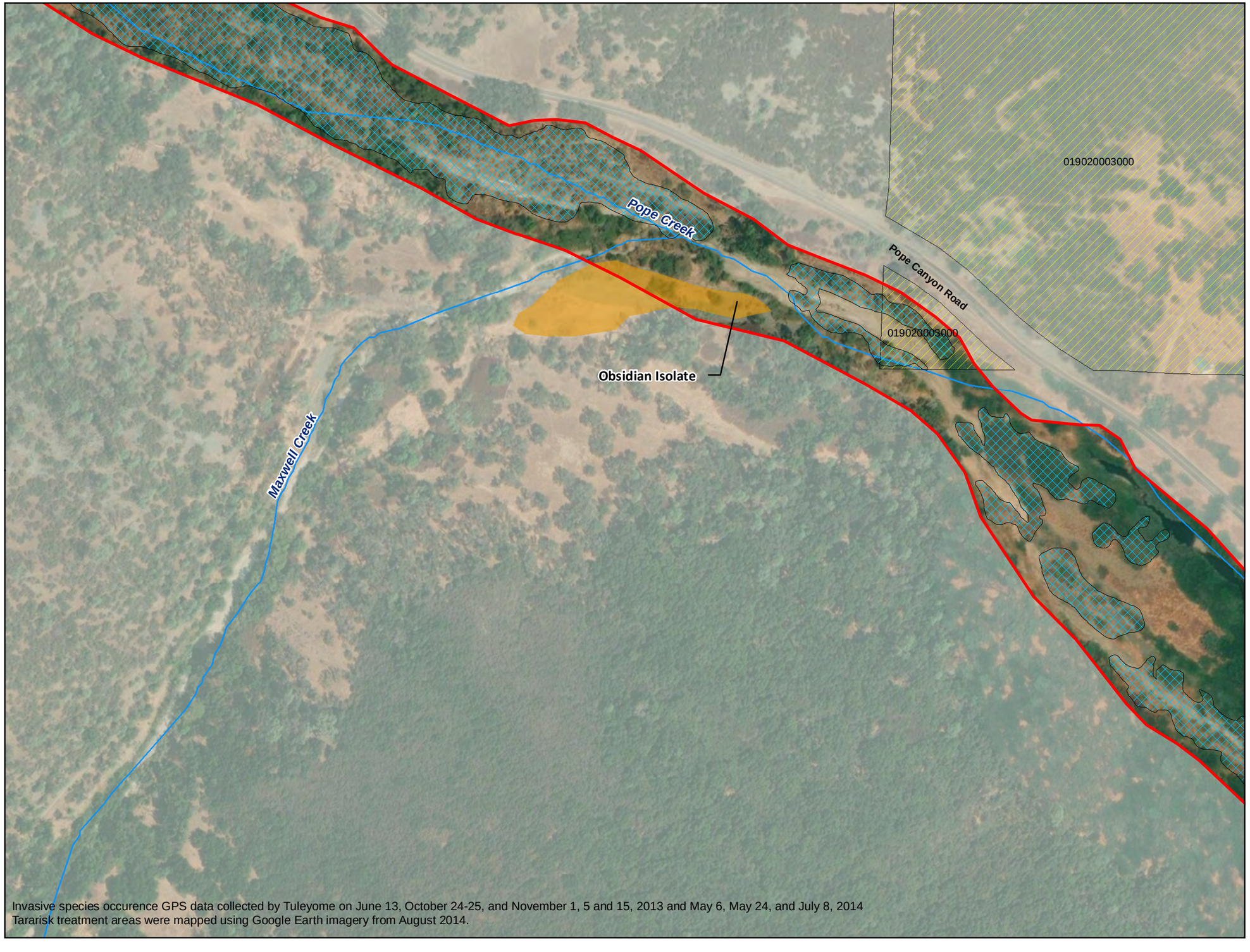
Pope Creek
Weed Management Plan

Figure 4
Area of Potential Effects



Area of Potential Effects
Tamarisk Treatment Areas
Area Surveyed
Access Denied
Streams

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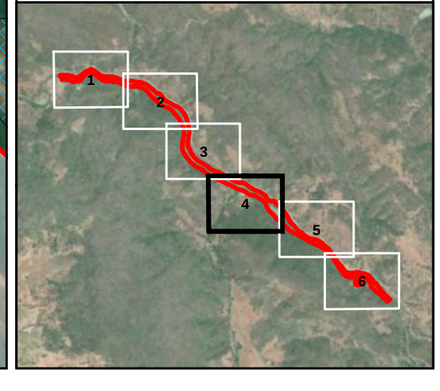

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Pope Creek
Weed Management Plan

Figure 4
Area of Potential Effects

Area of Potential Effects
Tamarisk Treatment Areas
Area Surveyed
Access Denied
Streams

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Feet

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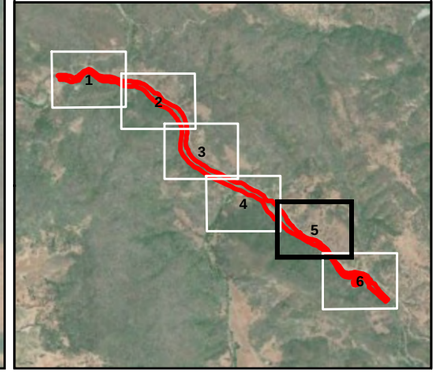

Invasive species occurence GPS data collected by Tuleyome on June 13, October 24-25, and November 1, 5 and 15, 2013 and May 6, May 24, and July 8, 2014.
Tararisk treatment areas were mapped using Google Earth imagery from August 2014.

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Pope Creek
Weed Management Plan

Figure 4
Area of Potential Effects

Area of Potential Effects
Tamarisk Treatment Areas
Area Surveyed
Access Denied
Streams

0 50 100 200
Feet

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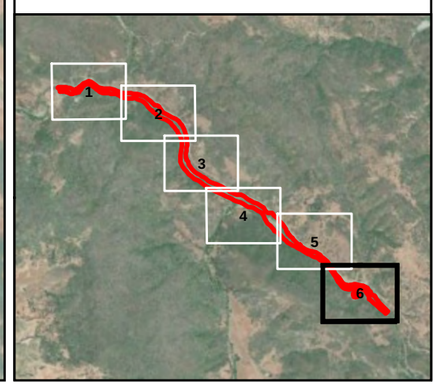

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Tararisk treatment areas were mapped using Google Earth imagery from August 2014.

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2 Background

2.1 Environment

Pope Creek is a major tributary of Lake Berryessa that supports a riparian zone that ranges from approximately 80 to 200-feet wide in the Proposed Project reach. The plant community along the stream is most commonly riparian scrub, mainly Brewer's willow (*Salix brewerii*) and arroyo willow thickets (*S. lasiolepis*). Tamarisk is dominant or co-dominant in many portions of the project reach.

The hillslopes adjacent to the stream primarily support shrublands and annual grasslands. The upper slopes support foothill pine woodland, which is dominated by grey (=foothill) pine (*Pinus sabiniana*) and contains various oak species. The hillslopes on the south side of the creek support mixed oak forest dominated by several oak species (*Quercus agrifolia*, *Q. douglasii,* and *Q. lobata*).

Land use in the Pope Creek watershed is largely open space and agricultural land-uses. Within the Proposed Project reach, there are parcels owned by CDFW, BLM, and private landowners.

2.2 Prehistoric Archaeological Context

Archaeological records show that the Napa region has a long history of occupation by Native Americans. Research indicates that the Napa Valley was certainly well inhabited by 3000 B.C., and possibly as far back as 5000 B.C. Evidence from Lake Berryessa suggests an even older date of 6000 B.C. However, use of Napa Valley and the surrounding mountains likely occurred much earlier, as archaeological sites from adjacent Sonoma and Lake counties point to occupation dating to 10,000 B.C., and possibly earlier (Moratto 2004). In Napa Valley, remnants of ancient occupation may be buried under the alluvium that has accumulated at the valley edges and on the valley floor. The earliest cultural remains suggest that people were transient or seasonal visitors to the region. As various populations moved through the area and the region became more populated, indigenous groups began to settle for longer periods of time. By 500 B.C., populations had become mostly sedentary and large villages were established in the valley (Bennyhoff 1977).

At present, the prehistory of the Napa region is represented by three primary cultural patterns: the Borax Lake Pattern, the Berkeley Pattern, and the Augustine Pattern (Bennyhoff 1994; see also Martin and Meyer 2005). The oldest pattern, Borax Lake, dates to before 3000 B.C. Artifacts associated with this time period include handstones and metates, basalt core tools, and concave base projectile points. Dating from about 2500 B.C. to A.D. 500, the Berkeley Pattern is recognized by the introduction of the mortar and pestle, an abundance of bone tools, lanceolate projectile points, and the presence of shell pendants and beads. The terminal pattern, Augustine, represents the emerging native cultures as they were encountered by colonists at the beginning of the historic era. The archaeological record during this period is defined by the presence of arrow points, hopper mortars, and an elaboration of shell beads and bone ornaments.

2.3 Ethnographic Context

The region surrounding Pope Valley was inhabited by the Wappo, Hill Patwin, and Lake Miwok tribal groups prior to and at the time of colonization. Though linguistically diverse, these tribes shared similar lifestyles, technologies, subsistence strategies, and settlement patterns due to shared environmental

conditions. The Hill Patwin and Lake Miwok territories likely overlapped along the Pope Creek line, with the Lake Miwok to the west and Hill Patwin to the east.

The very northeastern portions of Napa County, including Pope Valley and much of the Putah Creek headwaters, were in Lake Miwok territory (Callaghan 1978). Most of their ancestral territory, however, was in the southeast corner of Lake County to the southeast shore of Clear Lake. Two Lake Miwok villages, *co-kyomi pukut* and *alokyomi pukut*, are in Pope Valley (Callaghan 1978).

The Hill Patwin inhabited the southern reaches of Napa County, from the town of Napa to Suisun Bay, and all lands east of the Wappo territory, including Berryessa Valley (location of modern-day Lake Berryessa) to the Napa/Yolo County line (Johnson 1978). Their larger territory extended north along the North Coast Range into Lake and Colusa counties and east to the base of the hills bordering the Sacramento Valley. Three Hill Patwin villages have been identified at the south end of Napa County (*Napato*, *Tulukai*, and *Suskol*), while one village, *Topai*, was recorded in Berryessa Valley (Kroeber 1932).

The Wappo were the primary occupants within the borders of modern Napa County (Sawyer 1978). They held the entirety of the Napa Valley from just north of present-day Napa, and north beyond the Napa County line to Cobb Mountain in Lake County and along the Russian River in Alexander Valley up to Geyserville in Sonoma County. Within Napa County, the western limits of their territory, during ethnographic times, roughly corresponded to the current County boundary along the ridge of the Mayacmas Mountains. To the east, their lands extended to the area around Angwin and included Chiles Valley.

As previously noted, each of these tribes shared similar technologies, subsistence strategies, and settlement patterns; this is largely due to their occupation of comparable habitats that includes the narrow valleys and rugged slopes of the North Coast Range. Permanent villages were generally established along perennial streams. Seasonal camps to harvest plants or hunt game could be anywhere within their territory, though access to water was always important. The acorn was the primary dietary staple, as the nuts could be preserved whole in granaries. Pine nuts from the higher altitudes were also invaluable, as well as buckeye nuts, and manzanita and other berries and fruits. Bulbs and grass seeds were annually harvested. Deer were the most important game food and would have been hunted year-round. Other small animals, such as rabbits, and birds, including quail and duck, were also taken. Fish, primarily trout, were regularly taken and were often dried for later use.

2.4 Historic-Era Context

In 1823, the first European explorers, Don Francisco Castro and Franciscan Friar Jose Altamira, traveled through Napa Valley in search of a site for a new mission. They explored present-day Petaluma, Sonoma, and Napa before settling on Sonoma as the location for the mission.

Pope Valley was named after William (Julian) Pope. William Pope (1805–1843) was born in Kentucky and became a trapper while living in New Mexico. Pope came to California on the Gila route in 1827, and later returned to New Mexico. In 1835, Pope and his wife Maria Juliana Salazar (1810–1900) joined an overland party led by Isaac Slover and came to Los Angeles (Beales and Beales 1978).

William Pope joined with Cyrus Alexander, William Knight and William Gordon on a trip to the Napa Valley in 1841. They stayed at George C. Yount's home at Rancho Caymus in Napa Valley before they parted, each claiming a valley for his own. Pope petitioned General Vallejo and the acting governor of California, Manuel Jimeno, for a two-square-league (8,873-acre) property on the east side of Howell Mountain called Rancho Locoallomi (Palmer 1881:233). The rancho's lands encompassed Pope Valley,

surrounded by the Mayacamas Mountains. Juliana and the four children moved from Los Angeles and stayed at Yount's ranch while her husband built their first home on his new property. In 1843, the Pope family moved wagons and livestock from Yount's ranch to their adobe house. Unfortunately, William Pope died in an accident in 1843 (Palmer 1881:55).

When California was granted statehood in 1850, Napa was part of the district of Sonoma. Later that year, when counties were established throughout the state, Napa became one of the original 27 California counties, with Napa City (later shortened to Napa) as the County seat.

With the cession of California to the United States following the Mexican-American War, the 1848 Treaty of Guadalupe Hidalgo provided that existing land grants would be honored. As required by the Land Act of 1851, a claim for Rancho Locoallomi was filed with the Public Land Commission in 1852, and the grant was patented to the heirs of William Pope in 1862. (Palmer 1881:359).

Quicksilver mining in the hills northwest of Pope Valley was a big industry that began in the early 1860's. The Oat Hill Mine was an active producing mine for more than fifty years, producing more quicksilver than any other mine in the world. George Fellows located the Aetna Springs Quicksilver Mine in 1897, which proved rich in ore but excessive heat in the mine prevented from being worked extensively (Palmer 1881:174).

While Pope Valley was known during the mid-19th century for quicksilver, the Napa Valley, to the west of Pope Valley, became synonymous with grapes. The Spanish and Mexican missionaries are credited with planting the first grapevines and introducing winemaking to California. In 1838, the first grape vines in Napa Valley were planted by George Yount. While Yount is considered the first to plant table grapes in Napa Valley, it was Agoston Harazthy who made the first effort to improve the variety of planted grapes, growing techniques, and winemaking.

The wine industry continued to grow in Napa Valley during the 1870s, with the number of wineries between Calistoga and Oakville doubling from 15 to 30. Since then, the wine industry weathered a series of highs and lows—phylloxera infestations, the San Francisco earthquake of 1906, Prohibition, and the economic crisis of the Great Depression—however, viticulture remained the dominant agricultural activity in Napa Valley. Pope Valley has also become a center for growing grapes and a number of wineries now exist in the valley.

2.5 Geomorphic Context

To assess the potential for buried archaeological sites within the proposed project components, this assessment takes into account factors that either encouraged or discouraged human use or occupation of certain landforms (e.g., geomorphic setting and distance to water), combined with those that affected the subsequent preservation (i.e., erosion or burial) of those landforms. It is well known, for instance, that prehistoric archaeological sites in California are most often found on relatively level landforms near natural water sources (e.g., spring, stream, river, or estuary), which is often where two or more environmental zones (ecotones) are present. Landforms with this combination of variables are frequently found at or near the contact between a floodplain and a higher and older geomorphic surface, such as an alluvial fan or stream terrace (Waters 1992).

Due to the fact the project is located completely within the boundaries of a creek and canyon, as well as a road right-of-way, the potential for buried deposits within the APE is considered extremely low.

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3 Native American Consultation and Archival Research

3.1 Native American Consultation

Per State of California Regulations, the lead CEQA agency (i.e., the District) is required to notify Native American tribes with a traditional and cultural affiliation with the Program area about the proposed project pursuant to PRC Section 21080.3.1. One tribe with a traditional and cultural affiliation to the Project area, the Yocha Dehe Wintun Nation, requested consultation with the RCD on district projects pursuant to Pub. Res. Code § 21080.3.1 in a letter dated October 29, 2015. As a result, the RCD notified the Yocha Dehe Wintun Nation and other local tribes who were identified by the NAHC as having a traditional and cultural association with the Project Area about the Project via letters dated March 5, 2019.

The RCD received one response from the Yocha Dehe Wintun Nation. In a letter dated March 26, 2019, the tribe stated that the project is in their ancestral territory and that they have a cultural interest in the Project area. They also requested more detailed information about the project. The requested information was forwarded to the tribe on April 9, 2019. A follow-up email was sent to the tribe on May 31, 2019 to ascertain if they had any concerns about the project after reviewing the information provided. Yocha Dehe responded with a request for consultation on the project in a letter dated June 7, 2019. The RCD subsequently scheduled a meeting with the tribe and will continue with the consultation process.

Table 1 lists all those contacted and summarizes the results of the consultation. All correspondence between the Native American Heritage Commission, Native American Tribes, and the District is provided in Appendix A.

The NAHC letter, dated February 20, 2019, stated that no sacred sites were identified in the Project area.

Table 1: Native American Correspondence

Tribe	Name	Address	Notification Letter Mailed	Comments
Mishewal-Wappo Tribe of Alexander Valley	Scott Gabaldon, Chairperson	2275 Silk Road Windsor, CA 95492	March 5, 2019	No reply
Yocha Dehe Wintun Nation	Anthony Roberts, Chairperson	P.O. Box 18 Brooks, CA 95606	March 5, 2019	Letter requesting additional information received March 26, 2019. Materials sent April 9, 2019. Subsequent letter requesting consultation sent on June 7, 2019.

Tribe	Name	Address	Notification Letter Mailed	Comments
Middletown Rancheria	Jose Simon III, Chairperson	P.O. Box 1035 Middletown, CA 95461	March 5, 2019	No reply
Cortina Indian Rancheria of Wintun Indians	Charlie Wright, Chairperson	P.O. Box 1630 Williams, CA 95987	March 5, 2019	No reply

3.2 Archival Research and Cultural Resources Survey

A records search was conducted by the Northwest Information Center of the California Historical Resources Information System at Sonoma State University in June 2018. The purpose of the record search was to identify the presence of any previously recorded cultural resources within the project site, and to determine whether any portions of the project site had been surveyed for cultural resources. The record search (IC #17-2946) indicated that sections of project area has been previously surveyed for cultural resources, and three cultural resources projects has been conducted within the ¼–mile search buffer (see **Table 2**). No cultural resources have been identified within the project boundary. One prehistoric archaeological site, P-28-000228, was recorded initially in 1971 (Beard 1971) about 800-feet west of the northwest boundary of the APE (see Figure 2). It was characterized as having habitation debris and evidence that the site had been leveled for recreation access. The site was re-inspected in 2006 and was determined to have not been further disturbed since its original recordation (Origer 2006). It does not appear that this site has ever been formally evaluated as an historical resource/property under CEQA or NHPA.

Table 2: Previous Cultural Resource Investigations Intersecting the Project Area

Report No.	Title	Year	Authors
S-007107	Archaeological Reconnaissance of the Pope Canyon Road Bridge Project, Napa County, California.	1985	Suzanne Baker
S-021260	Rock Fences of Napa County: A Pilot Study	1998	Kim J. Tremaine and John A. Lopez
S-028921	A Cultural Resources Study within the Cedar Roughs Wildlife Area, Napa County, California	2004	Damon Haydu

Pedestrian Survey

In addition to the literature review, two Horizon archaeologists conducted an archaeological survey of the Pope Creek project area on March 13, 2019 and one Horizon archaeologist conducted a subsequent survey on May 21, 2019. Of the total area within the APE, 10 acres were denied access by the property owner. In addition, due to the steep conditions on either side of the creek, only areas accessible for pedestrian survey were inspected (e.g. slopes over 15% were not surveyed). The entire reach of Pope Creek contains substantial vegetation and grass cover that decreased the surface visibility for identifying archaeological materials; however, periodic trowel scrapes and closer inspection of exposures were

conducted. The tamarisk stands that are proposed for removal are within the bed of the creek and, as such, no substantial archaeological materials are expected to occur in these areas. The entire southern side of the creek was inaccessible during the March survey due to high water levels; however, the southern side is also extremely steep and heavily vegetated, which significantly reduces the potential for archaeological deposits (see Photo 1 as an example of the survey conditions). No archaeological resources were identified during the March survey of the project area.

A subsequent survey in May 2019 sought to access the southern side of the creek in order to survey an area above the Maxwell Creek confluence with Pope Creek. Given the proximity to the confluence, and being above the high water mark of the creeks, this location would likely be utilized for prehistoric or historic cultural activity. Upon survey, this location did not yield any evidence of cultural materials. A single isolated obsidian fragment was identified within the dry creek bed of Maxwell Creek. It was highly weathered and did not indicate substantial modification. This isolated artifact is not considered an historical resource or unique archaeological resource under CEQA due to the lack of context and scientific value. The total area for both surveys was 6-acres (see Figure 4).

Photo 1: View South from the center of Pope Creek

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4 Summary and Conclusions

An archaeological survey of the project area was conducted in March and May 2019 by qualified archaeologists from Horizon. No archaeological resources, as defined in Section 15064.5 of the State CEQA Guidelines, have been identified within the project footprint. Although an archaeological survey was conducted and no archaeological resources were identified, archaeological remains may be buried with no surface manifestation. The vegetation removal activities related to the Proposed Project have a low potential for uncovering archaeological materials; however, the possibility remains that ground disturbance could uncover buried archaeological materials. Prehistoric materials most likely would include obsidian and chert flaked-stone tools (e.g., projectile points, knives, and choppers), tool-making debris, or milling equipment such as mortars and pestles. Historic-era materials that might be uncovered include cut (square) or wire nails, tin cans, glass fragments, or ceramic debris.

If archaeological remains are accidentally discovered that are determined eligible for listing in the CRHR, and project activities would affect them in a way that would render them ineligible for such listing, a significant impact would result. Should previously undiscovered archaeological resources be found, implementation of but not limited to, the following mitigation, should be implemented as planning proceeds.

If any cultural resources, such as structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during any project activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and Napa RCD will be contacted.

All cultural resources accidentally uncovered during Project implementation within the Project site shall be evaluated for eligibility for inclusion in the NRHP/CRHR. Resource evaluations will be conducted by individuals who meet the U.S. Secretary of the Interior's professional standards in archaeology, history, or architectural history, as appropriate. If any of the resources meet the eligibility criteria identified in PRC Section 5024.1 or 14 CCR Section 21083.2(g), mitigation measures will be developed and implemented in accordance with State CEQA Guidelines Section 15126.4(b) before Project activity resumes.

For resources eligible for listing in the NRHP/CRHR that would be rendered ineligible by the effects of Project activities, additional mitigation measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a tribal cultural resource (TCR). Implementation of the approved mitigation would be required before resuming any Project activities with potential to affect identified eligible resources at the site.

The possibility of encountering human remains cannot be discounted. Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial. If human remains are encountered, work should halt in the vicinity of the remains and, as required by law, the Napa County coroner should be notified immediately. An archaeologist should also be contacted to evaluate the find. If human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of that determination. Pursuant to California Public Resources Code Section 5097.98,

the NAHC, in turn, will immediately contact an individual who is most likely descended from the remains (the "Most Likely Descendant"). The Most Likely Descendant has 48 hours to inspect the site and recommend treatment of the remains. The landowner is obligated to work with the Most Likely Descendant in good faith to find a respectful resolution to the situation and entertain all reasonable options regarding the Most Likely Descendant's preferences for treatment.

5 References

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Appendix A
Native American Correspondence

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

☒ **CEQA Tribal Consultation List (AB 52)** – ***Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2***

☐ **General Plan (SB 18)** - ***Per Government Code § 65352.3.***

Local Action Type:

___ General Plan ___ General Plan Element ___ General Plan Amendment

___ Specific Plan ___ Specific Plan Amendment ___ Pre-planning Outreach Activity

Required Information

Project Title: Pope Creek Weed Management Project

Local Government/Lead Agency: Napa County Resource Conservation District

Contact Person: Frances Knapczyk

Street Address: 1303 Jefferson Street, #500b

City: Napa, CA **Zip:** 94559

Phone: 707-252-4189 x3124 **Fax:**

Email: frances@naparcd.org

Specific Area Subject to Proposed Action

County: Napa **City/Community:**

Project Description:

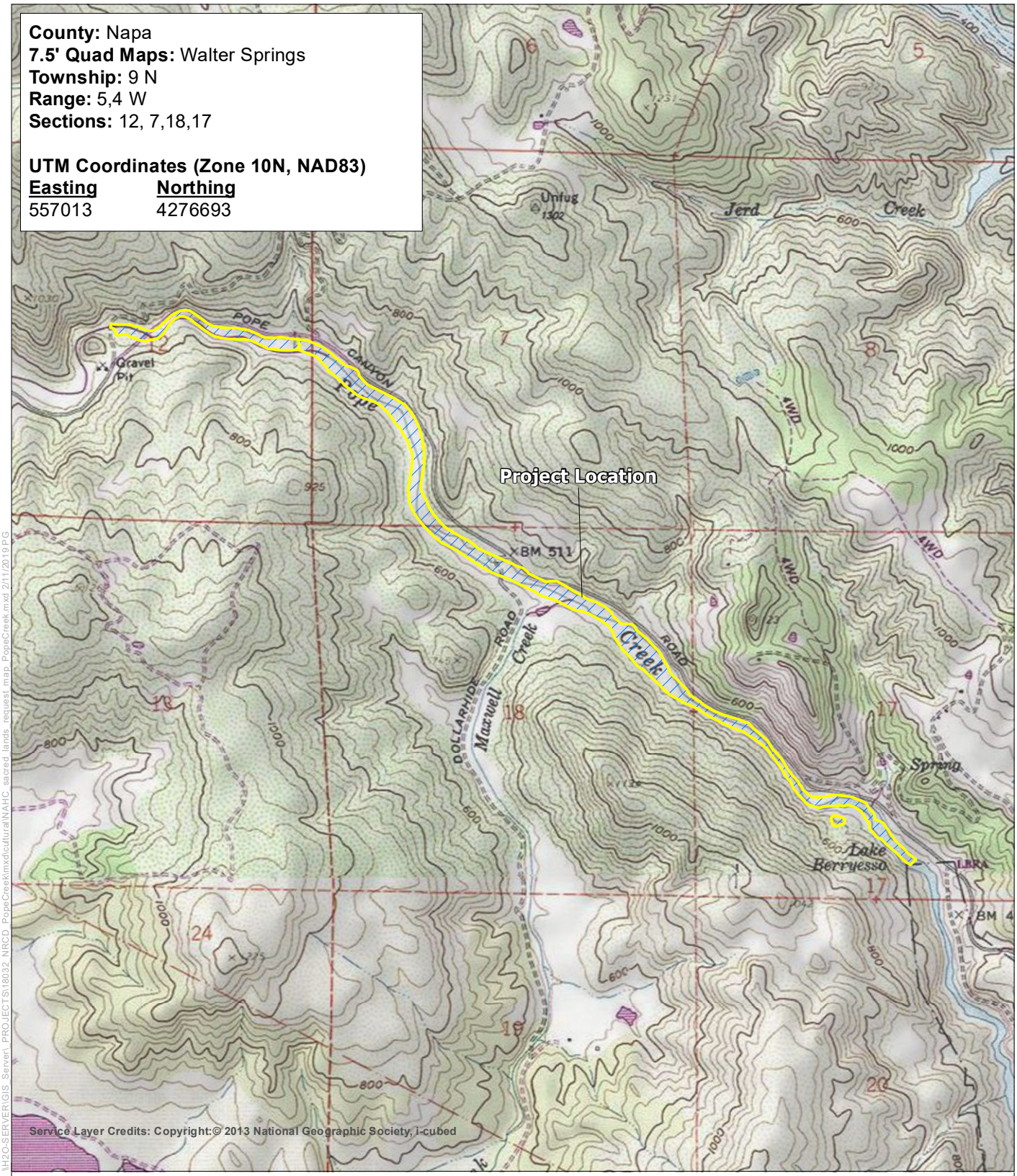
The Napa County Resource Conservation District is proposing to remove invasive plant species along a 2.7-mile-long stretch of Pope Creek west of Pope Valley in Napa County. The project includes revegetation of the reach with native plant species.

Additional Request

☒ **Sacred Lands File Search** - ***Required Information:***

USGS Quadrangle Name(s): Walter Springs

Township: 9 North **Range:** 5, 4 West **Section(s):** 12, 7, 18, 17



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Horizon WATER and ENVIRONMENT

Figure 1
Project Location

Pope Creek
Weed Management Project

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Website: http://www.nahc.ca.gov

February 20, 2019

Frances Knapczyk
Napa County Resource Conservation District

Sent by Email: frances@napacd.org

RE: Pope Creek Weed Management Project, Walter Springs, Napa County

Dear Mr. Knapczyk:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. **The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area**. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. **By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe**. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: Sharaya.Souza@NAHC.ca.gov or directly at (916) 573-0168.

Sincerely,

Sharaya Souza
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Native American Contacts List
2/20/2019

Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
Charlie Wright, Chairperson
P.O. Box 1630 Wintun / Patwin
Williams ,CA 95987
(530) 473-3274 Office
(530) 473-3301 Fax

Middletown Rancheria
Jose Simon III, Chairperson
P.O. Box 1035 Pomo
Middletown ,CA 95461 Lake Miwok
sshope@middletownrancheria.com
(707) 987-3670 Office
(707) 987-9091 Fax

Mishewal-Wappo Tribe of Alexander Valley
Scott Gabaldon, Chairperson
2275 Silk Road Wappo
Windsor ,CA 95492
scottg@mishewalwappotribe.com
(707) 494-9159

Yocha Dehe Wintun Nation
Anthony Roberts, Chairperson
P.O. Box 18 Wintun (Patwin)
Brooks ,CA 95606
aroberts@yochadehe-nsn.gov
(530) 796-3400
(530) 796-2143 Fax

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes for the proposed:
Pope Creek Weed Management Project, Walter Springs, Napa County.

Napa County Resource Conservation District
1303 Jefferson St., Ste. 500B
Napa, California 94559
Phone: (707) 252-4189

www.NapaRCD.org

March 5, 2019

Charlie Wright, Chairperson
Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
P.O. Box 1630
Williams, CA 95987

RE: Pope Creek Weed Management Project – Tribal Consultation

Dear Honorable Chairperson Wright:

The Napa County Resource Conservation District (RCD) is proposing the Pope Creek Weed Management Project in order to remove invasive plant species from a 2.7-mile section of Pope Creek in eastern Napa County (see attached map). Target invasive plant species are tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

A Sacred Lands and Files Search request at the Native American Heritage Commission did not identify significant Native American resources in the vicinity of the proposed project. A records search at the Northwest Information Center of the California Historical Resources Information System at Sonoma State University, also, did not identify the presence of any known cultural resources. It should be noted, however, that only a very small portion of the proposed project area has previously been surveyed for cultural resources.

The Napa RCD is writing to notify you of the proposed project in order to coordinate with you and verify the existence of any information on known tribal cultural resources that may be present or affected within the proposed project area. We respectfully request input from you within 30 days of receipt of this letter.

Your comments and concerns are important to us and we look forward to hearing from you. If you have any questions or comments regarding the project, I can be contacted via email at frances@naparcd.org or by phone at (707) 252-4189, extension 3124

Sincerely,

Frances Knapczyk
Program Director

Enclosures: Figure 1 – Project Location Map

Napa County Resource Conservation District
1303 Jefferson St., Ste. 500B
Napa, California 94559
Phone: (707) 252-4189

www.NapaRCD.org

March 5, 2019

Jose Simon III, Chairperson
Middletown Rancheria
P.O. Box 1035
Middletown, CA 95461

RE: Pope Creek Weed Management Project – Tribal Consultation

Dear Honorable Chairperson Simon:

The Napa County Resource Conservation District (RCD) is proposing the Pope Creek Weed Management Project in order to remove invasive plant species from a 2.7-mile section of Pope Creek in eastern Napa County (see attached map). Target invasive plant species are tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

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Sincerely,

Frances Knapczyk
Program Director

Enclosures: Figure 1 – Project Location Map

Napa County Resource Conservation District
1303 Jefferson St., Ste. 500B
Napa, California 94559
Phone: (707) 252-4189

www.NapaRCD.org

March 5, 2019

Scott Gabaldon, Chairperson
Mishewal-Wappo Tribe of Alexander Valley
2275 Silk Road
Windsor, CA 95492

RE: Pope Creek Weed Management Project – Tribal Consultation

Dear Honorable Chairperson Gabaldon:

The Napa County Resource Conservation District (RCD) is proposing the Pope Creek Weed Management Project in order to remove invasive plant species from a 2.7-mile section of Pope Creek in eastern Napa County (see attached map). Target invasive plant species are tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

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Sincerely,

Frances Knapczyk
Program Director

Enclosures: Figure 1 – Project Location Map

Napa County Resource Conservation District
1303 Jefferson St., Ste. 500B
Napa, California 94559
Phone: (707) 252-4189

www.NapaRCD.org

March 5, 2019

Anthony Roberts, Chairperson
Yocha Dehe Wintun Nation
P.O. Box 18
Brooks, CA 95606

RE: Pope Creek Weed Management Project – Tribal Consultation

Dear Honorable Chairperson Roberts:

The Napa County Resource Conservation District (RCD) is proposing the Pope Creek Weed Management Project in order to remove invasive plant species from a 2.7-mile section of Pope Creek in eastern Napa County (see attached map). Target invasive plant species are tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

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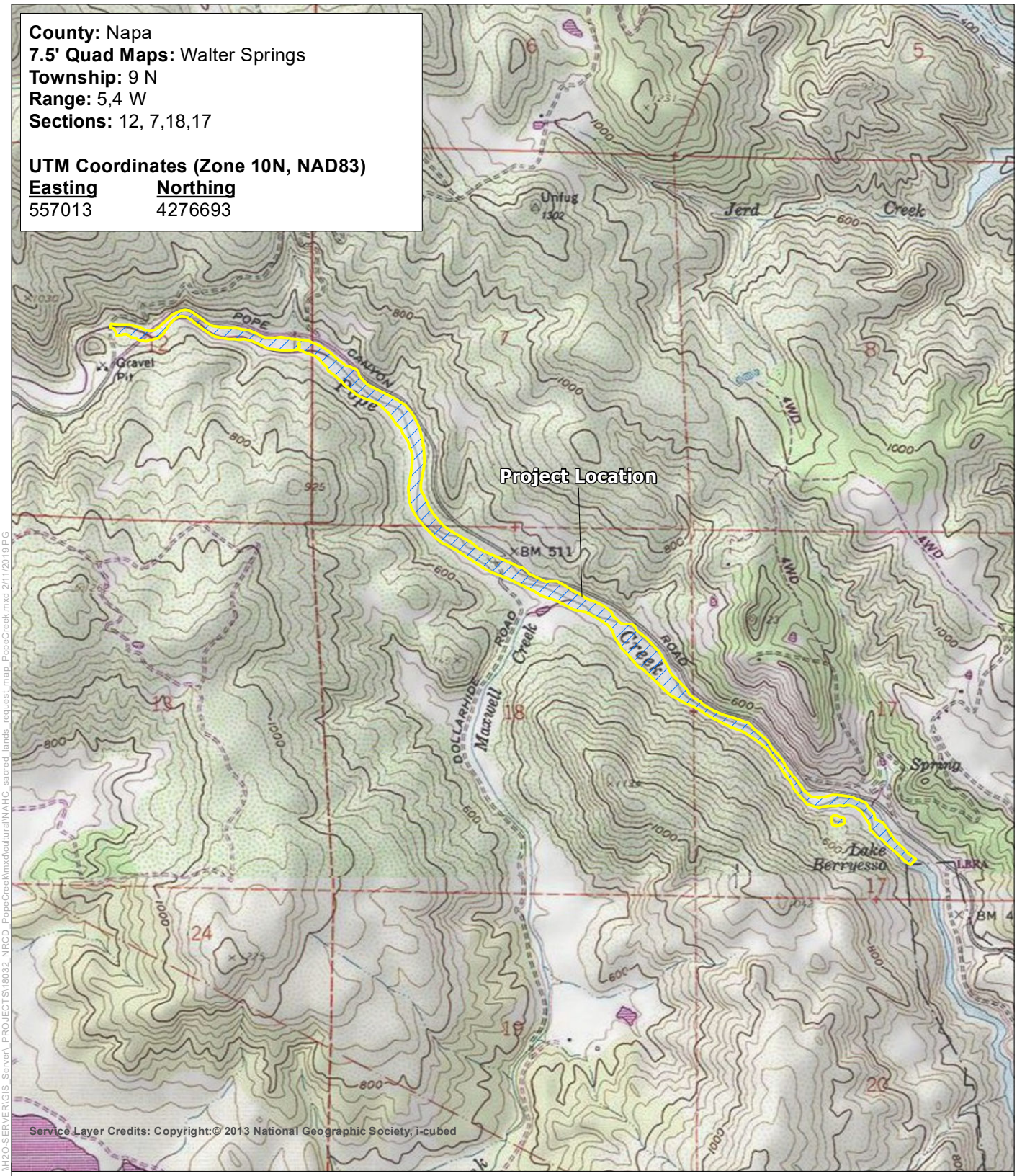
Your comments and concerns are important to us and we look forward to hearing from you. If you have any questions or comments regarding the project, I can be contacted via email at frances@naparcd.org or by phone at (707) 252-4189, extension 3124

Sincerely,

Frances Knapczyk
Program Director

Enclosures: Figure 1 – Project Location Map



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Horizon WATER and ENVIRONMENT

Figure 1
Project Location

Pope Creek
Weed Management Project

YOCHA DEHE
CULTURAL RESOURCES

March 26, 2019

Napa County Resource Conservation District
Attn: Frances Knapczyk, Program Director
1303 Jefferson Street, Suite 500B
Napa, CA 94559

RE: Pope Creek Weed Management Project

Dear Ms. Knapczyk:

Thank you for your project notification letter dated, March 5, 2019, regarding cultural information on or near the proposed Pope Creek Weed Management Project, Napa County. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area.

Based on the information provided, the Tribe has concerns that the project could impact known cultural resources. Please send us detailed project information, including any plans for ground disturbance. Should you have any questions, please contact the individual listed below:

Robert Geary, Tribal Monitor Supervisor
Yocha Dehe Wintun Nation
Office: (530) 215-6180
Email: rgeary@yochadehe-nsn.gov

Please refer to identification number YD – 03082019-03 in any correspondence concerning this project.

Thank you for providing us with this notice and the opportunity to comment.

Sincerely,

James Kinter
Tribal Secretary/THPO

From: Janis Offermann
To: "rgeary@yochadehe-nsn.gov"
Cc: "Frances@naparcd.org"; "Robin@horizonh2o.com"
Subject: RE: YD-03082019-03 Pope Creek Weed Management Project
Date: Friday, May 31, 2019 9:31:00 AM

Hi, Mr. Geary
As a follow up to our earlier correspondence, I am wondering if Yocha Dehe has any concerns about this project. An archeological survey was conducted of the project area and no archaeological sites were identified.

Thank you
Janis

Janis Offermann
Cultural Resources Practice Leader
Horizon Water and Environment
400 Capitol Mall, Suite 2500
Sacramento, CA 95814
916.465.8076 – office
530.220.4918 – mobile

From: Janis Offermann <janis@horizonh2o.com>
Sent: Tuesday, April 09, 2019 11:42 AM
To: 'rgeary@yochadehe-nsn.gov' <rgeary@yochadehe-nsn.gov>
Cc: 'Frances@naparcd.org' <Frances@naparcd.org>; Robin@horizonh2o.com
Subject: YD-03082019-03 Pope Creek Weed Management Project

Hello, Mr. Geary

I am writing on behalf of Ms. Frances Knapczyk of the Napa County Resource Conservation District regarding the March 26, 2019 letter from James Kinter about cultural resource information for the proposed Pope Creek Weed Management Project in Napa County (YD-03082019-03). Mr. Kinter requested additional information about the project and identified you as the contact person for this project.

Attached please find the draft project description, as well as figures depicting the project location and project details. Please keep in mind that these data are draft and are subject to revision.

We also have record search information that I will forward to you via Hightail, our secure file share service. If you do not receive the record search data by the end of the day, please let me know and I will resend it to you.

Should you wish more information, or desire to meet to discuss the project, please do not hesitate to contact Ms. Knapczyk at frances@naparcd.org or by phone at (707) 252-4189, extension 3124.

Thank you,
janis

Janis Offermann
Cultural Resources Practice Leader
Horizon Water and Environment
400 Capitol Mall, Suite 2500
Sacramento, CA 95814
916.465.8076 – office
530.220.4918 – mobile

YOCHA DEHE
CULTURAL RESOURCES

June 7, 2019

Napa County Resource Conservation District
Attn: Frances Knapczyk, Program Director
1303 Jefferson Street, Suite 500B
Napa, CA 94559

RE: Pope Creek Weed Management Project

Dear Ms. Knapczyk:

Thank you for submitting the project details regarding cultural information on or near the proposed Pope Creek Weed Management Project, Napa County. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area and would like to initiate a formal consultation with the lead agency. At the time of consultation, please provide our Cultural Resources Department with a project timeline, detailed project information and the latest cultural study for the proposed project.

Please contact the following individual to coordinate a date and time for the consultation meeting:

Kathleen Solorio, CRD Administrative Assistant
Yocha Dehe Wintun Nation
Office: (530) 796-2803
Email: ksolorio@yochadehe-nsn.gov

Please refer to identification number YD – 03082019-03 in any correspondence concerning this project.

Thank you for providing us the opportunity to comment.

Sincerely,

Leland Kinter
Tribal Historic Preservation Officer

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Appendix B
North Central Information Center Results

Confidential – Under Separate Cover

Appendix D

Correspondence with Native American Tribes Pursuant to AB 52

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

☒ **CEQA Tribal Consultation List (AB 52)** – ***Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2***

☐ **General Plan (SB 18)** - ***Per Government Code § 65352.3.***

Local Action Type:

___ General Plan ___ General Plan Element ___ General Plan Amendment

___ Specific Plan ___ Specific Plan Amendment ___ Pre-planning Outreach Activity

Required Information

Project Title: Pope Creek Weed Management Project

Local Government/Lead Agency: Napa County Resource Conservation District

Contact Person: Frances Knapczyk

Street Address: 1303 Jefferson Street, #500b

City: Napa, CA **Zip:** 94559

Phone: 707-252-4189 x3124 **Fax:**

Email: frances@naparcd.org

Specific Area Subject to Proposed Action

County: Napa **City/Community:**

Project Description:

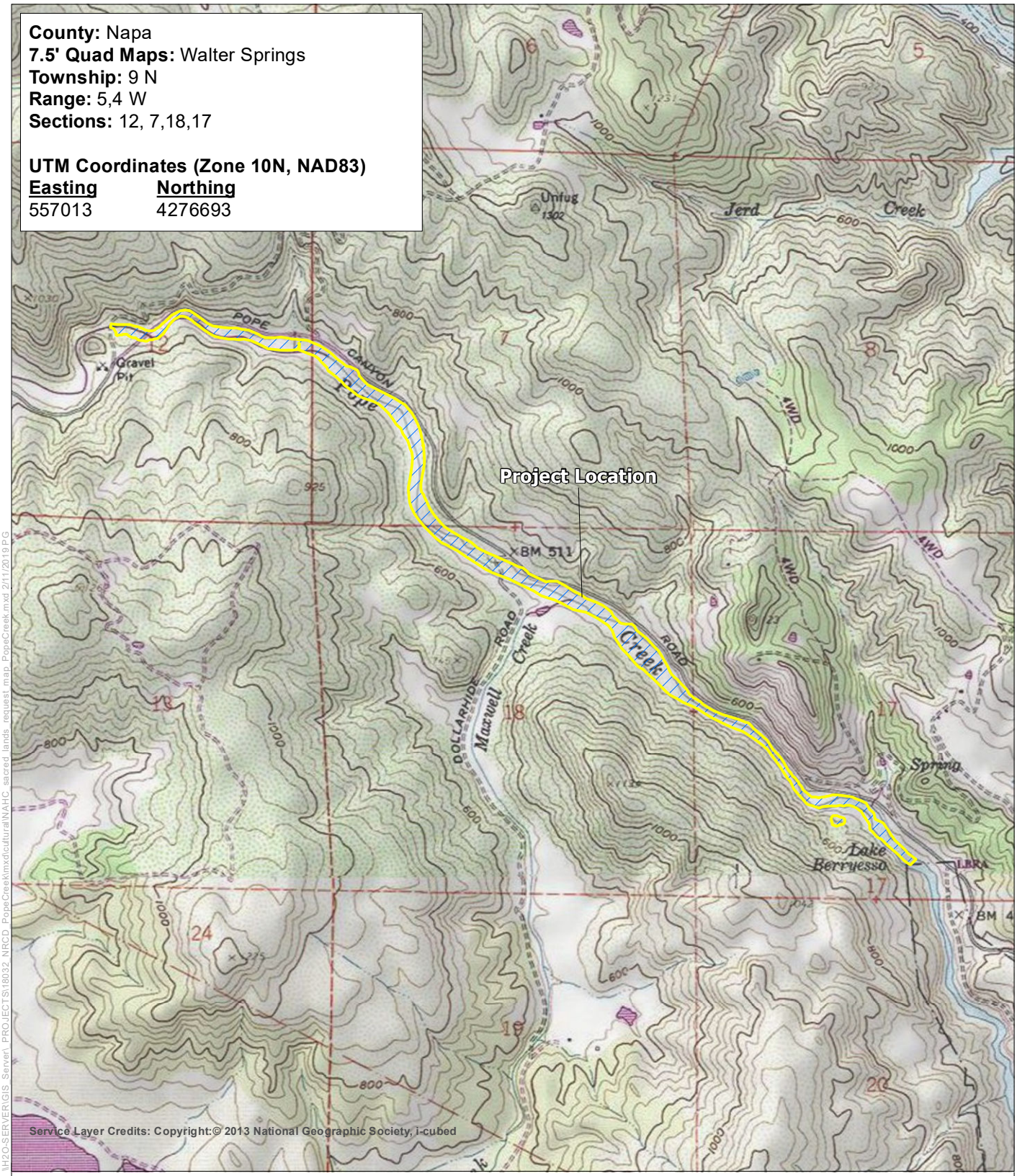
The Napa County Resource Conservation District is proposing to remove invasive plant species along a 2.7-mile-long stretch of Pope Creek west of Pope Valley in Napa County. The project includes revegetation of the reach with native plant species.

Additional Request

☒ **Sacred Lands File Search** - ***Required Information:***

USGS Quadrangle Name(s): Walter Springs

Township: 9 North **Range:** 5, 4 West **Section(s):** 12, 7, 18, 17



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Horizon WATER and ENVIRONMENT

Figure 1
Project Location

Pope Creek
Weed Management Project

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Website: http://www.nahc.ca.gov

February 20, 2019

Frances Knapczyk
Napa County Resource Conservation District

Sent by Email: frances@napacd.org

RE: Pope Creek Weed Management Project, Walter Springs, Napa County

Dear Mr. Knapczyk:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. **The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area**. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. **By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe**. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: Sharaya.Souza@NAHC.ca.gov or directly at (916) 573-0168.

Sincerely,

Sharaya Souza
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Native American Contacts List
2/20/2019

Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
Charlie Wright, Chairperson
P.O. Box 1630 Wintun / Patwin
Williams ,CA 95987
(530) 473-3274 Office
(530) 473-3301 Fax

Middletown Rancheria
Jose Simon III, Chairperson
P.O. Box 1035 Pomo
Middletown ,CA 95461 Lake Miwok
sshope@middletownrancheria.com
(707) 987-3670 Office
(707) 987-9091 Fax

Mishewal-Wappo Tribe of Alexander Valley
Scott Gabaldon, Chairperson
2275 Silk Road Wappo
Windsor ,CA 95492
scottg@mishewalwappotribe.com
(707) 494-9159

Yocha Dehe Wintun Nation
Anthony Roberts, Chairperson
P.O. Box 18 Wintun (Patwin)
Brooks ,CA 95606
aroberts@yochadehe-nsn.gov
(530) 796-3400
(530) 796-2143 Fax

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes for the proposed:
Pope Creek Weed Management Project, Walter Springs, Napa County.

Napa County Resource Conservation District
1303 Jefferson St., Ste. 500B
Napa, California 94559
Phone: (707) 252-4189

www.NapaRCD.org

March 5, 2019

Charlie Wright, Chairperson
Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
P.O. Box 1630
Williams, CA 95987

RE: Pope Creek Weed Management Project – Tribal Consultation

Dear Honorable Chairperson Wright:

The Napa County Resource Conservation District (RCD) is proposing the Pope Creek Weed Management Project in order to remove invasive plant species from a 2.7-mile section of Pope Creek in eastern Napa County (see attached map). Target invasive plant species are tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

A Sacred Lands and Files Search request at the Native American Heritage Commission did not identify significant Native American resources in the vicinity of the proposed project. A records search at the Northwest Information Center of the California Historical Resources Information System at Sonoma State University, also, did not identify the presence of any known cultural resources. It should be noted, however, that only a very small portion of the proposed project area has previously been surveyed for cultural resources.

The Napa RCD is writing to notify you of the proposed project in order to coordinate with you and verify the existence of any information on known tribal cultural resources that may be present or affected within the proposed project area. We respectfully request input from you within 30 days of receipt of this letter.

Your comments and concerns are important to us and we look forward to hearing from you. If you have any questions or comments regarding the project, I can be contacted via email at frances@naparcd.org or by phone at (707) 252-4189, extension 3124

Sincerely,

Frances Knapczyk
Program Director

Enclosures: Figure 1 – Project Location Map

Napa County Resource Conservation District
1303 Jefferson St., Ste. 500B
Napa, California 94559
Phone: (707) 252-4189

www.NapaRCD.org

March 5, 2019

Jose Simon III, Chairperson
Middletown Rancheria
P.O. Box 1035
Middletown, CA 95461

RE: Pope Creek Weed Management Project – Tribal Consultation

Dear Honorable Chairperson Simon:

The Napa County Resource Conservation District (RCD) is proposing the Pope Creek Weed Management Project in order to remove invasive plant species from a 2.7-mile section of Pope Creek in eastern Napa County (see attached map). Target invasive plant species are tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

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Sincerely,

Frances Knapczyk
Program Director

Enclosures: Figure 1 – Project Location Map

Napa County Resource Conservation District
1303 Jefferson St., Ste. 500B
Napa, California 94559
Phone: (707) 252-4189

www.NapaRCD.org

March 5, 2019

Scott Gabaldon, Chairperson
Mishewal-Wappo Tribe of Alexander Valley
2275 Silk Road
Windsor, CA 95492

RE: Pope Creek Weed Management Project – Tribal Consultation

Dear Honorable Chairperson Gabaldon:

The Napa County Resource Conservation District (RCD) is proposing the Pope Creek Weed Management Project in order to remove invasive plant species from a 2.7-mile section of Pope Creek in eastern Napa County (see attached map). Target invasive plant species are tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

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Your comments and concerns are important to us and we look forward to hearing from you. If you have any questions or comments regarding the project, I can be contacted via email at frances@naparcd.org or by phone at (707) 252-4189, extension 3124

Sincerely,

Frances Knapczyk
Program Director

Enclosures: Figure 1 – Project Location Map

Napa County Resource Conservation District
1303 Jefferson St., Ste. 500B
Napa, California 94559
Phone: (707) 252-4189

www.NapaRCD.org

March 5, 2019

Anthony Roberts, Chairperson
Yocha Dehe Wintun Nation
P.O. Box 18
Brooks, CA 95606

RE: Pope Creek Weed Management Project – Tribal Consultation

Dear Honorable Chairperson Roberts:

The Napa County Resource Conservation District (RCD) is proposing the Pope Creek Weed Management Project in order to remove invasive plant species from a 2.7-mile section of Pope Creek in eastern Napa County (see attached map). Target invasive plant species are tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus armeniacus*), Arundo (*Arundo donax*), and tree of heaven (*Ailanthus altissima*). The Proposed Project would reduce the population of invasive plants in Pope Creek, and reduce the potential for these species to spread downstream into Lake Berryessa. Additionally, the Proposed Project would improve habitat values, and preserve and restore hydro-geomorphic functions in Pope Creek.

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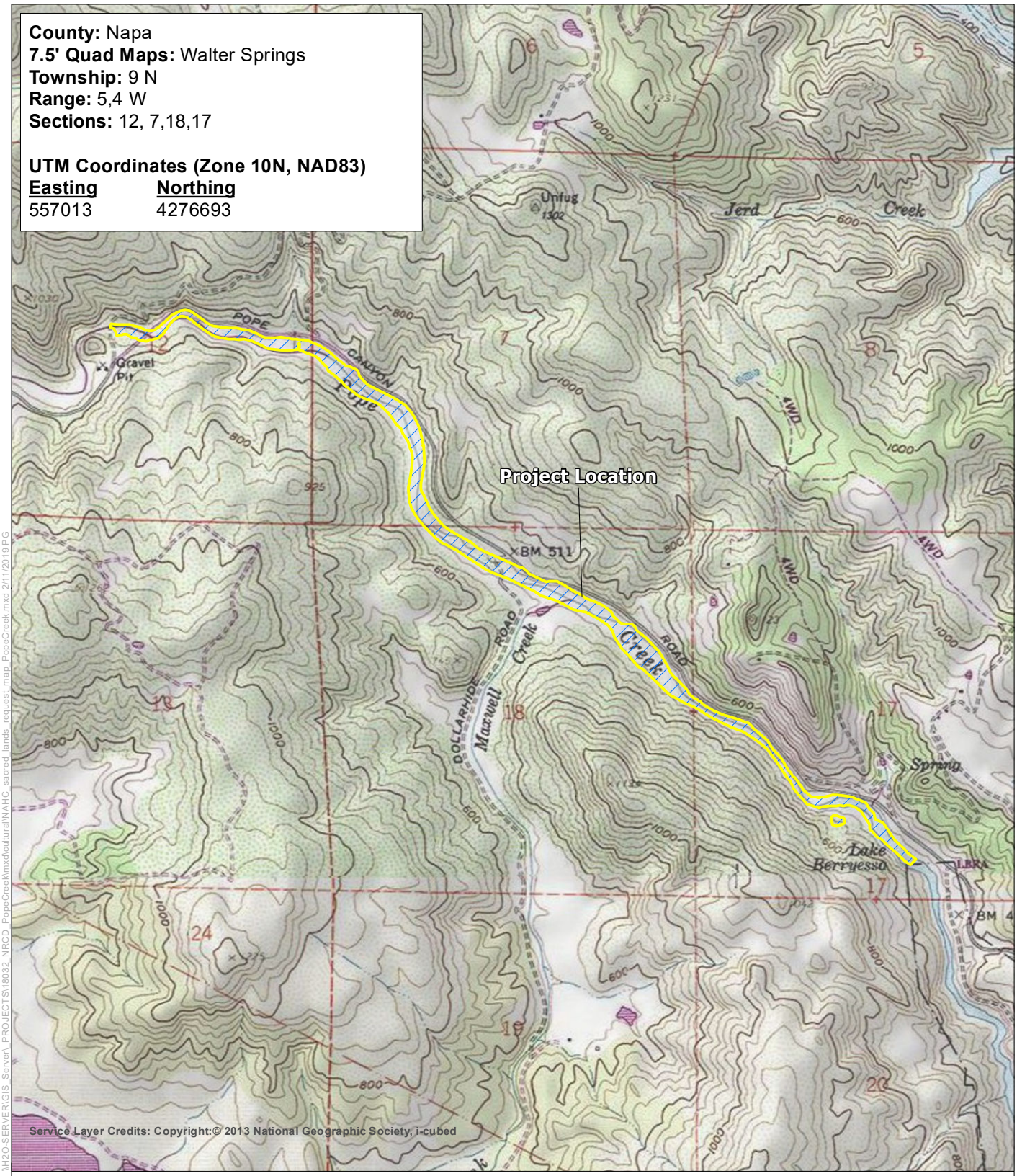
The Napa RCD is writing to notify you of the proposed project in order to coordinate with you and verify the existence of any information on known tribal cultural resources that may be present or affected within the proposed project area. We respectfully request input from you within 30 days of receipt of this letter.

Your comments and concerns are important to us and we look forward to hearing from you. If you have any questions or comments regarding the project, I can be contacted via email at frances@naparcd.org or by phone at (707) 252-4189, extension 3124

Sincerely,

Frances Knapczyk
Program Director

Enclosures: Figure 1 – Project Location Map



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Horizon WATER and ENVIRONMENT

Figure 1
Project Location

Pope Creek
Weed Management Project

YOCHA DEHE
CULTURAL RESOURCES

March 26, 2019

Napa County Resource Conservation District
Attn: Frances Knapczyk, Program Director
1303 Jefferson Street, Suite 500B
Napa, CA 94559

RE: Pope Creek Weed Management Project

Dear Ms. Knapczyk:

Thank you for your project notification letter dated, March 5, 2019, regarding cultural information on or near the proposed Pope Creek Weed Management Project, Napa County. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area.

Based on the information provided, the Tribe has concerns that the project could impact known cultural resources. Please send us detailed project information, including any plans for ground disturbance. Should you have any questions, please contact the individual listed below:

Robert Geary, Tribal Monitor Supervisor
Yocha Dehe Wintun Nation
Office: (530) 215-6180
Email: rgeary@yochadehe-nsn.gov

Please refer to identification number YD – 03082019-03 in any correspondence concerning this project.

Thank you for providing us with this notice and the opportunity to comment.

Sincerely,

James Kinter
Tribal Secretary/THPO

From: Janis Offermann
To: "rgeary@yochadehe-nsn.gov"
Cc: "Frances@naparcd.org"; "Robin@horizonh2o.com"
Subject: RE: YD-03082019-03 Pope Creek Weed Management Project
Date: Friday, May 31, 2019 9:31:00 AM

Hi, Mr. Geary
As a follow up to our earlier correspondence, I am wondering if Yocha Dehe has any concerns about this project. An archeological survey was conducted of the project area and no archaeological sites were identified.

Thank you
Janis

Janis Offermann
Cultural Resources Practice Leader
Horizon Water and Environment
400 Capitol Mall, Suite 2500
Sacramento, CA 95814
916.465.8076 – office
530.220.4918 – mobile

From: Janis Offermann <janis@horizonh2o.com>
Sent: Tuesday, April 09, 2019 11:42 AM
To: 'rgeary@yochadehe-nsn.gov' <rgeary@yochadehe-nsn.gov>
Cc: 'Frances@naparcd.org' <Frances@naparcd.org>; Robin@horizonh2o.com
Subject: YD-03082019-03 Pope Creek Weed Management Project

Hello, Mr. Geary

I am writing on behalf of Ms. Frances Knapczyk of the Napa County Resource Conservation District regarding the March 26, 2019 letter from James Kinter about cultural resource information for the proposed Pope Creek Weed Management Project in Napa County (YD-03082019-03). Mr. Kinter requested additional information about the project and identified you as the contact person for this project.

Attached please find the draft project description, as well as figures depicting the project location and project details. Please keep in mind that these data are draft and are subject to revision.

We also have record search information that I will forward to you via Hightail, our secure file share service. If you do not receive the record search data by the end of the day, please let me know and I will resend it to you.

Should you wish more information, or desire to meet to discuss the project, please do not hesitate to contact Ms. Knapczyk at frances@naparcd.org or by phone at (707) 252-4189, extension 3124.

Thank you,
janis

Janis Offermann
Cultural Resources Practice Leader
Horizon Water and Environment
400 Capitol Mall, Suite 2500
Sacramento, CA 95814
916.465.8076 – office
530.220.4918 – mobile

YOCHA DEHE
CULTURAL RESOURCES

June 7, 2019

Napa County Resource Conservation District
Attn: Frances Knapczyk, Program Director
1303 Jefferson Street, Suite 500B
Napa, CA 94559

RE: Pope Creek Weed Management Project

Dear Ms. Knapczyk:

Thank you for submitting the project details regarding cultural information on or near the proposed Pope Creek Weed Management Project, Napa County. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area and would like to initiate a formal consultation with the lead agency. At the time of consultation, please provide our Cultural Resources Department with a project timeline, detailed project information and the latest cultural study for the proposed project.

Please contact the following individual to coordinate a date and time for the consultation meeting:

Kathleen Solorio, CRD Administrative Assistant
Yocha Dehe Wintun Nation
Office: (530) 796-2803
Email: ksolorio@yochadehe-nsn.gov

Please refer to identification number YD – 03082019-03 in any correspondence concerning this project.

Thank you for providing us the opportunity to comment.

Sincerely,

Leland Kinter
Tribal Historic Preservation Officer

Napa County Resource Conservation District
1303 Jefferson St., Ste. 500B
Napa, California 94559
Phone: (707) 252-4189

www.NapaRCD.org

Tribal Consultation
Napa County RCD & Yocha Dehe Wintun Nation
Yocha Dehe Wintun Nation Office
2 PM, September 16, 2019

Notes

Introductions:

- Isaac Bojorquez, Directof of Cultural Resources, Yocha Dehe Wintun Nation
- Frances Knapczyk, Program Director, Napa County RCD

Project Description:
Pope Creek Weed Management Project items currently available for review:

- Draft IS/MND report (completed by Horizon)
- Cultural Resources Assessment (completed by Horizon)

Timeline:
Project is currently in permitting phase. RCD anticipates funding for implementation of the $800,000 project will be difficult to obtain. RCD will seek grant opportunities or mitigation funding. DFW Permit will be good for 5 years. Earliest that project would be implemented would be summer 2020.

Tribal Concerns:

- Isaac expressed interest in using limited herbicide treatment. Requested that Frances provide more detailed breakdown of chemical vs. mechanical treatment areas in each of the project reaches.
- Isaac requested that upon implementation, all ground crew staff receive cultural sensitivity training. This training is offered by YDWN.
- Isaac provided Frances with TREATMENT PROTOCAL FOR HANDLING HUMAN REMAINS AND CULTURAL ITEMS AFFILIATED WITH THE YOCHA DEHE WINTUN NATION
- Isaac requested that Frances provide him with Cultural Resources Assessment Report with all Appendices, and full IS/MND with Environmental Checklist.
- Isaac requested 30-day comment period on all documents provided, agreed to try to provide feedback on IS/MND within 21 days of receipt.
- Isaac requested notification when project received funding and is closer to implementation.