Appendix

Initial Study and Mitigated Negative Declaration

Campbell Gulch Diversion Structure Reconstruction Project

LIST OF APPENDICES

Appendix A – Air Quality/Climate Change Technical Report
ECORP Consulting, Inc. – July 24, 2023

Appendix B – Biological Resources Assessment
ECORP Consulting, Inc. - September 19, 2023

Appendix C – Aquatic Resources Delineation for the Campbell Gulch Diversion Reconstruction Project
ECORP Consulting, Inc. – September 8, 2023

Appendix D – Archaeological Resources Inventory Report for the Campbell Gulch Diversion Structure Reconstruction Project
ECORP Consulting, Inc. – September 2023

Appendix D – Energy Consumption Report
ECORP Consulting, Inc. – August 2023

Appendix E – Phase I Environmental Site Assessment

Appendix F – Roadway Construction Noise Model Version 1.1
ECORP Consulting, Inc. – August 8, 2023

APPENDIX A

Air Quality/Climate Change Technical Report
ECORP Consulting, Inc. – July 24, 2023

Campbell Gulch Diversion Structure Repair Project Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Campbell Gulch Diversion Structure Repair Project
Construction Start Date	4/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.40
Precipitation (days)	64.4
Location	39.458582299717364, -121.0360344548648
County	Yuba
City	Unincorporated
Air District	Feather River AQMD
Air Basin	Sacramento Valley
TAZ	347
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.14

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Non-Asphalt Surfaces	1.45	Acre	1.45	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.15	1.76	16.1	18.0	0.04	0.82	0.65	1.17	0.75	0.16	0.83	—	4,403	4,403	0.24	0.28	3.85	4,498
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.43	0.34	3.62	4.18	0.01	0.15	0.14	0.29	0.14	0.03	0.17	—	1,033	1,033	0.06	0.06	0.37	1,054
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.06	0.66	0.76	< 0.005	0.03	0.03	0.05	0.02	0.01	0.03	—	171	171	0.01	0.01	0.06	174

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.15	1.76	16.1	18.0	0.04	0.82	0.65	1.17	0.75	0.16	0.83	—	4,403	4,403	0.24	0.28	3.85	4,498
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.43	0.34	3.62	4.18	0.01	0.15	0.14	0.29	0.14	0.03	0.17	—	1,033	1,033	0.06	0.06	0.37	1,054
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.08	0.06	0.66	0.76	< 0.005	0.03	0.03	0.05	0.02	0.01	0.03	—	171	171	0.01	0.01	0.06	174

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	6.15	9.01	0.01	0.29	—	0.29	0.27	—	0.27	—	1,391	1,391	0.06	0.01	—	1,396
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.08	0.08	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.48	2.17	< 0.005	0.07	—	0.07	0.06	—	0.06	—	335	335	0.01	< 0.005	—	337

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	55.5	55.5	< 0.005	< 0.005	—	55.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.04	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.60	147
Vendor	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	0.00
Hauling	0.06	0.01	0.94	0.34	0.01	0.01	0.13	0.14	0.01	0.04	0.05	—	573	573	0.05	0.09	1.04	603
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.19	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.8	31.8	< 0.005	< 0.005	0.06	32.3
Vendor	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	0.00

Hauling	0.02	< 0.005	0.24	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	138	138	0.01	0.02	0.11	145
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.27	5.27	< 0.005	< 0.005	0.01	5.35
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.9	22.9	< 0.005	< 0.005	0.02	24.0

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.98	1.66	14.8	16.5	0.02	0.80	—	0.80	0.74	—	0.74	—	2,560	2,560	0.10	0.02	—	2,569
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.85	0.95	< 0.005	0.05	—	0.05	0.04	—	0.04	—	147	147	0.01	< 0.005	—	148
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.4	24.4	< 0.005	< 0.005	—	24.5
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	1.04	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	145	145	0.01	0.01	0.60	147
Vendor	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	0.00
Hauling	0.09	0.02	1.27	0.46	0.01	0.01	0.18	0.19	0.01	0.05	0.06	—	775	775	0.06	0.12	1.41	815
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.60	7.60	< 0.005	< 0.005	0.01	7.71
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.6	44.6	< 0.005	0.01	0.03	46.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.28
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.38	7.38	< 0.005	< 0.005	0.01	7.76

3.5. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	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

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	0.19	0.04	2.77	0.99	0.02	0.03	0.38	0.41	0.03	0.11	0.13	—	1,685	1,685	0.14	0.27	3.07	1,771
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	0.01	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	46.1	46.1	< 0.005	0.01	0.04	48.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.64	7.64	< 0.005	< 0.005	0.01	8.03

3.7. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.55	5.26	4.49	0.01	0.21	—	0.21	0.19	—	0.19	—	1,188	1,188	0.05	0.01	—	1,192
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.65	0.55	< 0.005	0.03	—	0.03	0.02	—	0.02	—	146	146	0.01	< 0.005	—	147
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.3	24.3	< 0.005	< 0.005	—	24.3
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.62	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	87.1	87.1	< 0.005	< 0.005	0.36	88.5
Vendor	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	0.00
Hauling	0.11	0.02	1.67	0.60	0.01	0.02	0.23	0.25	0.02	0.06	0.08	—	1,018	1,018	0.08	0.16	1.85	1,071
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.77	9.77	< 0.005	< 0.005	0.02	9.91
Vendor	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	0.00
Hauling	0.01	< 0.005	0.22	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	126	126	0.01	0.02	0.10	132
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.62	1.62	< 0.005	< 0.005	< 0.005	1.64
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.8	20.8	< 0.005	< 0.005	0.02	21.8

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Phase 2 - Diversion Structure and Water Pipeline Removal	Demolition	5/14/2024	9/12/2024	5.00	88.0	Phase 3
Phase 1 - Vegetation Clearing	Site Preparation	4/1/2024	4/29/2024	5.00	21.0	Phase 1
Phase 2 - Material Import	Site Preparation	4/30/2024	5/13/2024	5.00	10.0	Phase 2
Phase 3 - Diversion Structure & Water Pipeline Installation	Site Preparation	7/12/2024	9/12/2024	5.00	45.0	Phase 4

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Phase 2 - Diversion Structure and Water Pipeline Removal	Excavators	Diesel	Average	2.00	8.00	84.0	0.37
Phase 2 - Diversion Structure and Water Pipeline Removal	Concrete/Industrial Saws	Diesel	Average	0.00	8.00	33.0	0.73
Phase 2 - Diversion Structure and Water Pipeline Removal	Skid Steer Loaders	Diesel	Average	2.00	8.00	71.0	0.37
Phase 2 - Diversion Structure and Water Pipeline Removal	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40

Phase 2 - Diversion Structure and Water Pipeline Removal	Other Construction Equipment	Diesel	Average	1.00	8.00	82.0	0.42
Phase 1 - Vegetation Clearing	Concrete/Industrial Saws	Diesel	Average	4.00	8.00	148	0.41
Phase 1 - Vegetation Clearing	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	84.0	0.37
Phase 1 - Vegetation Clearing	Tractors/Loaders/Backhoes	Diesel	Average	0.00	8.00	84.0	0.37
Phase 1 - Vegetation Clearing	Rubber Tired Dozers	Diesel	Average	0.00	8.00	367	0.40
Phase 2 - Material Import	Rubber Tired Dozers	Diesel	Average	0.00	8.00	148	0.41
Phase 2 - Material Import	Tractors/Loaders/Backhoes	Diesel	Average	0.00	8.00	84.0	0.37
Phase 3 - Diversion Structure & Water Pipeline Installation	Rubber Tired Dozers	Diesel	Average	0.00	8.00	148	0.41
Phase 3 - Diversion Structure & Water Pipeline Installation	Tractors/Loaders/Backhoes	Diesel	Average	0.00	8.00	84.0	0.37
Phase 3 - Diversion Structure & Water Pipeline Installation	Cranes	Diesel	Average	1.00	8.00	367	0.29
Phase 3 - Diversion Structure & Water Pipeline Installation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Phase 3 - Diversion Structure & Water Pipeline Installation	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Phase 2 - Diversion Structure and Water Pipeline Removal	—	—	—	—
Phase 2 - Diversion Structure and Water Pipeline Removal	Worker	12.5	14.3	LDA,LDT1,LDT2
Phase 2 - Diversion Structure and Water Pipeline Removal	Vendor	—	8.80	HHDT,MHDT
Phase 2 - Diversion Structure and Water Pipeline Removal	Hauling	7.05	20.0	HHDT
Phase 2 - Diversion Structure and Water Pipeline Removal	Onsite truck	—	—	HHDT
Phase 1 - Vegetation Clearing	—	—	—	—
Phase 1 - Vegetation Clearing	Worker	12.5	14.3	LDA,LDT1,LDT2
Phase 1 - Vegetation Clearing	Vendor	—	8.80	HHDT,MHDT
Phase 1 - Vegetation Clearing	Hauling	9.52	20.0	HHDT
Phase 1 - Vegetation Clearing	Onsite truck	—	—	HHDT
Phase 2 - Material Import	—	—	—	—
Phase 2 - Material Import	Worker	0.00	14.3	LDA,LDT1,LDT2
Phase 2 - Material Import	Vendor	—	8.80	HHDT,MHDT
Phase 2 - Material Import	Hauling	20.7	20.0	HHDT
Phase 2 - Material Import	Onsite truck	—	—	HHDT
Phase 3 - Diversion Structure & Water Pipeline Installation	—	—	—	—
Phase 3 - Diversion Structure & Water Pipeline Installation	Worker	7.50	14.3	LDA,LDT1,LDT2
Phase 3 - Diversion Structure & Water Pipeline Installation	Vendor	—	8.80	HHDT,MHDT
Phase 3 - Diversion Structure & Water Pipeline Installation	Hauling	12.5	20.0	HHDT
Phase 3 - Diversion Structure & Water Pipeline Installation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Phase 2 - Diversion Structure and Water Pipeline Removal	—	3,956	1.45	500	—
Phase 1 - Vegetation Clearing	—	1,600	1.45	0.00	—
Phase 2 - Material Import	1,652	—	1.45	0.00	—
Phase 3 - Diversion Structure & Water Pipeline Installation	4,500	—	1.45	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt

Other Non-Asphalt Surfaces	1.45	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	30.7	annual days of extreme heat
Extreme Precipitation	26.4	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	59.6	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	5	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	5	1	1	4
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	75.4
AQ-PM	3.11
AQ-DPM	0.07

Drinking Water	70.5
Lead Risk Housing	28.6
Pesticides	31.0
Toxic Releases	1.00
Traffic	0.15
Effect Indicators	—
CleanUp Sites	51.6
Groundwater	65.3
Haz Waste Facilities/Generators	1.80
Impaired Water Bodies	58.7
Solid Waste	91.9
Sensitive Population	—
Asthma	7.93
Cardio-vascular	10.7
Low Birth Weights	23.1
Socioeconomic Factor Indicators	—
Education	52.9
Housing	38.8
Linguistic	14.3
Poverty	62.5
Unemployment	22.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	35.53188759

Employed	9.136404466
Median HI	12.61388426
Education	—
Bachelor's or higher	46.42627999
High school enrollment	100
Preschool enrollment	81.75285513
Transportation	—
Auto Access	77.83908636
Active commuting	62.53047607
Social	—
2-parent households	3.438983703
Voting	54.43346593
Neighborhood	—
Alcohol availability	92.3649429
Park access	20.32593353
Retail density	1.642499679
Supermarket access	25.76671372
Tree canopy	99.25574233
Housing	—
Homeownership	71.67971256
Housing habitability	41.4731169
Low-inc homeowner severe housing cost burden	78.36519954
Low-inc renter severe housing cost burden	54.70293853
Uncrowded housing	60.77248813
Health Outcomes	—
Insured adults	23.77774926
Arthritis	0.0

Asthma ER Admissions	87.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	25.0
Cognitively Disabled	3.1
Physically Disabled	6.4
Heart Attack ER Admissions	90.9
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	84.2
SLR Inundation Area	0.0
Children	86.0
Elderly	4.7
English Speaking	95.8

Foreign-born	3.2
Outdoor Workers	28.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	99.7
Traffic Density	0.1
Traffic Access	0.0
Other Indices	—
Hardship	54.7
Other Decision Support	—
2016 Voting	54.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	17.0
Healthy Places Index Score for Project Location (b)	37.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Updated based on project specific information provided by project proponent.
Construction: Off-Road Equipment	Updated based on project specific information provided by project proponent.
Construction: Dust From Material Movement	Updated based on info provided by project proponent.

APPENDIX B

Biological Resources Assessment
ECORP Consulting, Inc. - September 19, 2023

Biological Resources Assessment for the Campbell Gulch Diversion Structure Repair Project

Yuba County, California

Prepared For:

Bennett Engineering Services

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

September 19, 2023

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
°F	Degrees Fahrenheit
APN	Assessor Parcel Number
BA	Biological Assessment
BCC	Birds of Conservation Concern
BO	Biological Opinion
BRA	Biological Resources Assessment
CFR	Code of Federal Regulations
County	County of Yuba
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DPS	Distinct population segment
ESA	Endangered Species Act
HCP	Habitat Conservation Plan
ITP	Incidental Take Permit
MBTA	Migratory Bird Treaty Act
MSL	Mean Sea Level
NCCP	Natural Community Conservation Plan
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWPR	National Wetlands Protection Rule
Project	Campbell Gulch Diversion Structure Repair Project
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group

1.0 INTRODUCTION

At the request of Bennett Engineering Services, ECORP Consulting, Inc. conducted a Biological Resources Assessment (BRA) for the proposed Campbell Gulch Diversion Structure Repair Project (Project) located in Yuba County, California. The purpose of the assessment was to collect information on the biological resources present within the Project area and to determine any potential biological constraints to Project activities.

1.1 Project Location

The approximately 1.86-acre proposed Project is located on Campbell Gulch adjacent to Mountain House Road in Camptonville, Yuba County, California (Study Area; Figure 1). The Study Area corresponds to a portion of Section 01, Township 18 North, and Range 08 East (Mount Diablo Base and Meridian) of the "Camptonville, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1992). The approximate center of the Study Area is located at 39.457617° latitude and -121.037712° longitude and is located within the Upper Yuba Watershed (Hydrologic Unit Code [HUC] #18020125; Natural Resources Conservation Service [NRCS], et al. 2016).

1.2 Project Description

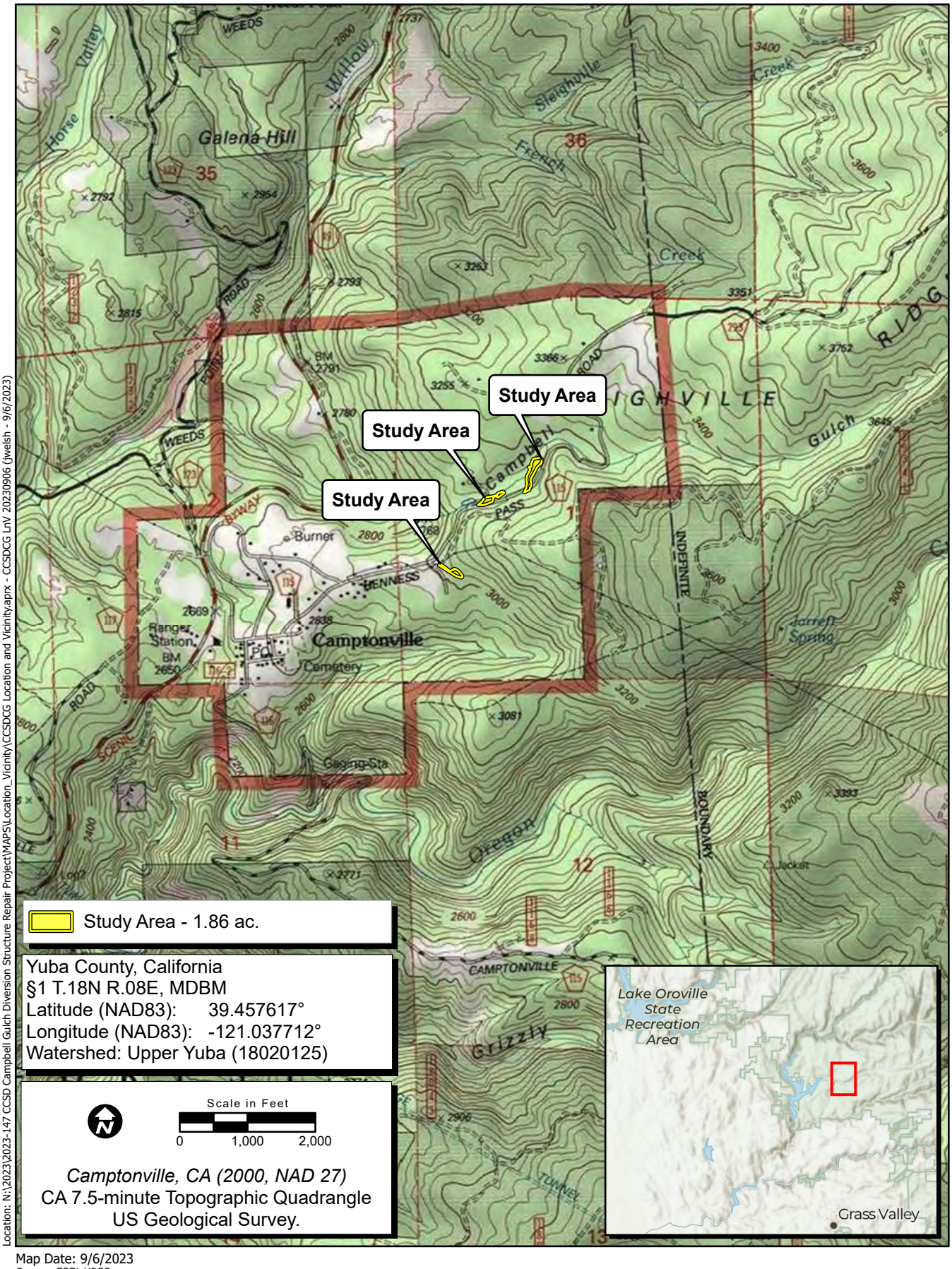
The Project proposes to repair aging Camptonville Community Services District water diversion facilities within Campbell Gulch. Proposed water diversion facility repairs include replacing the water diversion facility and intake structure and armoring an exposed portion of the water diversion pipe.

1.3 Purpose of this Biological Resources Assessment

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitat, and sensitive habitats such as riparian and oak woodlands, and potential waters of the United States (U.S.)/State, including wetlands, within the Study Area. This assessment does not include determinate field surveys conducted according to agency-promulgated protocols. The conclusions and recommendations presented in this report are based upon a review of the available literature and site reconnaissance.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of the California Environmental Quality Act (CEQA) Guidelines;



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Map Date: 9/6/2023
Sources: ESRI, USGS

Figure 1. Project Location and Vicinity

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2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

- are identified as a species of special concern by the California Department of Fish and Wildlife (CDFW);
- are birds identified as Birds of Conservation Concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Ranks [CRPRs] 1 and 2);
- are plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, Sections 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above listed groups were considered for this assessment. Other plant species (e.g., CRPR 3 or 4 species) sometimes found in database searches or within the literature were not included within this analysis.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The ESA protects plants and animals that are listed as endangered or threatened by the USFWS and the NMFS. Section 9 of ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S. Code [USC] 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

2.1.1.1 Section 7

Section 7 of ESA mandates that all federal agencies consult with USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. The adverse modifications will require formal consultation with USFWS or NMFS if direct and/or indirect effects will occur to critical habitat that appreciably diminish the value of critical habitat for both the survival and recovery of a species. The applicant must conduct a biological

assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat to establish and justify an "effect determination." if adverse effects are likely. The federal agency reviews the BA and prepares a BO if it concludes that the project may adversely affect a listed species or its habitat. The BO may recommend *reasonable and prudent alternatives* to the project to avoid jeopardizing or adversely modifying habitat.

2.1.1.2 Critical Habitat and Essential Habitat

Critical Habitat is defined in Section 3 of ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and

2. specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

For inclusion in a Critical Habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

- Space for individual and population growth and for normal behavior
- Food, water, air, light, minerals, or other nutritional or physiological requirements
- Cover or shelter
- Sites for breeding, reproduction, or rearing (or development) of offspring
- Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species

Excluded essential habitat is defined as areas that were found to be essential habitat for the survival of a species and assumed to contain at least one of the primary constituent elements for the species but were excluded from the Critical Habitat designation. The USFWS has stated that any action within the excluded essential habitat that triggers a federal nexus will be required to undergo the Section 7(a)(1) process, and the species covered under the specific critical habitat designation would be afforded protection under Section 7(a)(2) of ESA.

2.1.2 Magnuson-Stevens Fishery Conservation and Management Act

The 1996 Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 1801), requires federal agencies to consult with NMFS whenever a proposed action has a potential to adversely affect Essential Fish Habitat (EFH). Although states are not required to consult with NMFS, NMFS is required to develop EFH conservation recommendations for any state agency activities with the potential to affect EFH. EFH is defined as" those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity" and includes the necessary habitat for managed fish to complete their life cycles and contribute to a sustainable fishery and healthy ecosystem. Although the concept of EFH is similar to the ESA definition of Critical Habitat, measures recommended by NMFS or a regional fisheries management council to protect EFH are advisory, rather than prescriptive (NMFS 1998).

2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.4 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b).

The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.1.5 Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army, acting through the USACE, for the construction of any structure in or over any navigable Waters of the U.S. Structures or work outside the limits defined for navigable Waters of the U.S. require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, rechannelization, or any other modification of a navigable Water of the U.S., and applies to all structures, from the smallest floating dock to the largest commercial undertaking. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent or semipermanent obstacle or obstruction. The alteration of a USACE federally authorized civil works project requires a permit pursuant to Section 14 of the Act, as amended and codified in 33 USC 408. Projects with minimal impacts require approval by the USACE Sacramento District Construction Operations Group; however, projects with more substantial impacts may require USACE Headquarters review. Coordination with the Central Valley Flood Protection Board, which serves as the Non-Federal Sponsor, is required as a part of the process of obtaining a Section 408 permit.

2.2 State or Local Regulations

2.2.1 California Fish and Game Code

2.2.1.1 California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) generally parallels the main provisions of the federal ESA, but unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called *candidates* by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. *Take* is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with the CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered, threatened or candidate species or result in destruction or adverse modification of essential habitat.

2.2.1.2 Fully Protected Species

The state of California first began to designate species as *fully protected* prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the state and/or federal ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians,

and § 5515 for fish) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

2.2.1.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW and provided in California Fish and Game Code §§ 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as *endangered* or *rare* and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code §§ 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.1.4 Protected Birds

Sections 3503, 3513, and 3800 of the California Fish and Game Code specifically protects birds. Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits the take, possession, or destruction of any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the federal MBTA, serve to protect birds and their nests. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA. Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the commission or a mitigation plan approved by CDFW for mining operations.

2.2.1.5 California Streambed Alteration Notification/Agreement

Section 1602 of the California Fish and Game Code requires that a Streambed Alteration Application (SAA) be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits proposed measures to protect affected fish and wildlife resources to the applicant. The SAA is the final proposal mutually agreed upon by CDFW and the Applicant. Projects that require an SAA often also require a permit from the USACE under Section 404 of the CWA. The conditions of the Section 404 permit and the SAA overlap In these instances.

2.2.2 Species of Special Concern

Species of Special Concern (SSC) are defined by the CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under ESA, the California ESA or the California Fish and Game Code, but currently satisfy one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role.

- The species is listed as federally (but not state) threatened or endangered, or meets the state definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- SSC are typically associated with threatened habitats. Project-related impacts to SSC, state-threatened or endangered species are considered significant under CEQA.

2.2.3 Watch List Species

The CDFW maintains a list consisting of taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

Depending on the policy of the lead agency, projects that result in substantial impacts to species on the Watch List (WL) may be considered significant under CEQA.

2.2.4 California Rare Plant Ranks

The CNPS maintains the *Inventory of Rare and Endangered Plants of California* (CNPS 2014), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the California Natural Diversity Database (CNDDB). The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere.
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere.
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere.
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere.
- Rare Plant Rank 3 – a review list of plants about which more information is needed.
- Rare Plant Rank 4 – a watch list of plants of limited distribution

Additionally, the CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species

ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- Threat Rank 0.3 – Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2014). Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2 are typically considered significant under CEQA Guidelines Section 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 3 or 4.

2.2.5 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" (Water Code 13260(a)). Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

2.2.6 California Environmental Quality Act

Per CEQA Guidelines Section 15380, a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria follow the definitions in the federal and California ESAs, and Sections 1900-1913 of the California Fish and Game Code, which deal with rare or endangered plants or animals. Section 15380 was included in the CEQA Guidelines primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW.

2.2.6.1 CEQA Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant, and are particularly relevant to CSC. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant and require lead agencies to prepare an Environmental Impact Report (EIR) to thoroughly analyze and evaluate the impacts. Assessment of "impact significance" to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on federally protected Waters of the U.S. including wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or,
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA because although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

The following resources were reviewed to determine the special-status species that have been documented within or in the vicinity of the Study Area or that otherwise have the potential to occur on-site:

CNDDB data for the "Camptonville, California" 7.5-minute USGS quadrangle and the surrounding eight USGS quadrangles (CDFW 2023);

CNPS' electronic Inventory of Rare and Endangered Plants of California was queried for the "Camptonville, California" 7.5-minute USGS quadrangle and the surrounding eight USGS quadrangles (CNPS 2023);

USFWS Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2023a); and,

NMFS Resources data for the "Camptonville, California" 7.5-minute USGS quadrangle (National Oceanic and Atmospheric Administration [NOAA] 2023).

The results of the database queries are included in Appendix A.

3.2 Site Reconnaissance

ECORP Senior Biologist Daniel Machek conducted the reconnaissance-level field surveys for the Study Area on August 11, 2023. The reconnaissance survey entailed the biologist walking meandering transects through the Study Area while noting visual observations of biological resources, representative habitats, and vegetation communities within the Study Area. Special attention was given to identifying those portions of the Study Area with the potential to support special-status species and sensitive habitats. During the field survey, vegetation communities occurring within the Study Area were characterized and the following biological resource information was collected:

Plant and animal species directly observed, or their sign;

Burrows and any other special habitat features;

Aquatic resources; and,

Representative Study Area photographs.

3.3 Special-Status Species Considered for the Study Area

Based on species occurrence information from database queries, literature review, and observations in the field, a list of special-status and CNDDB-tracked plant and animal species that have the potential to occur within the vicinity of the Study Area was generated (Table 1) and is located in the results section 4.6. Each of the species was evaluated for its potential to occur within the Study Area through the database queries, literature review, and field observations, and categorized based on the following criteria:

Present - Species was observed during the site visit or is known to occur within the Study Area based on documented occurrences within the CNDDB or other literature.

Potential to Occur - Habitat (including soils and elevation requirements) for the species occurs within the Study Area.

Low Potential to Occur - Marginal or limited amounts of habitat occurs and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other available documentation.

Absent - No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other documentation.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The Study Area is located within mountainous terrain of rural Yuba County situated at an elevational range of approximately 3,010 to 3,140 feet above mean sea level in the Northern High Sierra Nevada subregion of the Sierra Nevada floristic region of California (Baldwin et al. 2012). The Study Area is adjacent to Mountain House Road in Campbell Gulch in unincorporated Yuba County, directly east of the town limits of Camptonville, California. The majority of the Study Area is comprised of a Community-owned parcel containing the existing Camptonville Water District (a subset of the Camptonville Community Service District) diversion structure and transmission pipeline, with a minor portion within the street ROW and access roadway. The adjacent land uses include rural residential properties that are forested with mixed coniferous trees. U.S. Forest Service land is to the north, east, and south of the Study Area. The Town of Camptonville and State Route 49 are to the west of the Study Area.

Representative photographs of the Study Area are included in Appendix B.

4.2 Vegetation Communities

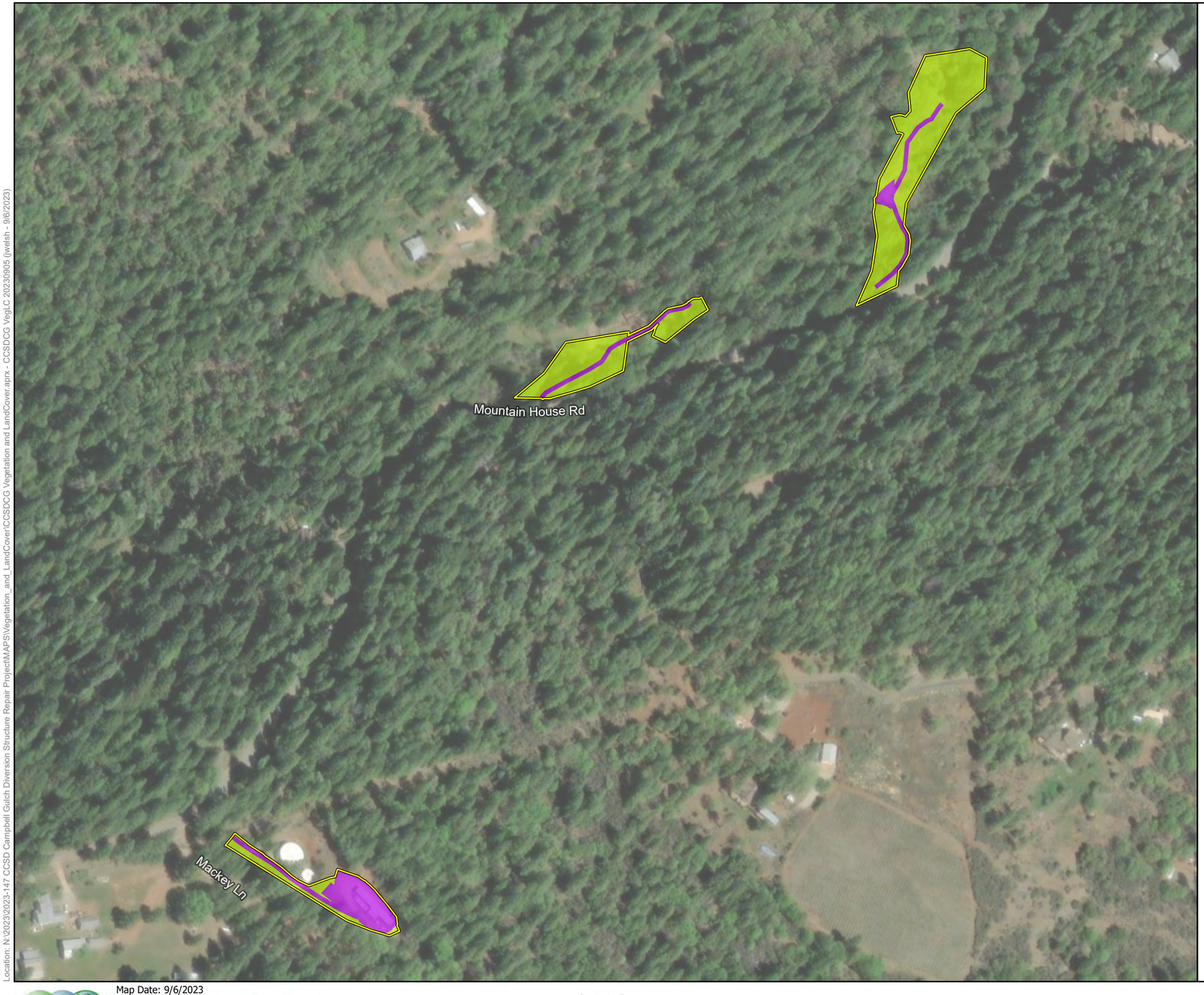
There are two vegetation communities within the Study Area. These are Disturbed and Mixed Coniferous Forest (Figure 2).

4.2.1 Disturbed

The disturbed land cover type is defined as historically or recently disturbed sites where barren rock or soil dominates the ground layer, and tree and shrub cover is typically sparse or absent. The disturbed land cover type occurs within the access roads and Camptonville Water District Facility on Mackey Lane (Figure 2).

4.2.2 Mixed Coniferous Forest

Mixed coniferous forest occurs is the dominant vegetation community within the Study Area (Figure 2). The mixed coniferous forest within the Study Area is dominated by incense cedar (*Calocedrus decurrens*),



Map Contents

Study Area - 1.86 ac.

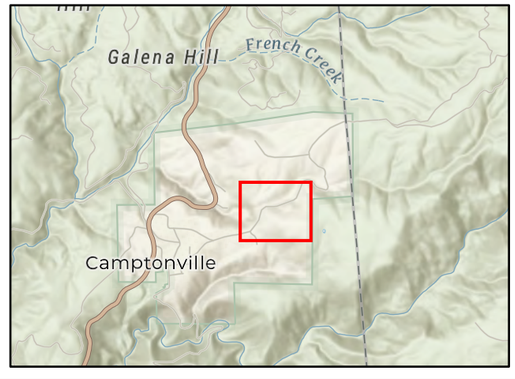
Vegetation Communities and Land Cover Types - 1.86 ac.*

Disturbed - 0.49 ac.

Mixed Coniferous Forest - 1.36 ac.

* The acreage value for each feature has been rounded to the nearest 1/100 decimal. Summation of these values may not equal the total Vegetation Communities and Land Cover Types reported.

Sources: ESRI, Maxar (2021), Yuba County



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Map Date: 9/6/2023

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Scale in Feet
0 100 200

Figure 2. Vegetation Communities and Land Cover Types
2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), bigleaf maple (*Acer macrophyllum*), tanoak (*Notholithocarpus densiflorus*) in the overstory and the regenerative sapling layer. Sierra plum (*Prunus subcordata*), white fir (*Abies concolor*), Pacific madrone (*Arbutus menziesii*), black oak (*Quercus kelloggii*), Pacific yew (*Taxus brevifolia*), and beaked hazelnut (*Corylus cornuta*) were the dominant subcanopy tree species. California blackberry (*Rubus ursinus*), common snowberry (*Symphoricarpos albus*) are the dominant shrubs present within the Study Area. Examples of dominant herbaceous species observed include fowl bluegrass (*Poa palustris*), American trailplant (*Adenocaulon bicolor*), coastal brookfoam (*Boykinia occidentalis*), and a sedge species (*Carex* sp.). Riparian vegetation, such as bigleaf maple, Sierra plum, California blackberry, Himalayan blackberry (*Rubus armeniacus*), California sword fern (*Polystichum californicum*), Western lady fern (*Athyrium filix-femina var. cyclosorum*), coastal brookfoam, and a sedge species, occur on the banks of Campbell Gulch. The riparian vegetation is moderately dense.

The mixed coniferous forest vegetation community most resembles the Ponderosa pine – Incense Cedar – Douglas fir forest and woodland Alliance as characterized by the Manual of California Vegetation (MCV; Sawyer et al. 2009).

4.3 Soils

- According to the Web Soil Survey (NRCS 2023a), three soil units, or types, have been mapped within the Study Area:
- 180 – Jocal-Sites-Mariposa complex, 2 to 30 percent slopes;
- 230 – Sites-Jocal complex, 2 to 30 percent slopes; and,
- 231 – Sites-Jocal-Mariposa complex, 30 to 50 percent slopes.

The Jocal series consists of very deep, well drained soils formed in material weathered from metasedimentary rocks. Jocal soils are on mountains and have slopes of 2 to 75 percent. The Sites series consists of deep or very deep, well drained soils formed in material weathered from metabasic and metasedimentary rocks. These soils are on mountains and have slopes of 2 to 75 percent. The Mariposa series consists of moderately deep, well drained soils formed in material weathered from metasedimentary rocks. These soils are on mountains. Slopes are 2 to 75 percent. None of the soil units, or their minor components, within the Study Area are considered hydric soils or contain serpentine or gabbroic parent material.

4.4 Potential Waters of the U.S./State

Aquatic features within the Study Area includes a perennial stream, Campbell Gulch, and is further described below.

4.4.1 Perennial Stream (Campbell Gulch)

Perennial streams are larger order streams that have continuous flow of surface water throughout the year in at least parts of its catchment during season of normal rainfall. Groundwater is the primary source of

water for stream flow. Runoff from precipitation is a supplemental source of water for stream flow. Perennial streams have tributaries of lower order streams flowing into them such as smaller perennial, intermittent, and ephemeral streams. They are dominated by hydrophytic vegetation that can withstand periods of inundation and thrive off of groundwater associated with the shallow water table. Plant species observed bordering Campbell Gulch include: bigleaf maple, Sierra plum, American spikenard (*Aralia racemosa*), California blackberry, Himalayan blackberry, sedge species, California sword fern, Western lady fern, coastal brookfoam (*Boykinia occidentalis*), American brooklime (*Veronica americana*), thimbleberry (*Rubus parviflorus*), and common horsetail (*Equisetum arvense*). Campbell Gulch, aquatic feature C-1 and C-2, is located within the northwest portion of the Study Area (Figure 3).

4.4.2 Wildlife

Wildlife observed within or flying over the Study Area during the site reconnaissance includes Steller's jay (*Cyanocitta stelleri*), hairy woodpecker (*Dryobates villosus*), and California sister (*Adelpha californica*).

4.4.3 Critical Habitat

No Critical Habitat is present within or adjacent to the Study Area.

4.4.4 Riparian Habitats and Sensitive Natural Communities

One sensitive natural community, Darlingtonia Seep was identified as having potential to occur within the Study Area based on the literature review (CDFW 2023). No seeps were observed within the Study Area. The riparian corridor of Campbell Gulch may be considered a sensitive natural community by CDFW.

4.4.5 Wildlife Movement/Migration Corridors

The Study Area is located along Campbell Gulch in a mixed conifer forest within a rural residential area outside of the Camptonville town limits. The Study Area may provide minimal migratory opportunities for wildlife but due to the proximity to the Town of Camptonville and the regular human activities around the Study Area wildlife is likely utilizing adjacent areas more frequently. There are several areas adjacent to the Study Area that would provide higher quality opportunities for wildlife movement including the U.S. Forest Service land surrounding the Town of Camptonville, which is more likely to provide wildlife movement and migration corridors and potential nursery sites. The Study Area is approximately 3.25 miles south of the North Fork of the Yuba River and 3.75 miles north of the Middle Fork of the Yuba River in relation to CA Essential Habitat Connectivity; and is 2.25 miles to the east of New Bullard's Bar Reservoir that could provide potential nursery sites for waterbird rookeries.

For the purposes of this analysis, nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries or bat maternity roosts. This data is available through CDFW's Biogeographic Information and Observation System database or as occurrence records in the CNDDB and is supplemented with the results of the field reconnaissance. No nursery sites have been documented within the Study Area (CDFW 2023) and none were observed during the site reconnaissance.

Map Contents

Study Area - 1.86 ac.

Reference Coordinate

Sample Point

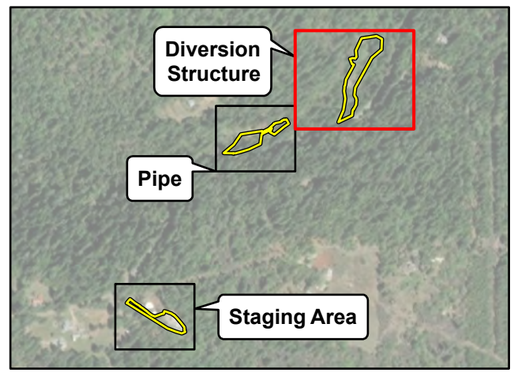
OHWM

Aquatic Resource Type

Creek - 0.106 ac.

Photo Source: Maxar (2021)
Boundary Source: Bennett Engineering & ECORP
Delineator(s): Dan Machek
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.



Location: N:\2023\2023-147 CCSD Campbell Gulch Diversion Structure Repair Project\MAPS\Aquatic_Resources\CCSDCG Aquatic Resources.aprx - CCSDCG ARD 20230901 (jwelsh - 9/6/2023)

Map Date: 9/6/2023

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 20 40

Figure 3. Aquatic Resources Delineation
(Sheet 1 of 3)
2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

Map Contents

- Study Area - 1.86 ac.
- Reference Coordinate

Sample Point

- OHWM

Aquatic Resource Type

- Creek - 0.106 ac.

Photo Source: Maxar (2021)
Boundary Source: Bennett Engineering & ECORP
Delineator(s): Dan Machek
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
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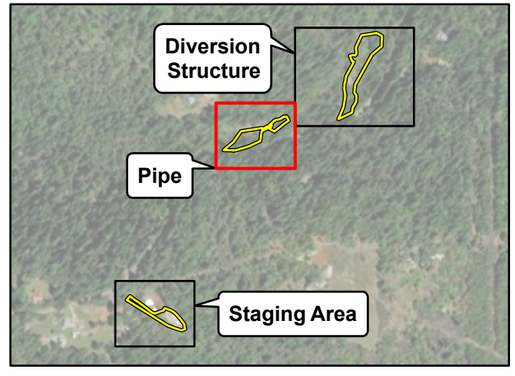


Location: N:\2023\2023-147 CCSD Campbell Gulch Diversion Structure Repair Project\MAPS\Aquatic_Resources\CCSDCG Aquatic Resources.aprx - CCSDCG ARD 20230901 (jwelsh - 9/6/2023)

Map Date: 9/6/2023

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 20 40

Figure 4. Aquatic Resources Delineation
(Sheet 2 of 3)
2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

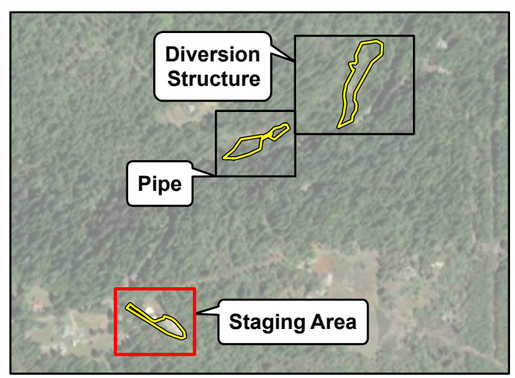
Map Contents

Study Area - 1.86 ac.

Reference Coordinate

Photo Source: Maxar (2021)
Boundary Source: Bennett Engineering & ECORP
Delineator(s): Dan Machek
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.



Location: N:\2023\2023-147 CCSD Campbell Gulch Diversion Structure Repair Project\MAPS\Aquatic_Resources\CCSDCG Aquatic Resources.aprx - CCSDCG ARD 20230901 (jwelsh - 9/6/2023)

Map Date: 9/6/2023

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 20 40

Figure 4. Aquatic Resources Delineation
(Sheet 3 of 3)
2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

4.5 Evaluation of Species Identified in the Literature Search

A list of the special-status plant and wildlife species identified in the database inquiries as potentially occurring within the Study Area is provided in Table 1. This table includes the listing status for each species, a brief habitat description, approximate flowering period for plants and survey period for animals, and a determination on the potential to occur in or near the Study Area. Following the table is a brief description of each species with potential to occur within the Study Area.

Following the table is a brief description of each special-status species with potential to occur within the Study Area. Species that are categorized only as "Absent" will not be discussed further in this document. An "Absent" determination was concluded for species where the Study Area did not possess suitable habitat, incorrect elevational range, or no other indication that the species would be found in that portion of the Study Area. Species discussions for those categorized as "Potential to Occur" or "Low Potential to Occur" will follow the species table.

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Plants					
Green shield-moss (*Buxbaumia viridis*)	–	–	2B.2	Fallen, decorticated wood or humus in lower montane, subalpine, and upper montane coniferous forests. Elevation: 3,200'-7,220' Bloom Period: N/A	Potential to occur. Wood and humus within the Study Area may provide suitable habitat.
Dissected-leaved toothwort (*Cardamine pachystigma* var. *dissectifolia*)	–	–	1B.2	Rocky, usually serpentine soils of chaparral and lower montane coniferous forest. Elevation: 835'–6,890' Bloom Period: February– May	Absent. There is no serpentine within the Study Area (Horton 2017)
Sierra arching sedge *(Carex cyrtostachya)*	–	–	1B.2	Meadows and seeps, marshes and swamps, in mesic areas of lower montane coniferous forest, and margins of riparian forests. Elevation: 2,000'–4,460' Bloom Period: May–August	Potential to occur. The streambanks within the Study Area may provide suitable habitat for this species.
Chaparral sedge *(Carex xerophila)*	–	–	1B.2	Serpentine or gabbroic soils within chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 1,445'–2,525' Bloom Period: March–June	Absent. There is no serpentine or gabbro within the Study Area (Horton 2017).

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Mosquin's clarkia (*Clarkia mosquinii*)	–	–	1B.1	Rocky soils and roadsides of cismontane woodland and lower montane coniferous forest. Elevation: 605'–4,890' Bloom Period: May–July	Low potential to occur. The roadsides may provide marginally suitable habitat.
Plumas rayless daisy (*Erigeron lassenianus* var. *deficiens*)	–	–	1B.3	Gravelly, sometimes serpentine and disturbed sites in lower montane coniferous forest. Elevation: 4,460'–6,495' Bloom Period: June–September	Absent. The Study Area is significantly outside of the known elevational range for this species.
Ahart's buckwheat (*Eriogonum umbellatum* var. *ahartii*)	–	–	1B.2	Serpentine soils, slopes, and openings of chaparral and cismontane woodland. Elevation: 1,310'–6,560' Bloom Period: June–September	Absent. There is no serpentine within the Study Area (Horton 2017).
Fern-leaved monkeyflower (*Erythranthe filicifolia*)	–	–	1B.2	Usually slow–draining, ephemeral seeps among exfoliating granitic slabs of chaparral, lower montane coniferous forest, and ephemeral meadows and seeps. Elevation: 1,360'–5,610' Bloom Period: April–June	Absent. There are no granitic seeps within the Study Area.
Minute pocket moss (*Fissidens pauperculus*)	–	–	1B.2	Damp soil, dry streambeds, and stream banks in north coast coniferous forest and redwood communities. Elevation: 35'–3,360' Bloom Period: N/A	Potential to occur. The streambanks within the Study Area may provide suitable habitat.
Pine Hill flannelbush *(Fremontodendron decumbens)*	FE	CR	1B.2	Serpentine or gabbro rock outcrops in chaparral and cismontane woodland. Elevation: 1,395'–2,495' Bloom Period: April–July	Absent. The Study Area is significantly outside of the known elevational range for this species and does not have serpentine or gabbro geology (Horton 2017).

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Cantelow's lewisia *(Lewisia cantelovii)*	–	–	1B.2	In granitic or sometimes serpentine soils within mesic areas of broad–leaved upland forest, chaparral, cismontane woodland, and lower montane coniferous forest. Elevation: 1,085'–4,495' Bloom Period: May–October	Absent. There is no serpentine or granitic soils within the Study Area (Horton 2017).
Inundated bog-clubmoss (*Lycopodiella inundata*)	–	–	2B.2	Coastal bogs and fens, mesic areas of lower montane coniferous forest, and lake margins of marshes and swamps. Elevation: 15'-3,280' Bloom Period: N/A	Low potential to occur. The streambanks within the Study Area may provide marginally suitable habitat.
Shevock's copper moss (*Mielichhoferia shevockii*)	–	–	1B.2	Mesic metamorphic rock in cismontane woodlands. Elevation: 2,460'–4,595' Bloom Period: N/A	Absent. No suitable habitat within the Study Area.
Flexuose thread moss (*Pohlia flexuosa*)	–	–	2B.1	Roadsides and rocky seeps within lower montane coniferous forest. Elevation: 3,115'-3,365' Bloom Period: N/A	Potential to occur. The disturbed soils and streambanks within the Study Area may provide suitable habitat.
Sticky pyrrocoma (*Pyrrocoma lucida*)	–	–	1B.2	Alkaline clay in Great Basin scrub, lower montane coniferous forest, and meadows and seeps. Elevation: 2,295'–6,400' Bloom Period: July–October	Absent. There is no alkaline habitat within the Study Area.
Brownish beaked-rush *(Rhynchospora capitellata)*	–	–	2B.2	Mesic areas in lower montane coniferous forest, upper montane coniferous forests, meadows, seeps, marshes, and swamps. Elevation: 150'–6,560' Bloom Period: July–August	Low potential to occur. The streambanks within the Study Area may provide marginally suitable habitat.

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area					
Common Name (*Scientific Name*)	**Status**			**Habitat Description**	**Potential to Occur Onsite**
	FESA	**CESA**	**Other**		
Siskiyou jellyskin lichen (*Scytinium siskiyouensis*)	–	–	1B.1	Epiphytic, usually on the bark of plants in the Fagaceae family, such as *Quercus* or *Chrysolepis,* in lower montane coniferous forest, and North Coast coniferous forest. Elevation: 2,085'–4,790' Bloom Period: N/A	Potential to occur. The trees within the Study Area may provide suitable habitat.
True's mountain jewelflower (*Streptanthus tortuosus* ssp. *truei*)	–	–	1B.1	Partial shade on steep rocky slopes within lower montane coniferous forest. Elevation: 2,510'–2,820' Bloom Period: June–July	Low potential to occur. The conifer forest within the Study Area may provide marginally suitable habitat.
Invertebrates					
Western bumble bee *(Bombus occidentalis)*	–	CC	–	Meadows and grasslands with abundant floral resources. Primarily nests underground. Largely restricted to high elevation sites in the Sierra Nevada, although rarely detected on the California coast. Survey Period: April-November	Absent. There is no suitable habitat such as meadows or grasslands within the Study Area.
Monarch butterfly (*Danaus plexippus*)	FC	-	-	Adult monarchs west of the Rocky Mountains typically overwinter in sheltered wooded groves of Monterey pine, Monterey cypress, and gum eucalyptus along coastal California, then disperse in spring throughout California, Nevada, Arizona, and parts of Oregon and Washington. Adults require milkweed and additional nectar sources during the breeding season. Larval caterpillars feed exclusively on milkweed.	Absent. There is no suitable breeding or overwintering habitat within the Study Area.
Fish					
None					

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Amphibian					
Southern long-toed salamander *(Ambystoma macrodactylum sigillatum)*	–	–	SSC	Alpine meadows, high mountain ponds, and lakes at elevations up to 10,000 feet; adults are terrestrial, often using tunnels and burrows of small mammals. In California, this subspecies occurs in the northern Sierra Nevada, Cascade and Klamath Mountains. Survey Period: Spring-Summer, depending on snowpack.	Absent. There is no suitable habitat such as alpine meadows, ponds, or lakes within the Study Area.
California red-legged frog (*Rana draytonii*)	FT	–	SSC	Lowlands and foothills of the northern and southern Coast Ranges and Sierra Nevada. Found in deep standing or flowing water with dense shrubby or emergent riparian vegetation; requires 11-20 weeks of permanent water for larval development. Adults require aestivation habitat to endure summer dry down. Survey Period: January – Sept.	Absent. There is no suitable habitat, such as deep standing or flowing water with dense shrubby or emergent riparian vegetation, within Study Area.
Foothill yellow-legged frog North Feather River/Upper Feather River Watershed Clade (*Rana boylii*)	FT	CT	SSC	Partly shaded shallow streams and riffles in variety of habitats. Needs cobble-sized substrate for egg-laying and at least 15 weeks of permanent water to attain metamorphosis. Can be active all year in warmer locations; become inactive or hibernate in colder climates. Feather River watershed above Oroville. Survey Period: May–October.	Absent. The North Feather River/Upper Feather River Watershed clade does not occur in the Study Area watershed.

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Foothill yellow-legged frog Northeast/Northern Sierra Clade (*Rana boylii*)	–	CT	SSC	Partly shaded shallow streams and riffles in variety of habitats. Needs cobble-sized substrate for egg-laying and at least 15 weeks of permanent water to attain metamorphosis. Can be active all year in warmer locations; become inactive or hibernate in colder climates. Yuba River to Middle Fork American River and Sutter Buttes. Survey Period: May–October.	Potential to Occur. Suitable habitat occurs within Campbell Gulch within the Study Area and multiple CNDDB occurrences are recorded within one mile of the Study Area.
Sierra Nevada yellow-legged frog *(Rana sierrae)*	FE	CT	SSC	Lakes, ponds, marshes, meadows, and streams from 4,500 to 12,000 feet. Tadpoles may require 2 to 4 years to complete larval development. Sierra Nevada Mountains north of Fresno County and east to Inyo and Mono Counties. Survey Period: March – September.	Absent. Study Area is outside the elevational range for the species.
Reptiles					
Northwestern pond turtle (*Actinemys marmorata*)	–	–	SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches. Survey Period: April-September	Absent. No suitable habitat occurs within the Study Area. Campbell Gulch is too shallow to support Northwestern pond turtle.

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Blainville's ("Coast") horned lizard (*Phrynosoma blainvillii*)	–	–	SSC	Formerly a wide-spread horned lizard found in a wide variety of habitats, often in lower elevation areas with sandy washes and scattered low bushes. Also occurs in Sierra Nevada foothills. Requires open areas for basking, but with bushes or grass clumps for cover, patches of loamy soil or sand for burrowing and an abundance of ants (Stebbins and McGinnis 2012). In the northern Sacramento area, this species appears restricted to the foothills between 1000 to 3000 feet from Cameron Park (El Dorado County) north and west to Grass Valley and Nevada City. Survey Period: April-October	Absent. No suitable habitat, such sandy washes or scattered low bushes, occurs within the Study Area.
Birds					
Western grebe *(Aechmophorus occidentalis)*	–	–	BCC	Winters on salt or brackish bays, estuaries, sheltered sea coasts, freshwater lakes, and rivers. Nests on freshwater lakes and marshes with open water bordered by emergent vegetation. Nesting: June-August	Absent. No suitable habitat, such as lakes or open water, occurs within the Study Area.
California gull (nesting colony) *(Larus californicus)*	–	–	BCC, CDFW WL	Nesting occurs in the Great Basin, Great Plains, Mono Lake, and south San Francisco Bay. Breeding colonies located on islands on natural lakes, rivers, or reservoirs. Winters along Pacific Coast from southern British Columbia south to Baja California and Mexico. In California, winters along coast and inland (Central Valley, Salton Sea). Nesting: April-August	Absent. No suitable breeding habitat occurs within the Study Area.

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Cooper's hawk *(Accipiter cooperii)*	–	–	CDFW WL	Nests in trees in riparian woodlands in deciduous, mixed and evergreen forests, as well as urban landscapes. Nesting: March-July	Potential to Occur. Suitable nesting habitat occurs within the Study Area.
Northern goshawk *(Accipiter gentilis)*	–	–	SSC	Nesting occurs in mature to old-growth forests composed primarily of large trees with high canopy closure. In California, nests are built primarily in conifer trees in the Sierra Nevada, Cascade and northwestern coastal Ranges. Nesting: March-August	Absent. Coniferous forest within Study Area is early seral stage, not mature to old-growth, and has moderate canopy closure.
Bald eagle (*Haliaeetus leucocephalus*)	De-listed	CE	CFP	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands. Nesting: February-September Wintering: October-March	Absent. Study Area is not in close proximity to a large body of water.
California spotted owl *(Strix occidentalis occidentalis)*	FPT	–	BCC, SSC	Found in the southern Cascade Range and northern Sierra Nevada from Pit River, Shasta County south to Tehachapi Mountains, Kern County, in the coastal ranges from Monterey County to Santa Barbara County, in Transverse and Peninsular Ranges south to northern Baja California. At lower elevations, they breed in hardwood forests and coniferous forests at higher elevations. They use forests with greater complexity and structure. Nesting: March-September	Potential to Occur. Moderately suitable habitat occurs within the Study Area and there is a CNDDB occurrence within 0.25 mile of the Study Area. Rural residences in the vicinity reduces the likelihood for occurrence.

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Great gray owl *(Strix nebulosa)*	–	CE	–	Found in the Cascade and Sierra Nevada Ranges south to Fresno County. Nesting occurs in deciduous and coniferous forests adjacent to meadows (in California, at elevations between 750 and 2,250 meters). Nest in broken-topped dead trees, old raptor nests, mistletoe brooms, or human-made platforms. Nesting: March-July	Low Potential to Occur. Deciduous and coniferous trees within the Study Area provide marginally suitable nesting habitat. Rural residences in the vicinity of the Study Area significantly reduces likelihood for occurrence. There is a CNDDB occurrence within 2.75 miles of the Study Area.
Olive-sided flycatcher *(Contopus cooperi)*	–	–	SSC, BCC	Nests in montane and northern coniferous forests, in forest openings, forest edges, semiopen forest stands. In California, nests in coastal forests, Cascade and Sierra Nevada region. Winters in Central to South America. Nesting: May-August	Potential to Occur. Suitable nesting habitat occurs within the Study Area.
Oak titmouse (*Baeolophus inornatus*)	–	–	BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree). Nesting: March-July	Potential to Occur. Suitable nesting habitat occurs within the Study Area.
Wrentit (*Chamaea fasciata*)	–	–	BCC	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens. Nesting: March-August	Absent. No dense chaparral, scrub, or thickets occurs within the Study Area.

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Evening grosbeak (*Coccothraustes vespertinus*)	–	–	BCC	In Sierra Nevada, they nest in trees and large shrubs in open canopy mixed conifer, open canopy red fir, and closed canopy red fir forests. Nesting: May-August	Potential to Occur. The mixed coniferous forest within the Study Area provides suitable nesting habitat.
Lawrence's goldfinch (*Spinus lawrencei*)	–	–	BCC	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range. Nests in arid and open woodlands with chaparral or other brushy areas, tall annual weed fields, and a water source (e.g. small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or rural residences near weedy fields and water. Nesting: March-September	Absent. The mixed coniferous forest within the Study Area does not provide suitable nesting habitat.
Yellow warbler (*Setophaga petechia*)	–	–	SSC	Breeding range includes most of California, except Central Valley (isolated breeding locales on Valley floor, Stanislaus, Colusa, and Butte counties), Sierra Nevada range below tree line, and southeastern deserts. Nesting habitat includes riparian vegetation near streams and meadows. Winters in Mexico south to South America. Nesting: May-August	Potential to Occur. The riparian vegetation near Campbell Gulch within the Study Area provides suitable nesting and foraging habitat.

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Black-throated Gray warbler (*Setophaga nigrescens*)	–	–	BCC	Breeding habitat includes open coniferous or mixed coniferous-deciduous woodland with brushy undergrowth, pinyon-juniper and pine-oak associates, and oak scrub. Their deep cup nests are often built on horizontal branches and constructed of a variety of plant material, feathers, and mammal fur. Nesting: May-July	Low Potential to Occur. The mixed coniferous without brushy undergrowth within the Study Area provides moderately suitable habitat.
Mammals					
Sierra Nevada Mountain Beaver (*Aplodontia rufa californica*)	–	–	SSC	Dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and East slope. Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water. CDFW 2021 Survey Period: Any season	Absent. There is no suitable habitat within the Study Area.
Western red bat (*Lasiurus blossevillii*)	–	–	SSC	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores). Survey Period: April-September	Low Potential to Occur. The trees within the riparian corridor of Campbell Gulch within the Study Area provide suitable day roosting habitat. The overall habitat is marginally suitable western red bat habitat.

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Potential to Occur Onsite
	FESA	CESA	Other		
Townsend's big-eared bat *(Corynorhinus townsendii)*	–	–	SSC	Occurs throughout the west and is distributed from the southern portion of British Columbia south along the Pacific coast to central Mexico and east into the Great Plains, with isolated populations occurring in the central and eastern United States. It has been reported in a wide variety of habitat types ranging from sea level to 3,300 meters. Habitat associations include: coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Roosting can occur within caves, mines, buildings, rock crevices, trees. Survey Period: April-September	Absent. No suitable day roosting habitat was observed within the Study Area.
Pallid bat *(Antrozous pallidus)*	–	–	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human occupied as well as vacant buildings (WBWG 2023). Survey Period: April-September	Absent. No suitable day roosting habitat was observed within the Study Area.
Fisher- Northern California/Southern Oregon DPS *(Pekania pennanti)*	–	–	SSC	Coastal northern California and includes reintroduced populations in the northern Sierra Nevada and southern Oregon Cascades. Any season	Absent. No suitable den habitat was observed within the Study Area.

FESA	Federal Endangered Species Act
CESA	California Endangered Species Act
FE	FESA listed, Endangered
FT	FESA listed, Threatened
FPT	Formally Proposed for FESA listing as Threatened

Table 1. Evaluation of Special-Status Plant and Wildlife Species for the Project Area					
Common Name (*Scientific Name*)	**Status**			**Habitat Description**	**Potential to Occur Onsite**
	FESA	**CESA**	**Other**		
FC	Candidate for FESA listing as Threatened or Endangered				
BCC	USFWS Bird of Conservation Concern (USFWS 2021)				
CE	CESA- or NPPA listed, Endangered				
CT	CESA- or NPPA-listed, Threatened				
CR	CESA- or NPPA-listed, Rare				
CFP	California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, §5050-reptiles/amphibians)				
SSC	CDFW Species of Special Concern				
CDFW WL	CDFW Watch List				
CNDDB	Species that is tracked by CDFW's CNDDB but does not have any of the above special-status designations otherwise				
1A	CRPR/Presumed extinct				
1B	CRPR/Rare or Endangered in California and elsewhere				
2A	CRPR/Plants presumed extirpated in California but common elsewhere				
2B	CRPR/Plants rare, threatened, or endangered in California but more common elsewhere				
3	CRPR/Plants About Which More Information is Needed – A Review List				
4	CRPR/Plants of Limited Distribution – A Watch List				
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)				
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)				
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)				
NPPA	California Native Plant Protection Act				
WBWG	Western Bat Working Group				

4.5.1 Plants

A total of 18 special-status plant species were identified as having the potential to occur within the Study Area based on the database inquiries (Table 1). Upon further analysis and after the reconnaissance site visit, nine plant species were determined to be absent due to the lack of suitable habitat or the Study Area was outside the known range for the species. No further discussion of these species is provided in the analysis. Brief descriptions of the remaining nine special-status plant species with the potential to occur within the Study Area are provided below.

4.5.1.1 Green Shield-Moss

Green shield-moss (*Buxbaumia viridis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.2 species. This species is a moss that occurs on fallen, decorticated wood or humus in lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest. Green shield-moss is known to occur at elevations ranging from 3,200 to 7,220 feet above MSL. The current range in California for green shield-moss includes Del Norte, Humboldt, Modoc, Plumas, Trinity, and Yuba counties (CNPS 2023).

There are no CNDDB occurrences of green shield-moss within 5 miles of the Study Area (CDFW 2023). The fallen, decorticated wood and humus in the mixed coniferous forest within the Study Area provides suitable habitat for this species. Green shield-moss has the potential to occur within the Study Area.

4.5.1.2 Sierra Arching Sedge

Sierra arching sedge (*Carex cyrtostachya*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.2 species. This species is a perennial herb that occurs in meadows and seeps, marshes, and swamps, in mesic areas of lower montane coniferous forest, and margins of riparian forest. Sierra arching sedge blooms from May through August and is known to occur at elevations ranging from 2,000 to 4,460 feet above MSL. Sierra arching sedge is endemic to California; the current range of this species includes Butte, El Dorado, and Yuba counties (CNPS 2023).

There are no CNDDB occurrences of Sierra arching sedge within 5 miles of the Study Area (CDFW 2023). The streambanks of Campbell Gulch within the mixed coniferous forest of the Study Area provides suitable habitat for this species. Sierra arching sedge has the potential to occur within the Study Area.

4.5.1.3 Mosquin's Clarkia

Mosquin's clarkia (*Clarkia mosquinii*) is not listed pursuant to the federal ESA, is listed as endangered pursuant to the California ESA, and is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs on roadsides and on rocky soils in cismontane woodland and lower montane coniferous forest. Mosquin's clarkia blooms from May through July and it is known to occur at elevations ranging from 605 to 4,890 feet above MSL. Mosquin's clarkia is endemic to California; the current range of this species includes Butte, Plumas, and Yuba counties (CNPS 2023).

There are no CNDDB occurrences of Mosquin's clarkia within 5 miles of the Study Area (CDFW 2023). The roadsides and rocky soils of the mixed coniferous forest within the Study Area provides marginally suitable habitat for this species. Mosquin's clarkia has a low potential to occur within the Study Area.

4.5.1.4 Minute Pocket Moss

Minute pocket moss (*Fissidens pauperculus*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is a moss that occurs on damp coastal soil in North Coast coniferous forest. Minute pocket moss is known to occur at elevations ranging from 35 to 3,360 feet above MSL. The current range in California for minute pocket moss includes Alameda, Butte, Del Norte, Humboldt, Marin, Mendocino, San Mateo, Santa Cruz, Sonoma, and Yuba counties (CNPS 2023).

There are no CNDDB occurrences of minute pocket moss within 5 miles of the Study Area (CDFW 2023). The streambanks of Campbell Gulch within the mixed coniferous forest of the Study Area provide suitable habitat for this species. Minute pocket moss has the potential to occur within the Study Area.

4.5.1.5 Inundated Bog-Clubmoss

Inundated bog-clubmoss (*Lycopodiella inundata*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.2 species. This species is a perennial rhizomatous herb that occurs in coastal bogs and fens, mesic areas of lower montane coniferous forest, and lake margins of marshes and swamps. Inundated bog-clubmoss blooms from June to September and is known to occur at elevations ranging from 15 to 3,280 feet above MSL. The current range in California for inundated bog-clubmoss includes Humboldt and Nevada counties (CNPS 2023).

There are no CNDDB occurrences of inundated bog-clubmoss within 5 miles of the Study Area (CDFW 2023). The streambanks of Campbell Gulch within the mixed coniferous forest of the Study Area provide marginally suitable habitat for this species. Inundated bog-clubmoss has a low potential to occur within the Study Area.

4.5.1.6 Flexuose Thread Moss

Flexuose thread moss (*Pohlia flexuosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.1 species. This species is a moss that occurs on roadsides and in rocky seeps in lower montane coniferous forest. Flexuose thread moss is known to occur at elevations ranging from 3,115 to 3,365 feet above MSL. The current range for this species in California includes Yuba County (CNPS 2023).

There are no CNDDB occurrences of flexuose thread moss within 5 miles of the Study Area (CDFW 2023). The streambanks of Campbell Gulch within the mixed coniferous forest of the Study Area provide suitable habitat for this species. Flexuose thread moss has the potential to occur within the Study Area.

4.5.1.7 Brownish Beaked-Rush

Brownish beaked-rush (*Rhynchospora capitellata*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.2 species. This species is an herbaceous perennial that occurs in mesic areas in lower montane coniferous forest, meadows, seeps, marshes, swamps, and upper montane coniferous forest. Brownish beaked-rush blooms from July through August and is known to occur at elevations ranging from 150 to 6,560 feet above MSL. The current range of this species in California includes Butte, El Dorado, Mariposa, Nevada, Plumas, Sonoma, Tehama, Trinity, Tuolumne, and Yuba counties; distribution or identity is uncertain in Sonoma County, but it is presumed extirpated if it was once present there (CNPS 2023).

There are no CNDDB occurrences of brownish beaked-rush within 5 miles of the Study Area (CDFW 2023). The streambanks of Campbell Gulch within the mixed coniferous forest of the Study Area provide marginally suitable habitat for this species. Brownish beaked-rush has a low potential to occur within the Study Area.

4.5.1.8 Siskiyou Jellyskin Lichen

Siskiyou jellyskin lichen (*Scytinium siskiyouensis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is a foliose lichen that is epiphytic and usually occurs on the bark of plants in the Fagaceae family, such as *Quercus* or *Chrysolepis,* in lower montane coniferous forest and North Coast coniferous forest. Siskiyou jellyskin lichen is known to occur at elevations ranging from 2,085 and 4,790 feet above MSL. The current range of this species in California includes Butte, Humboldt, Monterey, Plumas, Shasta, Tehama, Trinity, and Tuolumne counties (CNPS 2023).

There are no CNDDB occurrences of Siskiyou jellyskin lichen within 5 miles of the Study Area (CDFW 2023). The trees within the mixed coniferous forest of the Study Area provide suitable habitat for this species. Siskiyou jellyskin lichen has the potential to occur within the Study Area.

4.5.1.9 True's Mountain Jewelflower

True's mountain jewelflower (*Streptanthus tortuosus* ssp. *truei*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous perennial that occurs in partial shade on steep rocky slopes in lower montane coniferous forest. True's mountain jewelflower blooms from June through July and is known to occur at elevations ranging from 2,510 to 2,820 feet above MSL. The current range of this species in California includes Nevada and Sierra counties (CNPS 2023).

There are three CNDDB occurrences of True's mountain jewelflower within 5 miles of the Study Area (CDFW 2023). The conifer forest within the Study Area may provide marginally suitable habitat for this species. True's mountain jewelflower has a low potential to occur within the Study Area.

4.5.2 Invertebrates

Two special-status invertebrate species were identified as having potential to occur in the Study Area based on the database inquiries (Table 1). However, upon further analysis and after the site visit, both species were considered to be absent from the Study Area due to the lack of suitable habitat and/or because the Study Area is outside of the known geographic range for these species. No further discussion of these species is provided within this assessment.

4.5.3 Fish

No special-status fish species were identified as having potential to occur in the vicinity of the Study Area based on the database inquiries and literature review (Table 1 and Appendix A).

4.5.4 Amphibians

A total of five special-status amphibian species were identified as having the potential to occur within the Study Area based on the database inquiries (Table 1). Upon further analysis and after the reconnaissance site visit, four amphibian species were determined to be absent due to the lack of suitable habitat or the Study Area was outside the known range for the species. No further discussion of these species is

provided in the analysis. A brief description of the remaining one special-status amphibian species with the potential to occur within the Study Area is provided below.

4.5.4.1 Foothill Yellow-Legged Frog (Northeast/Northern Sierra Clade)

Recent genetic work has described six genetic clades of the foothill yellow-legged frog (FYLF) subdivided by geography (McCartney-Melstad et al. 2018, Peek 2018). California Department of Fish and Wildlife, in their recent Staff Summary Report for listing the species (CDFW 2019) used these clades as the basis for analyzing the foothill yellow-legged frog across its range in California. CDFW recognizes clades from northwest/north coast, north Feather River/upper Feather River, northeast/northern Sierra, west/central coast, east/southern Sierra, and the southwest/south coast.

The Northeast/Northern Sierra clade of FYLF is listed as threatened pursuant to the CESA and is considered a California SSC across its range. The Northeast/Northern Sierra clade of FYLF generally occurs in Sutter, Yuba, Sierra, Nevada, and Placer counties. The northern portion of the clade boundary extends into Plumas County and coincides with the northern boundary of the Upper Yuba Watershed (HUC #18020125; NRCS et al. 2016). The southern portion of the clade boundary extends into El Dorado County and coincides with the southern boundary of the North Fork American Watershed (HUC #18020128; NRCS et al. 2016).

Foothill yellow-legged frogs occupy rocky streams in valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow plant communities. They are rarely found far from water and will often dive into water to take refuge under rocks or sediment when disturbed (Zeiner et al., 1988).

Moyle (1973) implicated the bullfrog (*Lithobates catesbeianus*) as a cause of the observed reduction of yellow-legged frog populations in the Central Valley and in the Sierra Nevada. The introduction of nonnative fishes, including centrarchids (e.g., bass, sunfish), known to eat eggs of ranid frogs (Werschkul and Christensen 1977), and stocking of salmonids (trout) in streams where they historically did not exist, may also contribute to the disappearance or reduction of native frog populations in Sierra streams. Additional human-related impacts to foothill yellow-legged frogs and their habitat include the construction and maintenance of dams and reservoirs and resultant controlled stream flows, recreation, and livestock grazing (Jennings and Hayes 1994, Lind et al. 1996). A chytrid fungus (*Batrachochytrium dendrobatidis*), which can be fatal to metamorphic and adult frogs, has become increasingly common in the Sierra Nevada (Speare et al. 1998), and has been shown to delay growth of foothill yellow-legged frogs (Davidson et al. 2007).

There are approximately 50 CNDDB occurrences of FYLF located within 5 miles of the Study Area (CDFW 2023). There is suitable aquatic habitat within and adjacent to the Study Area. Foothill yellow-legged frog has potential to occur within the Study Area.

4.5.5 Reptiles

Two special-status reptile species were identified as having potential to occur in the Study Area based on the database inquiries (Table 1). However, upon further analysis and after the site visit, both species were

considered to be absent from the Study Area due to the lack of suitable habitat and/or because the Study Area is outside of the known geographic range for these species. No further discussion of these species is provided within this assessment.

4.5.6 Birds

A total of 14 special-status bird species were identified as having the potential to occur within the Study Area based on the database inquiries (Table 1). Upon further analysis and after the reconnaissance site visit, six species of birds were determined to be absent due to the lack of suitable habitat or the Study Area was outside the known range for the species. No further discussion of these species is provided in the analysis. A brief description of the remaining eight special-status bird species with the potential to occur within the Study Area is provided below.

4.5.6.1 Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is not listed pursuant to either the California or federal ESAs; however, it is a CDFW Watch List species. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawks nest throughout California from Siskiyou County to San Diego County and includes the Central Valley (Rosenfield et al. 2020). Breeding occurs from March through July, with a peak from May through July.

There are no CNDDB occurrences of Cooper's hawk within 5 miles of the Study Area (CDFW 2023). The riparian woodland within the mixed coniferous forest of the Study Area provides suitable habitat for this species. Cooper's hawk has the potential to occur within the Study Area.

4.5.6.2 California Spotted Owl

The California spotted owl (*Strix occidentalis occidentalis*) is proposed to be listed as threatened pursuant to the federal ESA. This is a subspecies of spotted owl, which occurs primarily on the west slope of the Sierra Nevada range, with isolated metapopulations along the central California coastal range and Southern California (USFWS 2017). A year-round resident in most of its range, breeding range occurs from 1,000 feet to almost 8,000 feet, with some birds migrating to lower elevations in the winter (Verner et al. 1992). This is an owl primarily of dense Ponderosa pine and mixed coniferous forest, with old-growth trees, snags, a complex canopy, and abundant woody debris (Davis and Gould 2008). Wintering may occur in blue oak (*Quercus douglasii*)-gray pine (*Pinus sabiniana*) foothill riparian forests. California spotted owls do not build their own nest, but rather use naturally occurring platforms, cliffs, and abandoned common raven (*Corvus corax*), raptor, or squirrel nests. Nesting occurs from March through September.

There are 22 CNDDB records of California spotted owl nesting pairs within five miles of the Study Area with one record of a California spotted owl nesting pair approximately 1/4 mile from the Study Area (CDFW 2023). The mixed coniferous forests within the Study Area provide suitable habitat for California spotted owl.

4.5.6.3 Great Gray Owl

The great gray owl (*Strix nebulosa*) is listed as an endangered species under the California ESA but is not listed under the federal ESA. In North American, great gray owls are found from Alaska through Canada and into Washington, Idaho, Montana south through the Cascade and Sierra Nevada ranges to east-central California, west-central Nevada, and northwestern Wyoming (Bull and Duncan 2020). In California, breeding habitat generally includes pine and fir forests adjacent to montane meadows between 750 and 2,250 meters (2,461 and 7,382 feet) above MSL; in central Oregon, breeding habitat included meadow systems associated with coniferous forests; and in northeastern Oregon, breeding habitat included all forest types (Bull and Duncan 2020). Great gray owls nest in broken-topped dead trees, old raptor nests, mistletoe brooms, and human-made platforms (Bull and Duncan 2020). Breeding season occurs from March through July.

There is one CNDDB occurrence of great gray owl within 5 miles of the Study Area (CDFW 2023). The mixed coniferous forest within the Study Area provides marginally suitable nesting habitat for this species; however, a meadow (approximately 20 acres in size) occurs within 440 yards to the northeast of the Study Area. Great gray owl has a low potential to occur within the Study Area.

4.5.6.4 Olive-Sided Flycatcher

The olive-sided flycatcher (*Contopus cooperi*) is not listed pursuant to either the California or federal ESAs but is a CDFW SSC and a USFWS BCC. In the western U.S., olive-sided flycatchers breed from Washington south throughout California, except the Central Valley, eastern deserts, and mountains of Southern California (Small 1994). This species breeds in late-successional coniferous forests including Ponderosa pine woodlands, black oak woodlands, mixed coniferous forests, and Jeffrey pine forests, usually at mid to high elevations (Widdowson 2008). They use edges and clearings surrounding dense forests, foraging primarily on bees and wasps. Nesting occurs during May through August.

There are no CNDDB occurrences of olive-sided flycatcher within 5 miles of the Study Area (CDFW 2023). The mixed coniferous forest within the Study Area provides suitable breeding habitat for this species. Olive-sided flycatcher has the potential to occur within the Study Area.

4.5.6.5 Oak Titmouse

Oak titmouse (*Baeolophus inornatus*) are not listed and protected under either state or federal EDAs but are considered a USFWS BCC. Oak titmouse breeding range includes southwestern Oregon south through California's Coast, Transverse, and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley (Cicero et al. 2020). They are found in dry oak or oak-pine woodlands but may also use scrub oaks or other brush near woodlands (Cicero et al. 2020). Nesting occurs during March through July.

There are no CNDDB occurrences of oak titmouse within 5 miles of the Study Area (CDFW 2023). The trees within the mixed coniferous forest of the Study Area provides suitable habitat for this species. Oak titmouse has the potential to occur within the Study Area.

4.5.6.6 Evening Grosbeak

The evening grosbeak (*Coccothraustes vespertinus*) is not listed and protected under either federal or California ESAs; however, it is considered a BCC according to the USFWS. In California, evening grosbeak breeding range includes the mountains of Northern California from Siskiyou and Trinity counties, and Warner Mountains on both slopes of the Cascade-Sierra axis south to Tulare County (Gillihan and Byers 2020). Evening grosbeak nest in trees and large shrubs in open canopy mixed conifer forests, and open and closed canopy red fir forests. Nesting occurs from May through August.

There are no CNDDB occurrences of evening grosbeak within 5 miles of the Study Area (CDFW 2023). The trees within the mixed coniferous forest of the Study Area provides suitable breeding habitat for this species. Evening grosbeak has the potential to occur within the Study Area.

4.5.6.7 Yellow Warbler

Yellow warbler (*Setophaga petechia*) is a CDFW SSC. Yellow warbler nest from Baja California northward to Alaska and winter from Southern California to South America. Breeding occurs throughout much of California up to 8,000 feet elevation, except the Central Valley and southeastern deserts (Heath 2008). Breeding habitat includes riparian vegetation in close proximity to water along streams and wet meadows (Heath 2008). During migration, yellow warbler may occur in a wide variety of woodland habitats throughout California. The nesting season is May through August.

There are no CNDDB occurrences of yellow warbler within 5 miles of the Study Area (CDFW 2023). The riparian vegetation within the mixed coniferous forest of the Study Area provides suitable habitat for this species. Yellow warbler has the potential to occur within the Study Area.

4.5.6.8 Black-Throated Gray Warbler

Black-throated gray warbler (*Setophaga nigrescens*) is not listed and protected under either federal or California ESAs; however, it is considered a BCC according to the USFWS. Their breeding range includes British Columbia south into northern Mexico. In California, present primarily in mountains: Klamath to Warner mountains, North Coast Ranges south to Sonoma and Napa counties; Santa Cruz Mountains and Diablo Range of Santa Clara County, Oakland hills, Diablo Range south through Santa Barbara and Ventura counties; Cascade and Sierra Nevada ranges south through Piute and Tehachapi mountains; Transverse Ranges, San Jacinto Mountain, Palomar Mountain, Mount Laguna, Cuyamaca Mountains, and possibly Santa Ana Mountains in extreme southwest; White and Inyo mountains, Panamint and Kingston ranges, and New York Mountains in southeast (Guzy and Lowther 2020). Breeding habitat includes open coniferous or mixed coniferous-deciduous woodland with brushy undergrowth, pinyon-juniper and pine-oak associates, and oak scrub (Guzy and Lowther 2020). Their deep cup nests are often built on horizontal branches and constructed of a variety of plant material, feathers, and mammal fur (Guzy and Lowther 2020). Nesting occurs from May through July.

There are no CNDDB occurrences of black-throated gray warbler within 5 miles of the Study Area (CDFW 2023). The mixed coniferous forest within the Study Area provides marginally suitable habitat for this species. Black-throated gray warbler has a low potential to occur within the Study Area.

4.5.6.9 Other Protected Birds

All native or naturally occurring birds and their occupied nests/eggs are protected under the federal MBTA. The Study Area supports suitable nesting habitat for a variety of common birds protected under these regulations.

4.5.7 Mammals

A total of five special-status mammal species were identified as having the potential to occur within the Study Area based on the literature review and database inquiries (Table 1). Upon further analysis and after the reconnaissance site visit, four species of mammals were determined to be absent due to the lack of suitable habitat or the Study Area was outside the known range for the species. No further discussion of these species is provided in the analysis. A brief description of the remaining one special-status mammal species with the potential to occur within the Study Area is provided below.

4.5.7.1 Western Red Bat

The western red bat (*Lasiurus frantzii*) is not listed pursuant to either the California or federal ESAs; however, this species is considered an SSC by CDFW. The western red bat is easily distinguished from other western bat species by its distinctive red coloration. This species is broadly distributed with its range extending from southern British Columbia in Canada through Argentina and Chile in South America, and including much of the western U.S. This solitary species day roosts primarily in the foliage of trees or shrubs in edge habitats bordering streams or open fields, in orchards, and occasionally urban areas. They may be associated with intact riparian habitat, especially with willows, cottonwoods, and sycamores. This species may occasionally utilize caves for roosting as well. The western red bat feeds on a variety of insects and generally begin to forage 1 to 2 hours after sunset. This species is considered highly migratory; however, the timing of migration and the summer ranges of males and females may be different (WBWG 2017).

There are no CNDDB occurrences western red bat within 5 miles of the Study Area (CDFW 2023). The trees within the riparian corridor of the mixed coniferous forest within the Study Area provide marginally suitable habitat for this species. Western red bat has a low potential to occur within the Study Area.

4.6 Critical Habitat and Essential Fish Habitat

There is no Critical Habitat mapped within the Study Area (USFWS 2023b). The Study Area is not within Essential Fish Habitat (NOAA 2023).

5.0 RECOMMENDATIONS

This section summarizes recommended measures to avoid potential impacts to biological resources from the proposed Project.

5.1 Water of the U.S./State

Impacts to Campbell Gulch from diversion structure repairs are proposed. To minimize the proposed impacts to potentially jurisdictional Waters of the U.S./State, the following measures are recommended:

- Obtain verification of Waters of the U.S./State from the USACE and/or Waters of the State from the Central Valley RWQCB.
- A permit authorization under Section 404 of the federal CWA (Section 404 Permit) must be obtained from USACE prior to discharging any dredged or fill materials into any Waters of the U.S. Final AMMs will be developed as part of the Section 404 Permit process to ensure no-net-loss of wetland function and values.
- A permit authorization from the Central Valley RWQCB pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Act must be obtained prior to the discharge of material in an area that could affect Waters of the U.S./State. Mitigation requirements for discharge to Waters of the U.S./State will be developed in consultation with the Central Valley RWQCB.
- A SAA from CDFW pursuant to Section 1602 of the California Fish and Game Code must be obtained for impacts to features (e.g., the bed, channel, or bank of any river, stream, or lake) that may be subject to Section 1600 of the Fish and Game Code. The construction contractor shall adhere to all conditions outlined in the Section 1602 SAA.

5.2 Special-Status Plants

There is potential for nine special-status plants to occur within the Study Area. The following measures are recommended to minimize potential impacts to special-status plants:

- Perform focused plant surveys of the Project site according to CDFW, CNPS, and USFWS protocols prior to construction (CDFG 2009; CNPS 2001, USFWS 1996). Surveys shall be conducted by a qualified biologist according to the blooming period for target species and timed according to the appropriate phenological stage for identifying target species. Known reference populations will be visited and/or local herbaria records should be reviewed, if available, prior to surveys to confirm the phenological stage of the target species. If no special-status plants are found within the Project site, no further measures pertaining to special-status plants are necessary.
- If special-status plants are identified within 25-feet of the Project site, implement the following measures:

  The Project will avoid occurrences of special-status plant species by establishing and clearly demarcating avoidance zones around the plant occurrences prior to construction. Avoidance

zones should include the extent of the special-status plants plus a minimum 25-foot buffer, unless otherwise determined by a qualified biologist, and should be maintained until the completion of construction. Additional measures such as seed collection and/or transplantation may be developed in consultation with CDFW and the CEQA Lead Agency if special-status plant species are found within the Project site and avoidance of the species is not possible.

5.3 Special-Status Amphibians

There is potential for one special-status amphibian to occur within the Study Area. The following measures are recommended to minimize potential impacts to special-status amphibians:

5.3.1.1 Foothill Yellow-Legged Frog (Northeast/Northern Sierra Clade)

Northeast/Northern Sierra clade of FYLF has the potential to occur within the riparian corridor of Campbell Gulch within the mixed coniferous forest habitat of the Study Area. Implementation of the following measure would avoid or minimize impacts to FYLF:

- A qualified biologist shall conduct a preconstruction survey for all life stages of foothill yellow-legged frog between April 1 – September 30 within five days prior to ground or vegetation disturbance within 50-feet of Campbell Gulch. The preconstruction survey will be conducted after 10:00 am. The preconstruction survey will not be conducted during inclement weather (rainstorms or unseasonably cold weather). A preconstruction survey report will be prepared including methods, results, and recommendations sections. If foothill yellow-legged frog is not observed, then no further action is required.
- If foothill yellow-legged frog at any life stage is observed during the preconstruction survey or during the course of construction, then a Foothill Yellow-Legged Frog Capture and Relocation Plan will be prepared and submitted to CDFW for approval. CDFW approval of the Capture and Relocation Plan and relocation activities will occur prior to initiation of Project activities within 50 feet of Campbell Gulch. The Capture and Relocation Plan will include equipment decontamination methods, capture and relocation methods, and details of the location where individuals will be relocated to.
- If foothill yellow-legged frog at any life stage is observed during the preconstruction survey or during the course of construction, then Project activities will be immediately halted within 100 feet of the observation, individuals will be allowed to leave on their own volition, and CDFW will be consulted. Project activities will resume once written authorization has been obtained from CDFW. The Project will either develop avoidance and minimization measures in coordination with CDFW or obtain an Incidental Take Permit from CDFW to document compliance with the CESA.

5.4 Special-Status Birds and Migratory Bird Treaty Act-Protected Birds (Including Nesting Raptors)

The Study Area supports potential nesting habitat for eight special-status bird species in addition to raptors and other common species of birds protected under MBTA and the California Fish and Game Code. The following measures are recommended to minimize potential impacts to nesting special-status birds, and common species of nesting raptors and birds:

5.4.1 California Spotted Owl

California spotted owl has the potential to occur within the Study Area and there is one CNDDB occurrence of California spotted owl within 0.25 miles of the Study Area. If nesting California spotted owl are present within 0.25 miles of the Project, the Project could result in harassment to nesting individuals. In order to avoid impacts to California spotted owl, the following avoidance and minimization measures are recommended:

- Project activities shall be conducted October through February, outside of the California spotted owl nesting season. The California spotted owl nesting season is March through September.
- If Project activities are to occur during the California spotted owl nesting season, then "Disturbance-Only Project" surveys according to the USFWS 2012 northern spotted owl survey protocol shall be conducted by a qualified biologist (USFWS 2012). "Disturbance-Only Project" surveys include a one-year six visit survey that covers all spotted owl habitat within 0.25 mile from the Project area.
- Alternative to conducting the protocol surveys, the lead agency may conduct an informal consultation with the USFWS to seek recommendations for what California spotted owl avoidance and minimization measures would be appropriate for the Project.

5.4.2 Great Gray Owl

Great gray owl has a low potential to occur within the Study Area. The following measures are recommended to avoid and minimize potential impacts to great gray owl:

- Project activities shall be conducted between June 15 and March 15th, outside of the great gray owl nesting season. The great gray nesting season is late March to mid-June.
- If Project activities are to occur during the great gray nesting season (March 15 to June 15), then preconstruction surveys shall be conducted according to the May 2000 Survey Protocol for the Great Gray Owl in the Sierra Nevada of California (Beck and Winter 2000).
- Alternative to conducting the protocol surveys, the lead agency may consult with CDFW to seeks recommendations for what great gray owl avoidance and minimization measures would be appropriate for the Project.

5.4.3 Nesting Birds and Raptors

Cooper's hawk, olive-sided flycatcher, oak titmouse, evening grosbeak, yellow warbler, and black-throated gray warbler as well as common species of birds and raptors have the potential to nest within the Study Area. The following measure is recommended to avoid or minimize potential impacts to nesting birds and raptors protected by MBTA and California Fish and Game Code:

- Project activities shall be conducted October through January, outside of the typical bird nesting season (generally February 1 through September 30).
- If Project activities are to occur during the nesting season (generally February 1 through September 30), conduct a preconstruction nesting bird survey of all suitable nesting habitat within 14 days of the commencement of Project activities in a given area of Project activities. The survey shall be conducted within a 500-foot radius of Project work areas for raptors and within a 100-foot radius for other nesting birds. If any active nests are observed, these nests shall be designated a sensitive area and protected by a no-disturbance buffer established by a qualified biologist until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival. A Preconstruction Nesting Bird Survey Report will be prepared by a qualified biologist that includes surveyors' names and affiliation, dates and times of surveys, methods, results, and recommendations. If there is a lapse in Project activities of 15 days or longer for areas that have been surveyed, then additional nesting bird survey(s) will be conducted.

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LIST OF APPENDICES

APPENDIX A

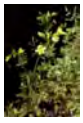
Results of Database Searches

Search Results

42 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [**3912058:3912048:3912151:3912141:3912152:3912038:3912131:3912132:3912142**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Allium sanbornii var. *sanbornii*	Sanborn's onion	Alliaceae	perennial bulbiferous herb	May-Sep	None	None	G4T4?	S3S4	4.2		1994-01-01	 ©2018 Steven Perry
Arctostaphylos mewukka ssp. *truei*	True's manzanita	Ericaceae	perennial evergreen shrub	Feb-Jul	None	None	G4?T3	S3	4.2	Yes	1984-01-01	 © 2008 George W. Hartwell
Brodiaea sierrae	Sierra foothills brodiaea	Themidaceae	perennial bulbiferous herb	May-Aug	None	None	G3	S3	4.3	Yes	2012-11-20	 © 2006 George W. Hartwell
Buxbaumia viridis	green shield-moss	Buxbaumiaceae	moss		None	None	G3G4	S2	2B.2		2011-03-23	 © 2021 Scot Loring
Cardamine pachystigma var. *dissectifolia*	dissected-leaved toothwort	Brassicaceae	perennial rhizomatous herb	Feb-May	None	None	G3G5T2Q	S2	1B.2	Yes	1988-01-01	No Photo Available
Carex cyrtostachya	Sierra arching sedge	Cyperaceae	perennial herb	May-Aug	None	None	G2	S2	1B.2	Yes	2015-08-18	No Photo Available
Carex xerophila	chaparral sedge	Cyperaceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	Yes	2016-06-06	 © 2023 Steven Perry
Clarkia biloba ssp. *brandegeeae*	Brandegee's clarkia	Onagraceae	annual herb	(Mar)May-Jul	None	None	G4G5T4	S4	4.2	Yes	2001-01-01	No Photo Available
Clarkia mildrediae ssp. *lutescens*	golden-anthered clarkia	Onagraceae	annual herb	Jun-Aug	None	None	G3T3	S3	4.2	Yes	2001-01-01	No Photo Available

Clarkia mosquinii	Mosquin's clarkia	Onagraceae	annual herb	May-Jul(Sep)	None	None	G2	S2	1B.1	Yes	1980-01-01	 © 2002 Dean Wm Taylor
Clarkia virgata	Sierra clarkia	Onagraceae	annual herb	May-Aug	None	None	G3	S3	4.3	Yes	1974-01-01	No Photo Available
Cypripedium californicum	California lady's-slipper	Orchidaceae	perennial rhizomatous herb	Apr-Aug(Sep)	None	None	G3	S4	4.2		1980-01-01	 © 2012 Barry Rice
Cypripedium fasciculatum	clustered lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	None	None	G4	S4	4.2		1980-01-01	 © 2013 Scot Loring
Darlingtonia californica	California pitcherplant	Sarraceniaceae	perennial rhizomatous herb (carnivorous)	Apr-Aug	None	None	G4	S4	4.2		1980-01-01	 © 2021 Scot Loring
Erigeron lassenianus var. *deficiens*	Plumas rayless daisy	Asteraceae	perennial herb	Jun-Sep	None	None	G3G4T2T3	S2S3	1B.3	Yes	2012-09-28	No Photo Available
Erigeron petrophilus var. *sierrensis*	northern Sierra daisy	Asteraceae	perennial rhizomatous herb	Jun-Oct	None	None	G4T4	S4	4.3	Yes	1994-01-01	No Photo Available
Eriogonum umbellatum var. *ahartii*	Ahart's buckwheat	Polygonaceae	perennial herb	Jun-Sep	None	None	G5T3	S3	1B.2	Yes	2010-11-29	No Photo Available
Erythranthe filicifolia	fern-leaved monkeyflower	Phrymaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.2	Yes	2017-05-10	 Belinda Lo, 2020
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		None	None	G3?	S2	1B.2		2001-01-01	 ©2021 Scot Loring
Fremontodendron decumbens	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	Apr-Jul	FE	CR	G1	S1	1B.2	Yes	1974-01-01	No Photo Available
Fritillaria eastwoodiae	Butte County fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3Q	S3	3.2		1974-01-01	 ©2009 Sierra Pacific Industries

Hartmaniella sierrae	Sierra starwort	Caryophyllaceae	perennial rhizomatous herb	May-Aug	None	None	G3G4	S3	4.2	Yes	2004-01-01	No Photo Available
Lathyrus sulphureus var. *argillaceus*	dubious pea	Fabaceae	perennial herb	Apr-May	None	None	G5T1T2Q	S1S2	3	Yes	1994-01-01	No Photo Available
Lewisia cantelovii	Cantelow's lewisia	Montiaceae	perennial herb	May-Oct	None	None	G3	S3	1B.2	Yes	1974-01-01	 ©2005 Steve Matson
Lilium humboldtii ssp. *humboldtii*	Humboldt lily	Liliaceae	perennial bulbiferous herb	May-Jul(Aug)	None	None	G4T3	S3	4.2	Yes	1994-01-01	 © 2008 Sierra Pacific Industries
Lupinus dalesiae	Quincy lupine	Fabaceae	perennial herb	May-Aug	None	None	G3	S3	4.2	Yes	1974-01-01	No Photo Available
Lycopodiella inundata	inundated bog-clubmoss	Lycopodiaceae	perennial rhizomatous herb	Jun-Sep	None	None	G5	S1	2B.2		1980-01-01	 © 2021 Scot Loring
Mielichhoferia elongata	elongate copper moss	Mielichhoferiaceae	moss		None	None	G5	S3S4	4.3		2001-01-01	 © 2012 John Game
Mielichhoferia shevockii	Shevock's copper moss	Mielichhoferiaceae	moss		None	None	G2	S2	1B.2	Yes	2001-01-01	No Photo Available
Peltigera gowardii	western waterfan lichen	Peltigeraceae	foliose lichen (aquatic)		None	None	G4?	S3	4.2		2014-03-01	 © 2021 Scot Loring
Perideridia bacigalupii	Bacigalupi's yampah	Apiaceae	perennial herb	Jun-Aug	None	None	G3	S3	4.2	Yes	1974-01-01	No Photo Available
Piperia colemanii	Coleman's rein orchid	Orchidaceae	perennial herb	Jun-Aug	None	None	G4	S4	4.3	Yes	2001-01-01	 © 2005 Dean Wm. Taylor
Pohlia flexuosa	flexuose threadmoss	Mielichhoferiaceae	moss		None	None	G5	S1	2B.1		2014-10-10	No Photo Available
Pyrrocoma lucida	sticky pyrrocoma	Asteraceae	perennial herb	Jul-Oct	None	None	G3	S3	1B.2	Yes	1980-01-01	No Photo Available

Rhynchospora capitellata	brownish beaked-rush	Cyperaceae	perennial herb	Jul-Aug	None	None	G5	S1	2B.2		1974-01-01	 ©2004 Dean Wm. Taylor
Sanicula tracyi	Tracy's sanicle	Apiaceae	perennial herb	Apr-Jul	None	None	G4	S4	4.2	Yes	1974-01-01	 ©2014 Zoya Akulova
Scytinium siskiyouense	Siskiyou jellyskin lichen	Collemataceae	foliose lichen		None	None	G2G3	S1	1B.1		2022-10-13	No Photo Available
Sidalcea gigantea	giant checkerbloom	Malvaceae	perennial rhizomatous herb	(Jan-Jun)Jul-Oct	None	None	G3	S3	4.3	Yes	2012-07-10	 ©2018 Sierra Pacific Industries
Streptanthus longisiliquus	long-fruit jewelflower	Brassicaceae	perennial herb	Apr-Sep	None	None	G3	S3	4.3	Yes	2007-08-31	 ©2008 Sierra Pacific Industries
Streptanthus tortuosus ssp. *truei*	True's mountain jewelflower	Brassicaceae	perennial herb	Jun-Jul(Sep)	None	None	G5T1T2	S1S2	1B.1	Yes	2016-07-20	 © 2021 Robert E. Preston, Ph.D
Vaccinium coccineum	Siskiyou Mountains huckleberry	Ericaceae	perennial deciduous shrub	Jun-Aug	None	None	G3Q	S2S3	3.3		1974-01-01	No Photo Available
Viola tomentosa	felt-leaved violet	Violaceae	perennial herb	(Apr)May-Oct	None	None	G3	S3	4.2	Yes	1974-01-01	No Photo Available

Showing 1 to 42 of 42 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 10 August 2023].

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Goodyears Bar (3912058) OR Pike (3912048) OR Strawberry Valley (3912151) OR Camptonville (3912141) OR Clipper Mills (3912152) OR North Bloomfield (3912038) OR Nevada City (3912131) OR French Corral (3912132) OR Challenge (3912142))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01085	***Ambystoma macrodactylum sigillatum*** southern long-toed salamander	None	None	G5T4	S2	SSC
AAABH01022	***Rana draytonii*** California red-legged frog	Threatened	None	G2G3	S2S3	SSC
AAABH01052	***Rana boylii pop. 2*** foothill yellow-legged frog - Feather River DPS	Proposed Threatened	Threatened	G3T2	S2	
AAABH01053	***Rana boylii pop. 3*** foothill yellow-legged frog - north Sierra DPS	None	Threatened	G3T2	S2	
AAABH01340	***Rana sierrae*** Sierra Nevada yellow-legged frog	Endangered	Threatened	G1	S2	WL
ABNGA04010	***Ardea herodias*** great blue heron	None	None	G5	S4	
ABNKC10010	***Haliaeetus leucocephalus*** bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC12040	***Accipiter cooperii*** Cooper's hawk	None	None	G5	S4	WL
ABNKC12060	***Accipiter gentilis*** northern goshawk	None	None	G5	S3	SSC
ABNSB12040	***Strix nebulosa*** great gray owl	None	Endangered	G5	S1	
AMACC01070	***Myotis evotis*** long-eared myotis	None	None	G5	S3	
AMACC01090	***Myotis thysanodes*** fringed myotis	None	None	G4	S3	
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G3G4	S3S4	
AMACC05080	***Lasiurus frantzii*** western red bat	None	None	G4	S3	SSC
AMACC08010	***Corynorhinus townsendii*** Townsend's big-eared bat	None	None	G4	S2	SSC
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G4	S3	SSC
AMAFA01013	***Aplodontia rufa californica*** Sierra Nevada mountain beaver	None	None	G5T3T4	S2S3	SSC
AMAFJ01010	***Erethizon dorsatum*** North American porcupine	None	None	G5	S3	
AMAJF01014	***Martes caurina sierrae*** Sierra marten	None	None	G4G5T3	S3	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMAJF01020	***Pekania pennanti*** Fisher	None	None	G5	S2S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
ARACF12100	***Phrynosoma blainvillii*** coast horned lizard	None	None	G4	S4	SSC
CTT51120CA	***Darlingtonia Seep*** Darlingtonia Seep	None	None	G4	S3.2	
IIHYM24252	***Bombus occidentalis*** western bumble bee	None	Candidate Endangered	G3	S1	
IMBIV27020	***Margaritifera falcata*** western pearlshell	None	None	G4G5	S1S2	
NBMUS1B040	***Buxbaumia viridis*** green shield-moss	None	None	G3G4	S2	2B.2
NBMUS2W0U0	***Fissidens pauperculus*** minute pocket moss	None	None	G3?	S2	1B.2
NBMUS4Q022	***Mielichhoferia elongata*** elongate copper moss	None	None	G5	S3S4	4.3
NBMUS5S1D0	***Pohlia flexuosa*** flexuose threadmoss	None	None	G5	S1	2B.1
NLTES34580	***Scytinium siskiyouense*** Siskiyou jellyskin lichen	None	None	G2G3	S1	1B.1
NLVER00460	***Peltigera gowardii*** western waterfan lichen	None	None	G4?	S3	4.2
PDAPI1Z0K0	***Sanicula tracyi*** Tracy's sanicle	None	None	G4	S4	4.2
PDAST3M262	***Erigeron lassenianus var. deficiens*** Plumas rayless daisy	None	None	G3G4T2T3	S2S3	1B.3
PDASTDT0E0	***Pyrrocoma lucida*** sticky pyrrocoma	None	None	G3	S3	1B.2
PDBRA0K1B1	***Cardamine pachystigma var. dissectifolia*** dissected-leaved toothwort	None	None	G3G5T2Q	S2	1B.2
PDBRA2G108	***Streptanthus tortuosus ssp. truei*** True's mountain jewelflower	None	None	G5T1T2	S1S2	1B.1
PDFAB2B1A0	***Lupinus dalesiae*** Quincy lupine	None	None	G3	S3	4.2
PDONA05053	***Clarkia biloba ssp. brandegeeae*** Brandegee's clarkia	None	None	G4G5T4	S4	4.2
PDONA050S0	***Clarkia mosquinii*** Mosquin's clarkia	None	None	G2	S2	1B.1
PDPGN086UY	***Eriogonum umbellatum var. ahartii*** Ahart's buckwheat	None	None	G5T3	S3	1B.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDPHR01150	***Erythranthe filicifolia*** fern-leaved monkeyflower	None	None	G2	S2	1B.2
PDPOR04020	***Lewisia cantelovii*** Cantelow's lewisia	None	None	G3	S3	1B.2
PDSTE03030	***Fremontodendron decumbens*** Pine Hill flannelbush	Endangered	Rare	G1	S1	1B.2
PDVIO04280	***Viola tomentosa*** felt-leaved violet	None	None	G3	S3	4.2
PMCYP03M00	***Carex cyrtostachya*** Sierra arching sedge	None	None	G2	S2	1B.2
PMCYP03M60	***Carex xerophila*** chaparral sedge	None	None	G2	S2	1B.2
PMCYP0N080	***Rhynchospora capitellata*** brownish beaked-rush	None	None	G5	S1	2B.2
PMLIL0V060	***Fritillaria eastwoodiae*** Butte County fritillary	None	None	G3Q	S3	3.2
PPLYC03060	***Lycopodiella inundata*** inundated bog-clubmoss	None	None	G5	S1	2B.2

Record Count: 49

IPaC resource list

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

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

Location

Yuba County, California

Local office

Sacramento Fish And Wildlife Office

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

Federal Building

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

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

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

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

Listed species[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.

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

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

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

Birds

NAME	STATUS
California Spotted Owl Strix occidentalis occidentalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7266	Proposed Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

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

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

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

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

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
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 offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31

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 confidence in the presence score. One can have higher confidence 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.

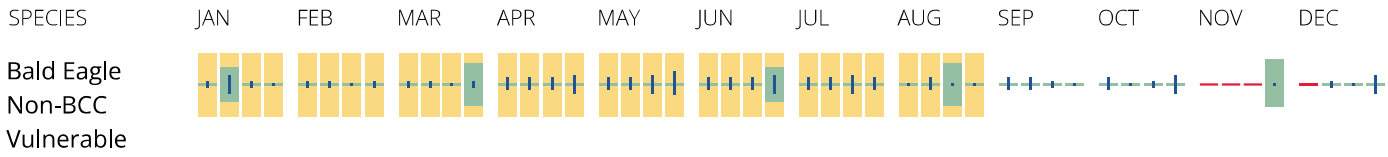
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

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

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

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

What 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. Please contact your local Fish and Wildlife Service Field Office if you have questions.

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 https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.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 find 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
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 offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Black-throated Gray Warbler Dendroica nigrescens This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jul 20
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31

Evening Grosbeak Coccothraustes vespertinus — Breeds May 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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 confidence in the presence score. One can have higher confidence 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.

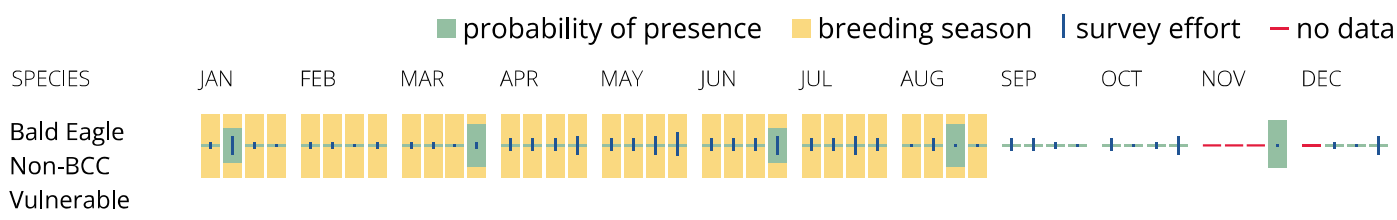
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

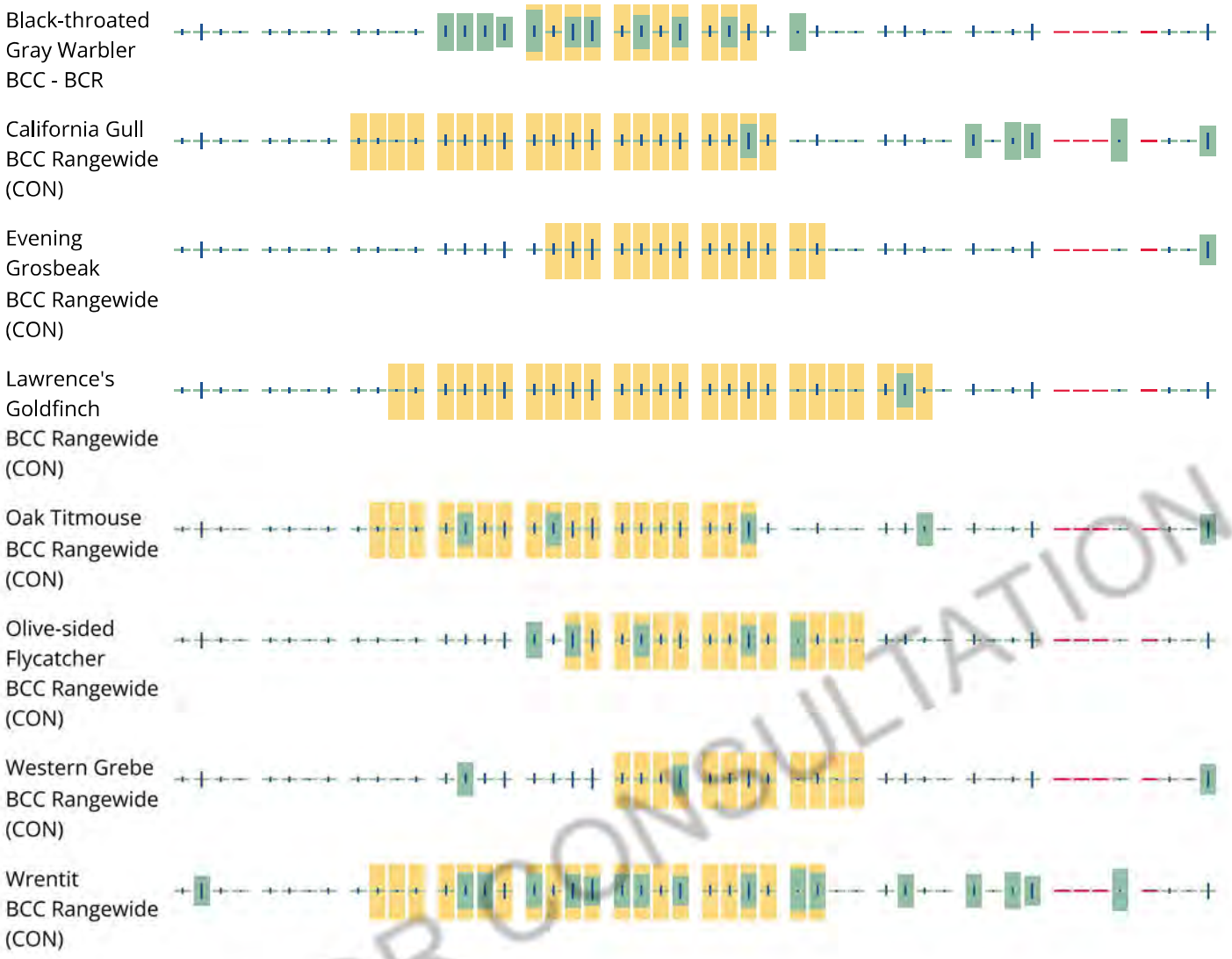
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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.





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

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

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

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

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid

cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to

you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

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

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

PFOC

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

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

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

Quad Name **Camptonville**
Quad Number **39121-D1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

APPENDIX B

Representative Site Photographs

Photo 1. C-2, Looking upstream at Campbell Gulch pipe location.

Photo 2. C-2, Looking upstream at Campbell Gulch pipe location.

Photo 3. C-2, Looking across Campbell Gulch along pipe excavation alignment.

Photo 4. C-2, Looking downstream at Campbell Gulch pipe location.

Photo 5. C-1, Looking upstream at Campbell Gulch Diversion structure.

Photo 6. C-1, Looking upstream at Campbell Gulch OHWM transect upstream of Diversion Structure.

Photo 7. C-1, Looking downstream at Campbell Gulch Diversion structure.

Photo 8. CCSD Water Facility off Mackey Lane that will be used for staging area.

APPENDIX C

Aquatic Resources Delineation
for the Campbell Gulch Diversion Structure
Reconstruction Project
ECORP Consulting, Inc. – September 8, 2023

Aquatic Resources Delineation for the Campbell Gulch Diversion Structure Repair Project

Yuba County, California

Prepared For:

Bennett Engineering Services

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

September 8, 2023

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
Agencies	USEPA and Department of the Army
ARD	Aquatic Resources Delineation
CFR	Code of Federal Regulations
CWA	Clean Water Act
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FR	Federal Register
GPS	Global Positioning System
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OBL	Obligate
OHWM	Ordinary high water mark
PJD	Preliminary Jurisdictional Determination
RWQCB	Regional Water Quality Control Board
Study Area	Campbell Gulch Diversion Structure Repair Project
UPL	Upland
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

On behalf of Bennett Engineering Services, ECORP Consulting, Inc. conducted an Aquatic Resources Delineation (ARD) for the approximately 1.86-acre proposed Campbell Gulch Diversion Structure Repair Project (Study Area) located in Yuba County, California. The Study Area is comprised of three disjunct parcels and is located east of the Town of Camptonville, California (Figure 1). The Study Area corresponds to a portion of Section 01, Township 18 North, and Range 08 East (Mount Diablo Base and Meridian) of the "Camptonville, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1992). The approximate center of the Study Area is located at 39.457617° latitude and -121.037712° longitude and is located within Upper Yuba Watershed (Hydrologic Unit Code #18020125; Natural Resources Conservation Service [NRCS] et al. 2016). Driving directions to the Study Area are included as Appendix A.

This report describes aquatic resources identified within the Study Area that may be regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA). The information presented in this report provides data required by the USACE Sacramento District's Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2016a). The aquatic resource boundaries depicted in this report represent a calculated estimation of the jurisdictional area within the Study Area and are subject to modification following the USACE verification process.

The purpose of this report is to provide adequate information to USACE for the issuance of a Preliminary Jurisdictional Determination (PJD).

2.0 REGULATORY SETTING

2.1 Waters of the United States

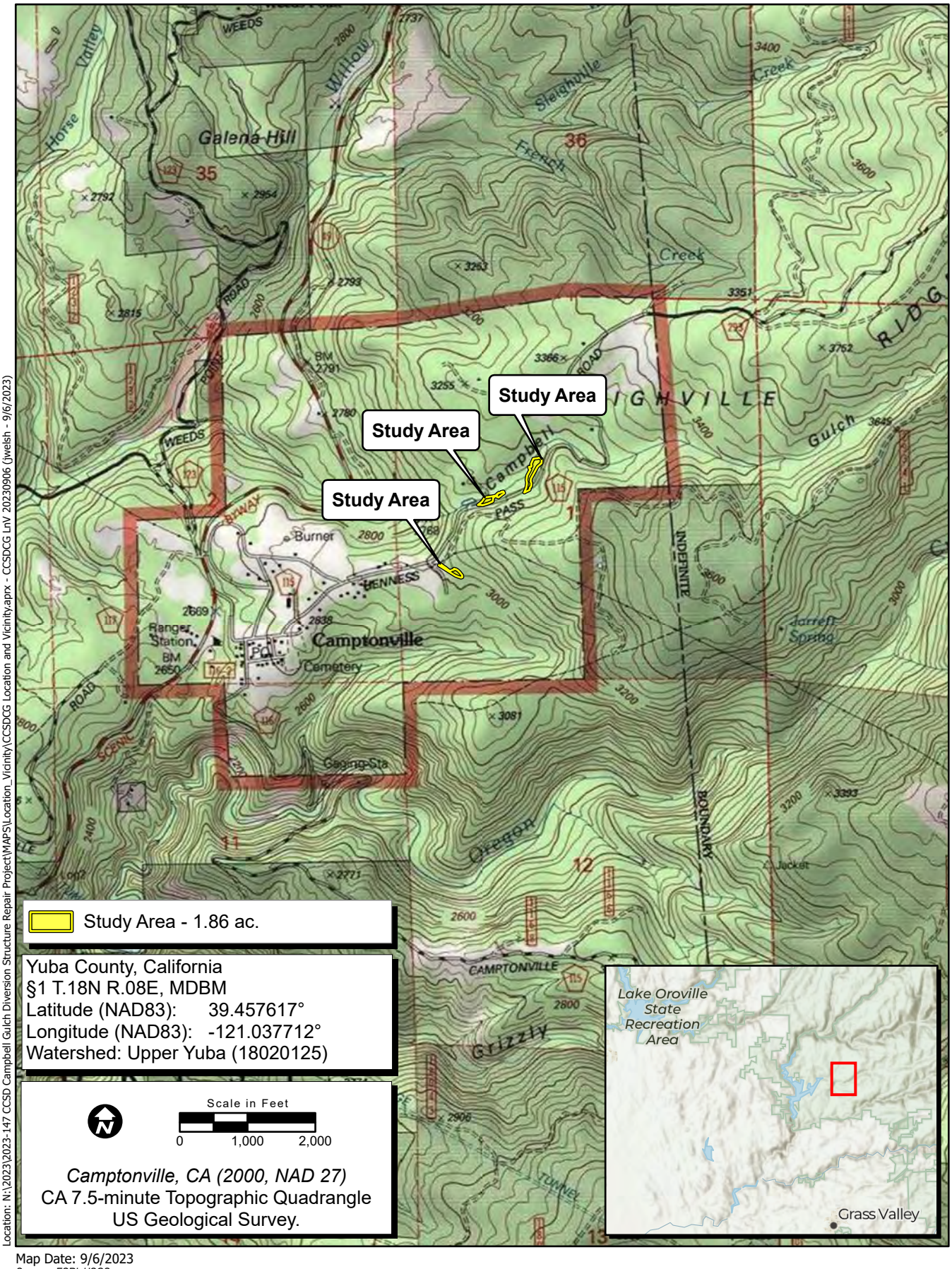
This report describes aquatic resources, including wetlands, that may be regulated by USACE under Section 404 and/or the Regional Water Quality Control Board (RWQCB) under Section 401 of the federal CWA. The following sections define these regulations.

2.1.1 Wetlands

Wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [51 Federal Register (FR) 41250, Nov. 13, 1986, as amended at 58 FR 45036, Aug. 25, 1993]. Wetlands can be perennial or intermittent.

2.1.2 Other Waters

Other waters are nontidal, perennial, and intermittent watercourses and tributaries to such watercourses [51 FR 41250, Nov. 13, 1986, as amended at 58 FR 45036, August 25, 1993]. The limit of USACE jurisdiction for nontidal watercourses (without adjacent wetlands) is defined in 33 Code of Federal Regulations (CFR) 328.4(c)(1) as the "ordinary high water mark" (OHWM). The OHWM is defined as the "line on the shore



Location: N:\2023\2023-147 CCSD Campbell Gulch Diversion Structure Repair Project\MAPS\Location_Vicinity\CCSDCG Location and Vicinity.aprx - CCSDCG LnV 20230906 (jwelsh - 9/6/2023)

Map Date: 9/6/2023
Sources: ESRI, USGS

Figure 1. Study Area Location and Vicinity

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2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the OHWM is no longer perceptible.

2.2 Clean Water Act

The USACE regulates discharge of dredged or fill material into Waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into Waters of the U.S., including, but not limited to, the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR Section 328.2(f)]. In addition, Section 401 of the CWA (33 U.S. Code 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands (over 0.5 acre of impact) may require an individual permit. Projects that only minimally affect wetlands (less than 0.5 acre of impact) may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the RWQCB.

On December 22, 2022 the USEPA and Department of the Army (Agencies) announced a final rule defining Waters of the U.S. The definition was founded upon the pre-2015 "Rapanos" decision, updated to reflect consideration of U.S. Supreme Court decisions, the science, and the Agencies' technical expertise. The final rule was published in the FR on January 18, 2023 and effective as of March 20, 2023.

On May 25, 2023 the U.S. Supreme Court adopted a narrower definition of Waters of the U.S. in the case *Sackett v. Environmental Protection Agency*. Under the majority opinion, Waters of the U.S. refers to "geographical features that are described in ordinary parlance as 'streams, oceans, rivers, and lakes' and to adjacent wetlands that are 'indistinguishable' from those bodies of water due to a continuous surface connection." At this time, it is unclear if or when the Agencies will issue guidance interpreting the U.S. Supreme Court's opinion.

2.3 Jurisdictional Assessment

On December 22, 2022 the Agencies announced a final rule defining Waters of the U.S. The definition was founded upon the pre-2015 "Rapanos" decision, updated to reflect consideration of U.S. Supreme Court decisions, the science, and the Agencies' technical expertise. The final rule was published in the FR on January 18, 2023 and effective as of March 20, 2023.

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"geographical features that are described in ordinary parlance as 'streams, oceans, rivers, and lakes' and to adjacent wetlands that are 'indistinguishable' from those bodies of water due to a continuous surface connection."

On August 29, 2023 the Agencies issued a final rule to amend the final "*Revised Definition of 'Waters of the United States*'" rule, published in the FR on January 18, 2023. This final rule conforms the definition of "waters of the United States" to the U.S. Supreme Court's May 25, 2023 decision in the case of *Sackett v. Environmental Protection Agency*. Parts of the January 2023 Rule are invalid under the Supreme Court's interpretation of the CWA in the *Sackett* decision. Therefore, the Agencies have amended key aspects of the regulatory text to conform to the U.S. Supreme Court's decision.

The conforming rule will become effective upon publication in the FR. Where the January 2023 Rule is not enjoined, the Agencies will implement the January 2023 Rule, as amended by the conforming rule.

In summary, under the conforming rule, the term Waters of the U.S. will mean:

- "Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- The territorial seas;
- Interstate waters;
- Impoundments of waters otherwise defined as waters of the United States under this definition;
- Tributaries of a) Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide, b) the territorial seas, and c) interstate waters;
- Wetlands adjacent to a) Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide, b) the territorial seas, and c) interstate waters: or
- Wetlands adjacent (defined as having a continuous surface connection) to relatively permanent, standing or continuously flowing bodies of water identified as impoundments of waters and with a continuous surface connection to those waters.
- Intrastate lakes and ponds that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the water previously identified."

Waters excluded from this definition include prior converted cropland (defined by the U.S. Department of the Agriculture), waste treatment systems, ditches (including roadside ditches) excavated wholly in and draining only dry land, artificially irrigated areas that would revert to dry land if the irrigation ceased, artificial lakes or ponds, artificial reflecting pools or swimming pools, waterfilled depressions (e.g., created in dry land incidental to construction activity, pits excavated in dry land for purposes of obtaining fill, sand, or gravel), swales and erosional features (e.g., gullies, small washes) that are characterized by low volume, infrequent, or short duration flow.

2.4 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb 1 or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" (Water Code 13260(a)). Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

3.0 METHODS

This ARD was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* (USACE 2010). Nonwetland waters were identified in the field according to *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Western Mountains, Valleys and Coast of the Western United States* (USACE 2014). The boundaries of aquatic resources were delineated through standard field methods (e.g., documenting presence of OHWM field indicators) and aerial photograph interpretation. Field data were recorded on Arid West Ephemeral and Intermittent Streams OHWM Datasheets (Appendix B). This datasheet was developed for the Arid West region for ephemeral and intermittent streams, but was adapted for use to document conditions for the perennial stream onsite. *Munsell Soil Color Charts* (Munsell Color 2009) and the Web Soil Survey (NRCS 2023a) were used to aid in identifying hydric soils in the field. The Jepson eFlora (Jepson eFlora Project [eds.] 2022) was used for plant nomenclature and identification.

The field survey was conducted on August 11, 2023 by ECORP Senior Biologist Dan Machek. The biologist walked the entire Study Area to assess the site conditions of the Study Area and collect ARD data. Aquatic resources within the Study Area were recorded in the field using a post-processing capable Global Positioning System (GPS) unit with submeter accuracy (e.g., Android, Collector for ArcGIS application with Geode GNS3 submeter GPS unit with real-time correction).

3.1 Routine Determinations for Wetlands

To be determined a wetland, the following three criteria must be met:

- A majority of dominant vegetation species are wetland-associated species;
- Hydrologic conditions exist that result in periods of flooding, ponding, or saturation during the growing season; and

- Hydric soils are present.

3.1.1 Vegetation

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanent or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (Environmental Laboratory 1987). The definition of wetlands includes the phrase "a prevalence of vegetation typically adapted for life in saturated soil conditions." Prevalent vegetation is characterized by the dominant plant species comprising the plant community (Environmental Laboratory 1987). The dominance test is the basic hydrophytic vegetation indicator and was applied at each sampling point location. The "50/20 rule" was used to select the dominant plant species from each stratum of the community. The rule states that for each stratum in the plant community, dominant species are the most abundant plant species (when ranked in descending order of coverage and cumulatively totaled) that immediately exceed 50 percent of the total coverage for the stratum, plus any additional species that individually comprise 20 percent or more of the total cover in the stratum (USACE 1992, 2016a).

Dominant plant species observed at each sampling point were then classified according to their indicator status (probability of occurrence in wetlands; Table 1), *National Wetland Plant List* (USACE 2020). If the majority (more than 50 percent) of the dominant vegetation on a site are classified as Obligate (OBL), Facultative Wetland (FACW), or Facultative (FAC), the site was considered to be dominated by hydrophytic vegetation.

Table 1. Classification of Wetland-Associated Plant Species[1]

Plant Species Classification	Abbreviation	Probability of Occurring in Wetland
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands, but may occur in nonwetlands
Facultative	FAC	Occur in wetlands and nonwetlands
Facultative Upland	FACU	Usually occur in nonwetlands, but may occur in wetlands
Upland	UPL	Almost never occur in wetlands
Plants That Are Not Listed (assumed upland species)	N/L	Does not occur in wetlands in any region.

[1]Source: USACE 2020

In instances where indicators of hydric soil and wetland hydrology were present, but the plant community failed the dominance test, the vegetation was reevaluated using the Prevalence Index. The Prevalence Index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL=1, FACW=2, FAC=3, FACU=4, and UPL=5) and weighting is by abundance (percent cover). If the plant community failed the Prevalence Index, the

presence/absence of plant morphological adaptations to prolonged inundation or saturation in the root zone was evaluated.

3.1.2 Soils

A hydric soil is defined as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (NRCS 2003a). Indicators that a hydric soil is present include, but are not limited to, histosols, histic epipedon, hydrogen sulfide, depleted below dark surface, sandy redox, loamy gleyed matrix, depleted matrix, redox dark surface, redox depressions, and vernal pools.

A soil pit was excavated at each sampling point to the depth needed to document an indicator, to confirm the absence of indicators, or until refusal at each sampling point. The soil was then examined for hydric soil indicators. Soil colors were determined while the soil was moist using the *Munsell Soil Color Charts* (Munsell Color 2009). Hydric soils are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated and anaerobic environment. These processes and the features in the soil that develop can be identified by looking at the color and texture of the soils.

3.1.3 Hydrology

Wetlands, by definition, are seasonally or perennially inundated or saturated at or near (within 12 inches of) the soil surface. Primary indicators of wetland hydrology include, but are not limited to, visual observation of saturated soils, visual observation of inundation, surface soil cracks, inundation visible on aerial imagery, water-stained leaves, oxidized rhizospheres along living roots, aquatic invertebrates, water marks (secondary indicator in riverine environments), drift lines (secondary indicator in riverine environments), and sediment deposits (secondary indicator in riverine environments). The occurrence of one primary indicator is sufficient to conclude that wetland hydrology is present. If no primary indicators are observed, two or more secondary indicators are required to conclude wetland hydrology is present. Secondary indicators include, but are not limited to drainage patterns, crayfish burrows, FAC-neutral test, and shallow aquitard.

4.0 RESULTS

4.1 Existing Site Conditions

The Study Area is located within mountainous terrain of rural Yuba County situated at an elevational range of approximately 3,010 to 3,140 feet above mean sea level in the Northern High Sierra Nevada subregion of the Sierra Nevada floristic region of California (Baldwin et al. 2012). At the Strawberry Valley reporting station, approximately 8.2 miles northwest of the Study Area, the average winter temperature is 40.5 degrees Fahrenheit (˚F) and the average summer temperature is 66.3 ˚F. Average annual precipitation is approximately 82.52 inches, which falls as snow (National Oceanic and Atmospheric Administration 2023).

The majority of the Study Area is comprised of a Community-owned parcel containing the existing Camptonville Water District (a subset of the Camptonville Community Service District) diversion structure

and transmission pipeline, with a minor portion within the street right-of-way and access roadway. The adjacent land uses include rural residential properties that are forested with mixed coniferous trees. U.S. Forest Service land is to the north, east, and south of the Study Area. The Town of Camptonville and State Route 49 are to the west of the Study Area.

The majority of the Study Area is composed of mixed coniferous forest, a vegetation community dominated by incense cedar (*Calocedrus decurrens*), Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), bigleaf maple (*Acer macrophyllum*), and tanoak (*Notholithocarpus densiflorus*) in the overstory and the regenerative sapling layer. Sierra plum (*Prunus subcordata*), white fir (*Abies concolor*), black oak (*Quercus kelloggii*), Pacific yew (*Taxus brevifolia*), and beaked hazelnut (*Corylus cornuta*) were the dominant subcanopy tree species. California blackberry (*Rubus ursinus*), Himalayan blackberry (*Rubus armeniacus*), and common snowberry (*Symphoricarpos albus*) are the dominant shrubs present within the Study Area. Examples of dominant herbaceous species observed include fowl bluegrass (*Poa palustris*), American trailplant (*Adenocaulon bicolor*), California sword fern (*Polystichum californicum*), western lady fern (*Athyrium filix-femina* var. *cyclosorum*), and coastal brookfoam (*Boykinia occidentalis*).

This ARD was conducted in the late summer, outside of the blooming season for most plant species. The survey was conducted at a time of the year that is moderately optimal to observe plant reproductive structures, especially identifying grasses to species level, although most plants were identifiable to species based upon vegetative or fruit morphology. According to the Antecedent Precipitation Tool developed by the USACE, the conditions were normal with respect to the season (Appendix C). Prior to the start of the 2022-2023 precipitation year the area was experiencing historically severe drought conditions

4.1.1 National Wetlands Inventory

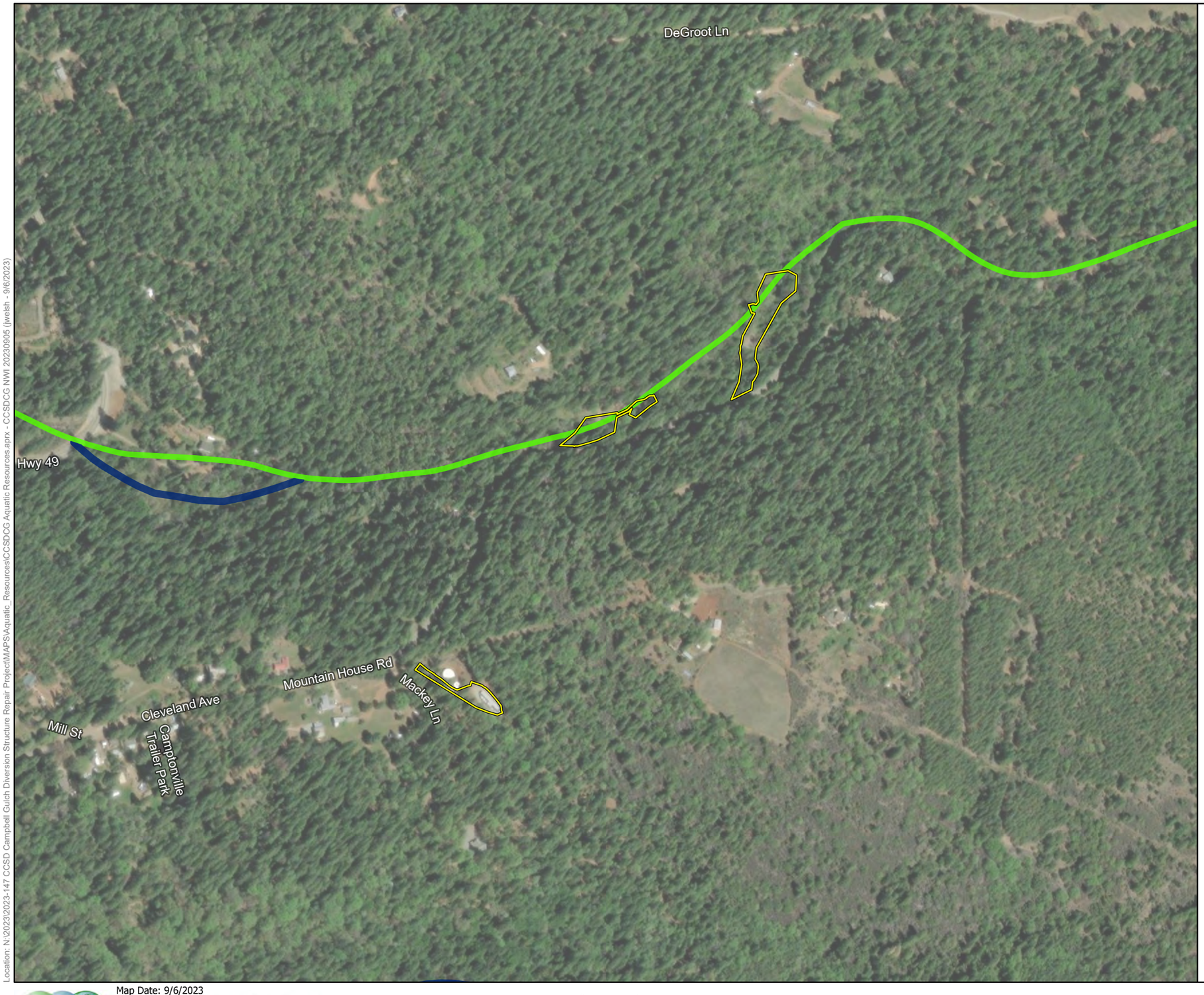
The National Wetlands Inventory (NWI; U.S. Fish and Wildlife Service [USFWS] 2023) is a nationwide map and database of surface waters and related habitats. The NWI includes aquatic resource features mapped using a variety of remote sensing and modeling techniques. As such, these aquatic features may or may not exist as represented. In addition, NWI data varies in detail, accuracy, and age, and is meant to be used as a tool to assist with an ARD but not as the only source of information.

According to the NWI (USFWS 2023), Campbell Gulch is the only aquatic feature mapped within the Study Area (Figure 2). Campbell Gulch is classified as Palustrine Forested Seasonally Flooded according to the Cowardin Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979).

4.1.2 Soils

According to the Web Soil Survey (NRCS 2023a), three soil units, or types, have been mapped within the Study Area (Figure 3):

- 180 – Jocal-Sites-Mariposa complex, 2 to 30 percent slopes
- 230 – Sites-Jocal complex, 2 to 30 percent slopes
- 231 – Sites-Jocal-Mariposa complex, 30 to 50 percent slopes



Map Contents

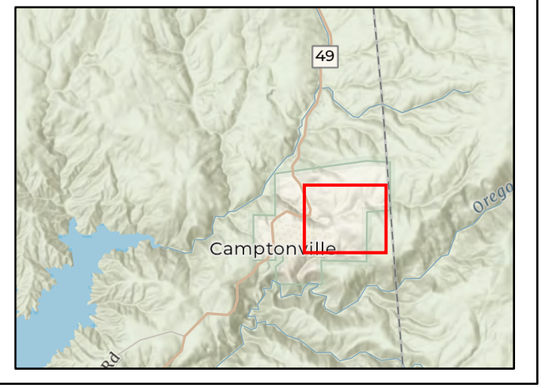
Study Area - 1.86 ac.

NWI Type

Freshwater Forested/Shrub Wetland

Riverine

Sources: ESRI, Maxar (2021), USFWS NWI (2022), Yuba County



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Map Date: 9/6/2023

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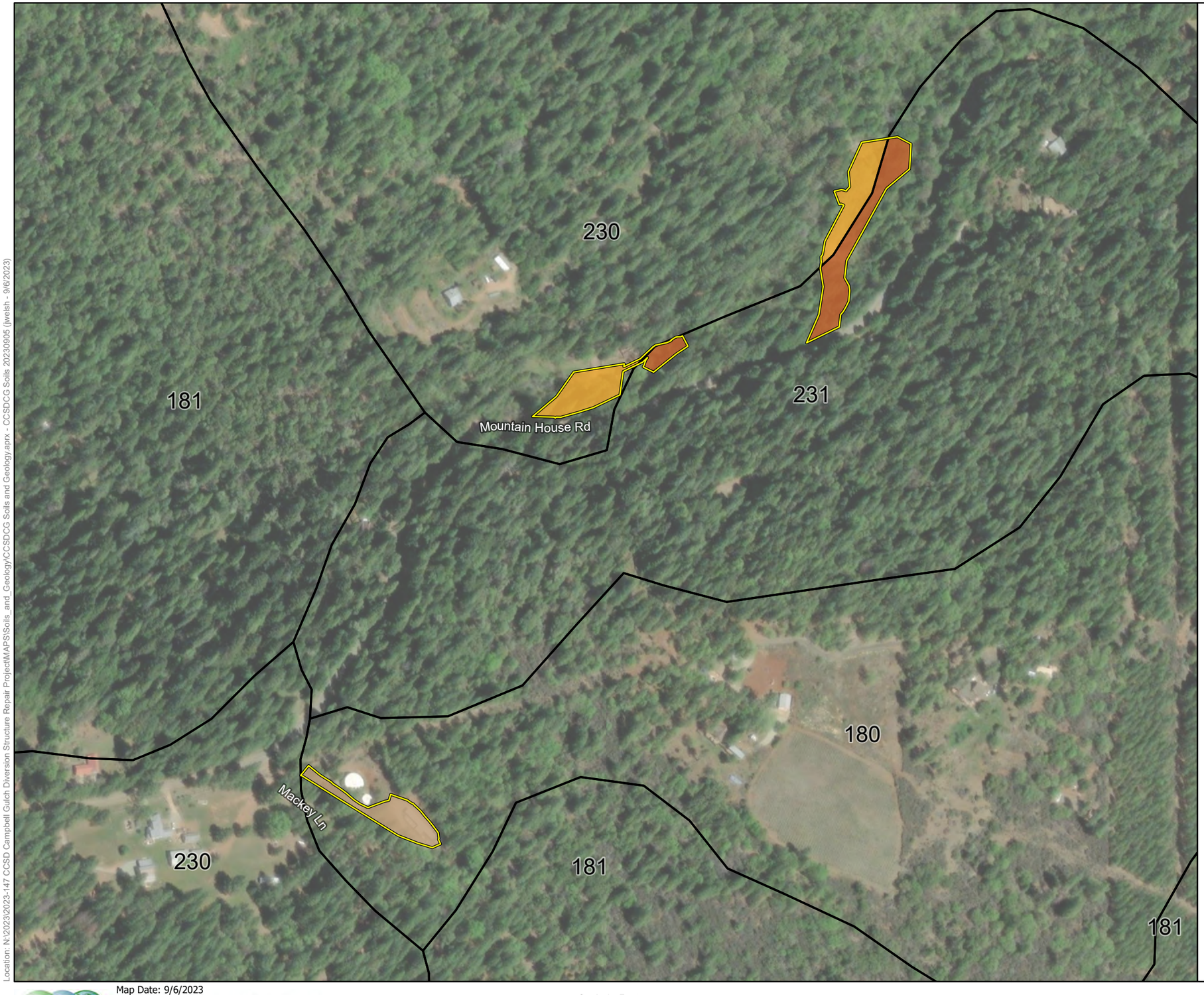
Scale in Feet
0 200 400

Figure 2. National Wetland Inventory

2023-147 CCSD Campbell Gulch Diversion Structure Repair Project



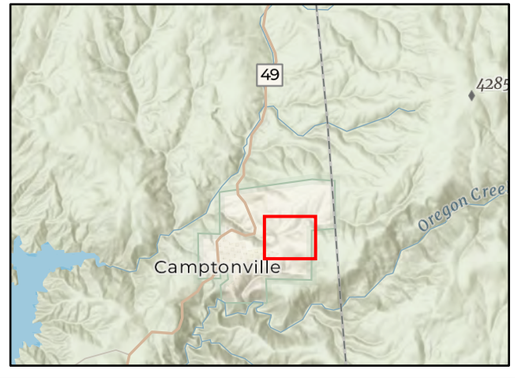
Map Contents

Study Area - 1.86 ac.

NRCS Soil Types within Study Area

- 180 - Jocal-Sites-Mariposa complex, 2 to 30 percent slopes
- 230 - Sites-Jocal complex, 2 to 30 percent slopes
- 231 - Sites-Jocal-Mariposa complex, 30 to 50 percent slopes

Sources: ESRI, Maxar (2021), USDA NRCS SSURGO (2019), Yuba County



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Map Date: 9/6/2023

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Scale in Feet
0 250

Figure 3. Natural Resources Conservation Service Soil Types
2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

Jocal-Sites-Mariposa complex, 2 to 30 percent slopes soil unit is not considered hydric and its minor components (Hurlbut and Aiken) are not considered hydric as well. Sites-Jocal complex, 2 to 30 percent slopes soil unit is not considered hydric and its minor components (Mariposa and Boomer) are not considered hydric as well. Sites-Jocal-Mariposa complex, 30 to 50 percent slopes soil unit is not considered hydric and its minor components (Pendola, Boomer, and Hurlbut) are not considered hydric as well (NRCS 2023b).

Table 2. Soil Units Occurring within the Study Area[1]

Soil Unit	Hydric Components[2]	Hydric Component Landform
180 – Jocal-Sites-Mariposa complex, 2 to 30 percent slopes	None	N/A
230 – Sites-Jocal complex, 2 to 30 percent slopes	None	N/A
231 – Sites-Jocal-Mariposa complex, 30 to 50 percent slopes	None	N/A

[1]Source: NRCS 2023a
[2]Source: NRCS 2023b

4.2 Aquatic Resources

A total of 0.106 acre of aquatic resources have been mapped within the Study Area (Table 3). The OHWM determination data forms are included in Appendix B, and a list of plant species observed within the Study Area is included as Appendix D. A discussion of the aquatic resources is presented below, and the ARD map is presented on Figure 4.

Representative site photographs are included as Appendix E. The USACE Operations and Maintenance Business Information Link Regulatory Module (ORM) aquatic resources table of potential Waters of the U.S. is included in Appendix F.

Table 3. Aquatic Resources

Type	Acreage[1]
Wetlands:	
None	N/A
Other Waters:	
Perennial Creek	0.106
Total	**0.106**

[1]Acreages represent a calculated estimation and are subject to modification following the USACE verification process.

Map Contents

Study Area - 1.86 ac.

Reference Coordinate

Sample Point

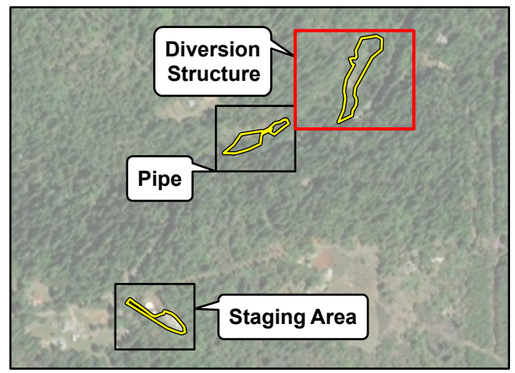
OHWM

Aquatic Resource Type

Creek - 0.106 ac.

Photo Source: Maxar (2021)
Boundary Source: Bennett Engineering & ECORP
Delineator(s): Dan Machek
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.



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Map Date: 9/6/2023

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Scale in Feet
0 20 40

Figure 4. Aquatic Resources Delineation
(Sheet 1 of 3)
2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

Map Contents

- Study Area - 1.86 ac.
- Reference Coordinate

Sample Point

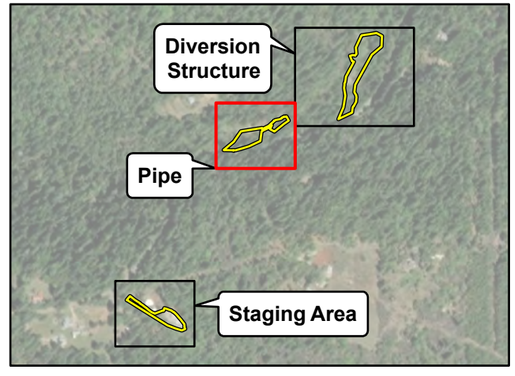
- OHWM

Aquatic Resource Type

- Creek - 0.106 ac.

Photo Source: Maxar (2021)
Boundary Source: Bennett Engineering & ECORP
Delineator(s): Dan Machek
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.



Location: N:\2023\2023-147 CCSD Campbell Gulch Diversion Structure Repair Project\MAPS\Aquatic_Resources\CCSDCG Aquatic Resources.aprx - CCSDCG ARD 20230901 (jwelsh - 9/6/2023)

Map Date: 9/6/2023

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 20 40

Figure 4. Aquatic Resources Delineation
(Sheet 2 of 3)
2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

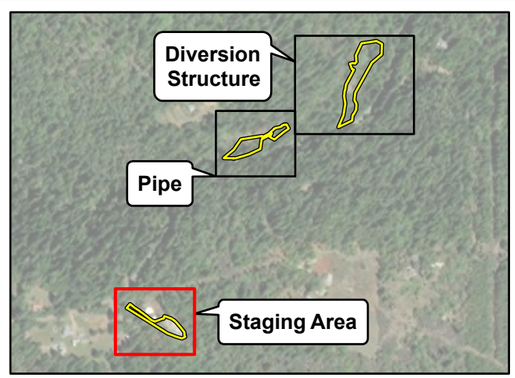
Map Contents

Study Area - 1.86 ac.

Reference Coordinate

Photo Source: Maxar (2021)
Boundary Source: Bennett Engineering & ECORP
Delineator(s): Dan Machek
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.



Location: N:\2023\2023-147 CCSD Campbell Gulch Diversion Structure Repair Project\MAPS\Aquatic_Resources\CCSDCG Aquatic Resources.aprx - CCSDCG ARD 20230901 (jwelsh - 9/6/2023)

Map Date: 9/6/2023

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 20 40

Figure 4. Aquatic Resources Delineation
(Sheet 3 of 3)
2023-147 CCSD Campbell Gulch Diversion Structure Repair Project

4.2.1 Other Waters

4.2.1.1 Perennial Creek (Campbell Gulch)

Perennial streams are larger-order streams that have continuous flow of surface water throughout the year in at least parts of its catchment during a normal rainfall season. Groundwater is the primary source of water for stream flow. Runoff from precipitation is a supplemental source of water for stream flow. Perennial streams have tributaries of lower-order streams flowing into them such as smaller perennial, intermittent, and ephemeral streams. They are dominated by hydrophytic vegetation that can withstand periods of inundation and thrive off of groundwater associated with the shallow water table. Campbell Gulch is a perennial creek that exhibits a bed and bank, OHWM, and flow continuously throughout the year (Figure 4).

Campbell Gulch was moderately vegetated below the OHWM within the Study Area. Plant species observed below the OHWM within the Study Area include California spikenard (*Aralia californica*), western lady fern, coastal brookfoam, sedge species (*Carex* sp.), California sword fern, California blackberry, Himalayan blackberry, Santa Barbara sedge (*Carex barbarae*), and American brooklime (*Veronica americana*). Campbell Gulch was heavily vegetated above the OHWM within the Study Area. Plant species observed above the OHWM of Campbell Gulch include bigleaf maple, tanoak, Sierra plum, incense cedar in the tree stratum; and fowl bluegrass, American trail plant, California blackberry, Himalayan blackberry, snowberry, western lady fern, and California sword fern in the understory.

Campbell Gulch is approximately 9 to 15 feet wide within the Study Area and had 2 to 6 inches of flowing water present during the site visit. The water depth in the reach above the diversion structure to the next upstream riffle is artificially deep due to the diversion structure damming water behind it. OHWM data was taken in the riffle upstream of the pool behind the diversion structure to represent natural conditions. The OHWM was delineated in the field based on the presence of scour, exposed roots, change in plant community, and break in bed and bank.

5.0 JURISDICTIONAL ASSESSMENT

Per Regulatory Guidance Letter 16-01, an applicant may request a PJD "in order to move ahead expeditiously to obtain a Corps permit authorization where the requestor determin*es that it is in his or her best interest to do so … even where initial indications are that the aquatic resources on a parcel may not be jurisdictional*" (USACE 2016b). The following information on connectivity of wetlands and other waters in the Study Area to Traditional Navigable Waters is provided should an Approved Jurisdictional Determination be necessary.

Campbell Gulch would likely be considered a Water of the U.S. under the current revised definition following the *Sackett* decision as it appears to have a permanent surface connection to an existing Traditional Navigable Waterway, the Feather River, via Willow Creek, New Bullards Bar Reservoir, and the Yuba River.

6.0 CONCLUSION

A total of 0.106 acre of aquatic resources have been mapped within the Study Area. This acreage represents a calculated estimation of the extent of aquatic resources within the Study Area and is subject to modification following USACE review and/or the verification process. The placement of dredged or fill material into jurisdictional features would require a permit pursuant to Section 404 of the CWA and certification or waiver in compliance with Section 401 of the CWA.

7.0 REFERENCES

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LIST OF APPENDICES

APPENDIX A

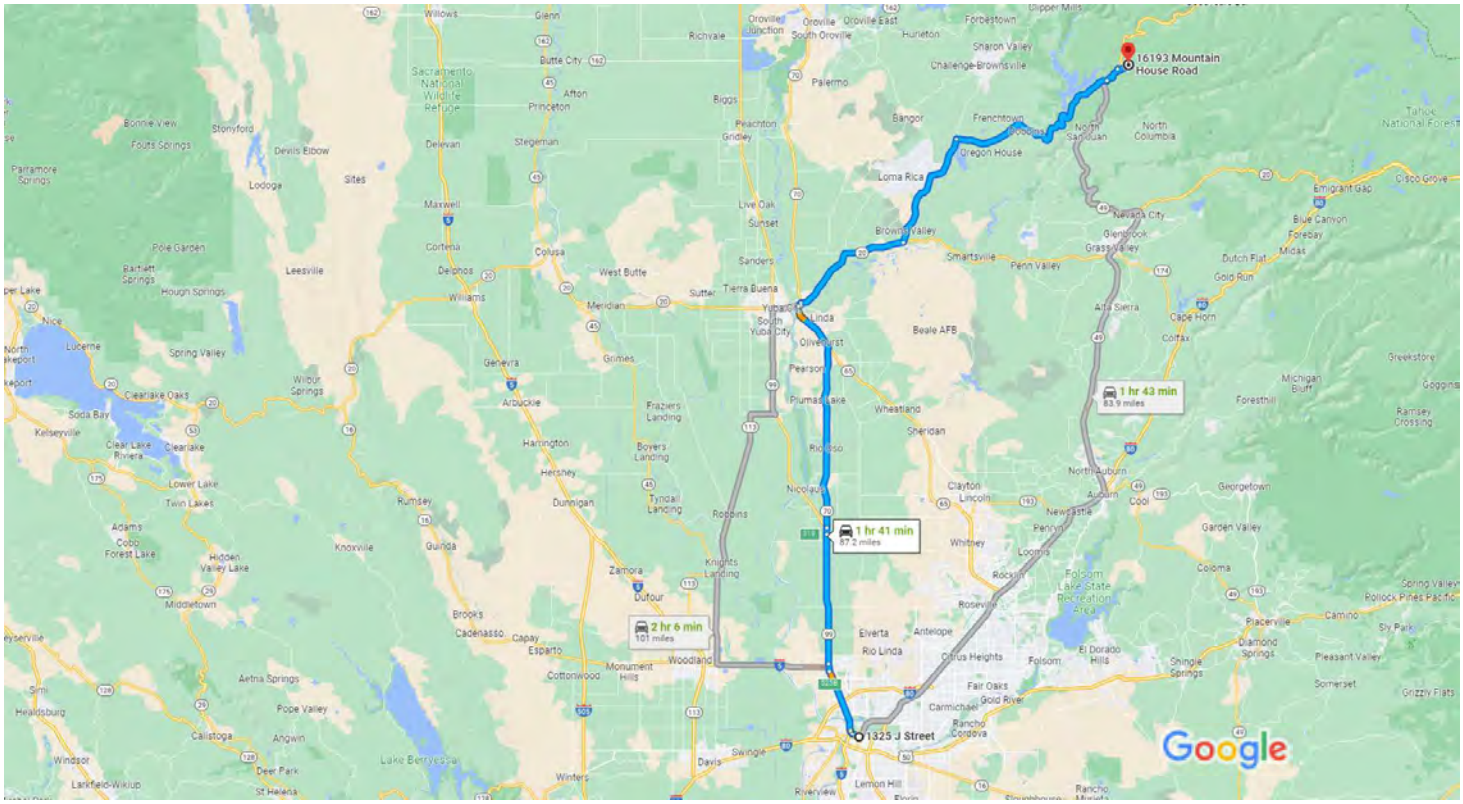
Driving Directions to Study Area

Google Maps

1325 J St, Sacramento, CA 95814 to 16193 Mountain House Rd, Camptonville, CA 95922

Drive 87.2 miles, 1 hr 41 min

Campbell Gulch Diversion Structure Repair Project



Map data ©2023 Google 5 mi

1325 J St
Sacramento, CA 95814

Get on I-5 N from I St

4 min (1.2 mi)

1. Head east on J St toward 14th St

190 ft

2. Turn left onto 14th St

420 ft

3. Turn left onto I St

0.7 mi

4. Use the right 2 lanes to turn right onto the I-5 N/State Hwy 99 ramp to Redding/Yuba City

0.3 mi

Take CA-99 N, CA-70 N and CA-20 E/State Hwy 20 E to Marysville Rd in Yuba County

52 min (52.5 mi)

5. Merge onto I-5 N

5.8 mi

6. Use the right 2 lanes to take exit 525B for CA-99 toward Yuba City/Marysville

0.7 mi

7. Continue onto CA-99 N

11.8 mi

8. Use the right lane to take the CA-70 ramp to Marysville/Oroville

0.6 mi

9. Continue onto CA-70 N

21.4 mi

10. Turn right onto State Hwy 70 E/9th St (signs for Oroville)

Pass by AutoZone Auto Parts (on the right)

0.2 mi

11. Use any lane to turn left onto B St

Pass by Dollar General (on the right)

0.3 mi

12. Turn right onto CA-20 E/State Hwy 20 E/12th St

Continue to follow CA-20 E/State Hwy 20 E

11.8 mi

Follow Marysville Rd to CA-49 N

36 min (30.6 mi)

13. Turn left onto Marysville Rd

11.4 mi

14. Turn right to stay on Marysville Rd

19.2 mi

15. Turn left onto CA-49 N

2 min (1.6 mi)

Continue on Cleveland Ave. Drive to Mountain House Rd

4 min (1.3 mi)

16. Turn right onto Cleveland Ave

0.8 mi

17. Cleveland Ave turns slightly left and becomes Mountain House Rd

Destination will be on the left

0.5 mi

16193 Mountain House Rd
Camptonville, CA 95922

APPENDIX B

Ordinary High Water Mark Determination Data Forms - Arid West

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project:	Campbell Gulch Diversion Structure Repair	**Date: 8/11/2023**	**Time:**
Project Number:	Project	**Town: Camptonville**	**State:** CA
Stream:	Campbell Gulch	**Photo begin file#:**	**Photo end file#:**
Investigator(s):	Dan Machek		

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Area of exposed diversion pipe

Projection: WGS 84 **Datum:**

Coordinates: 39.457838, -121.037158

Potential anthropogenic influences on the channel system:

The upper half of the water diversion pipe is currently exposed in the creek and runs diagonally across its width. Surrounding land is on private property.

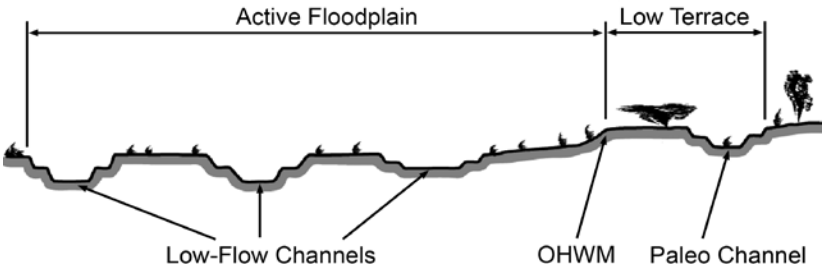
Brief site description:

Campbell gulch is a perennial creek in a mixed coniferous forest. The area of exposed diversion pipe within Campbell Gulch runs diagonally across its width. Channel is moderate depth with cutbanks. Cobble and pebble substrate.

Checklist of resources (if available):

- ☐ Aerial photography
  - Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  - Gage number:
  - Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

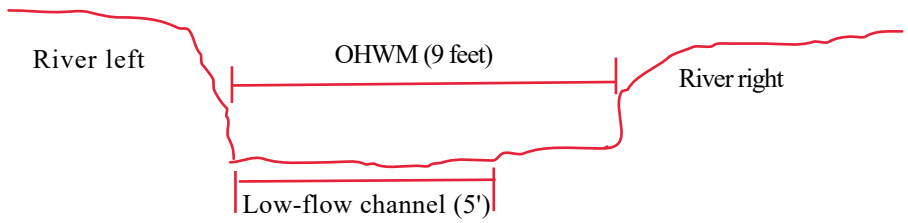


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ GPS
   - ☐ Digitized on computer
   - ☐ Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: _39.457838, -121.037158___

Indicators:

- ☒ Change in average sediment texture
- ☒ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☒ Other: scour
- ☐ Other: _____

Comments:

OHWM GPS point taken on the river right OHWM. Bed is cobble/pebble, banks change to fines. Bigleaf maples do not occur below OHWM, coastal brookfoam occurs below OHWM. Vegetation becomes sparse below OHWM. Bank slope is vertical below OHWM and laid back 2:1 above the OHWM. Scour is present at and below the OHWM and absent above the OHWM.

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _pebble_____

Total veg cover: 60 % Tree: 15 % Shrub: 40 % Herb: 5 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project:	Campbell Gulch Diversion Structure Repair	**Date: 8/11/2023**	**Time:**
Project Number:	Project	**Town: Camptonville**	**State:** CA
Stream:	Campbell Gulch	**Photo begin file#:**	**Photo end file#:**
Investigator(s):	Dan Machek		

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Area of water diversion structure

Projection: WGS 84 **Datum:**

Coordinates: 39.459239, -121.035240

Potential anthropogenic influences on the channel system:

Water diversion structure is downstream of OHWM transect; however, transect was taken in riffle upstream of the pool at the diversion structure in order to avoid anthropogenic influences and take data in area representative of natural background conditions.

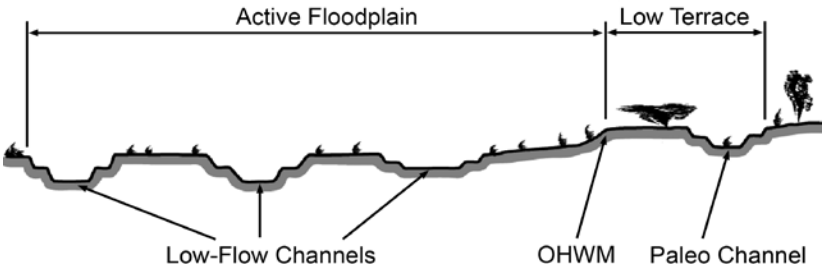
Brief site description:

Campbell gulch is a perennial creek in a mixed coniferous forest. The water diversion structure dams water behind the structure to pool water to depth that intake structure can divert water. Channel is shallow depth with moderately sloped banks. Cobble and pebble substrate.

Checklist of resources (if available):

- ☐ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

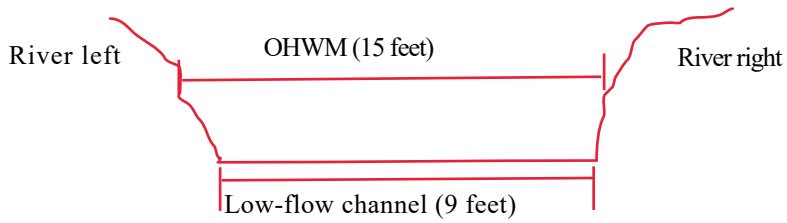


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: _39.459239, -121.035240___

Indicators:

- ☒ Change in average sediment texture
- ☐ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☒ Other: scour
- ☒ Other: exposed roots

Comments:

OHWM GPS point taken on the river right OHWM. Bed is cobble/pebble, banks change to fines. Bigleaf maples do not occur below OHWM. Vegetation is absent below OHWM. Bank slope is vertical below OHWM and laid back 2:1 above the OHWM. Scour is present at and below the OHWM and absent above the OHWM.

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _cobble_____

Total veg cover: 60 % Tree: 60 % Shrub: 0 % Herb: 0 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Late (herbaceous, shrubs, mature trees)

Indicators:

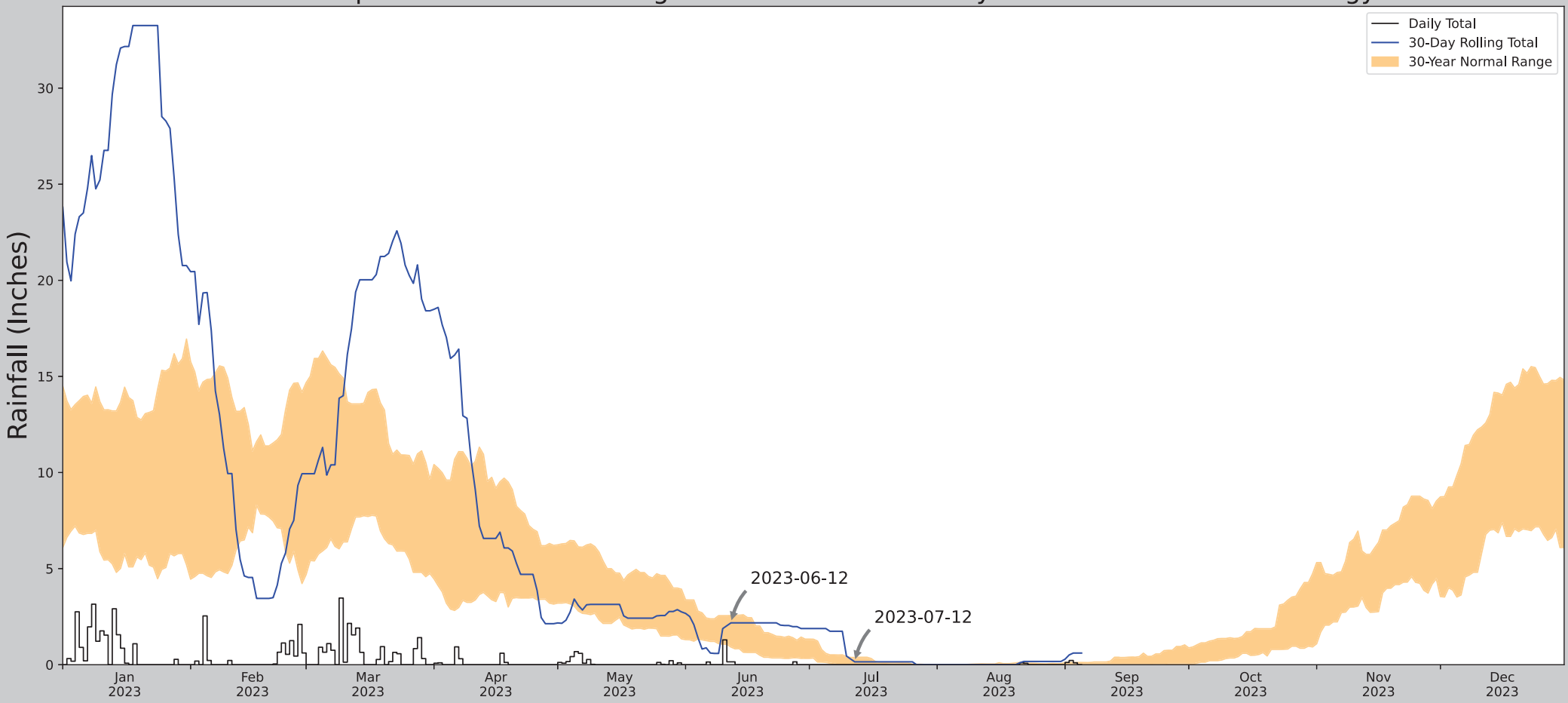
- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

APPENDIX C

Antecedent Precipitation Tool

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	39.457617, -121.037712
Observation Date	2023-08-11
Elevation (ft)	3087.835
Drought Index (PDSI)	Mild wetness (2023-07)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-08-11	0.0	0.03937	0.0	Normal	2	3	6
2023-07-12	0.0	0.375984	0.149606	Normal	2	2	4
2023-06-12	0.917717	2.554331	2.177165	Normal	2	1	2
Result							Normal Conditions - 12

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
DOWNIEVILLE	39.5633, -120.8239	2915.026	13.536	172.809	8.43	10533	79
NEVADA CITY	39.2467, -121.0008	2780.84	23.827	134.186	13.919	774	11
GRASS VALLEY 1.3 NNE	39.2382, -121.0463	2782.152	25.408	132.874	14.81	46	0

APPENDIX D

Plant Species Observed Onsite

Plant Species Observed within the Study Area (August 11, 2023)

Scientific Name	Common Name	Wetland Indicator Status
Abies concolor	White fir	N/L
Acer macrophyllum	Bigleaf maple	FAC
Adenocaulon bicolor	American trailplant	N/L
Aquilegia formosa	Columbine	FAC
Aralia californica	California spikenard	FACW
Arbutus menziesii	Pacific madrone	N/L
Arctostaphylos viscida	Whiteleaf manzanita	N/L
Asyneuma prenanthoides	California harebell	N/L
Athyrium filix-femina var. cyclosorum	Western lady fern	FAC
Boykinia occidentalis	Coastal brookfoam	FAC
Calocedrus decurrens	Incense cedar	N/L
Carex barbarae	Santa Barbara sedge	FAC
Carex sp.	Sedge species	FACU
Ceanothus cuneatus var. cuneatus	Buck brush	N/L
Corylus cornuta	Beaked hazelnut	FACU
Dicentra formosa	Pacific bleeding heart	FACU
Equisetum arvense	Common horsetail	FAC
Grindelia camporum	Gumweed	FACW
Heteromeles arbutifolia	Toyon	N/L
Notholithocarpus densiflorus	Tanoak	N/L
Pinus ponderosa	Ponderosa pine	N/L
Poa palustris	Fowl bluegrass	FAC
Polystichum californicum	California sword fern	FACU
Prunus subcordata	Sierra plum	N/L

Scientific Name	Common Name	Wetland Indicator Status
Pseudotsuga menziesii	Douglas fir	FACU
Quercus kelloggii	Black oak	N/L
*Rubus armeniacus**	Himalayan blackberry	FAC
Rubus parviflorus	Thimbleberry	FAC
Rubus ursinus	California blackberry	FAC
Sanguisorba minor	Salad burnet	FACU
Symphoricarpos albus	Common snowberry	FACU
Toxicodendron diversilobum	Poison oak	N/L
Taxus brevifolia	Pacific Yew	FACU
Veronica americana	American brooklime	OBL

*Nonnative Species

Wetland Status Codes:

OBL – Obligate Wetland; Almost always occur in wetlands
FACW – Facultative Wetland; Usually occur in wetlands, but may occur in non-wetlands
FAC – Facultative; Occur in wetlands and non-wetlands
FACU – Facultative Upland; Usually occur in non-wetlands, but may occur in wetlands
UPL – Obligate Upland; Almost never occur in wetlands
N/L – Plants that are Not Listed; Does not occur in wetlands in any region

APPENDIX E

Representative Site Photographs

Photo 1. C-2, Looking upstream at Campbell Gulch OHWM transect and pipe location.

Photo 2. C-2, Looking upstream at Campbell Gulch OHWM transect and pipe location.

Photo 3. C-1, Looking upstream at Campbell Gulch Diversion structure.

Photo 4. C-1, Looking upstream at Campbell Gulch OHWM transect upstream of Diversion Structure.

APPENDIX F

USACE ORM Aquatic Resources Table

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
C-1	CALIFORNIA	R3		Area	0.079	ACRE	DELINEATE	39.45902	-121.03537	
C-2	CALIFORNIA	R3		Area	0.028	ACRE	DELINEATE	39.45782	-121.03718	

APPENDIX D

Archaeological Resources Inventory Report for the Campbell Gulch Diversion Structure Reconstruction Project
ECORP Consulting, Inc. – September 2023

APPENDIX C

Project Area Photographs

State of California - The Resources Agency Primary #
DEPARTMENT OF PARKS AND RECREATION HRI #

PHOTOGRAPHIC RECORD

Trinomial «Trinomial»

Page 1 **of** 1 ***Resource Name or #:** (Assigned by recorder)

Camera Format: Cell phone – Samsung 23 Lens Size:

Film Type and Speed: Digital **Negatives Kept at:** ECORP Rocklin

Mo.	Day	Time	Subject/Description	View Toward	Accession #
8	9	1437	Electrical box along roadway	East	20230809_143744.jpg
8	9	1437	Road to staging area, water tanks on left	Southeast	20230809_143755.jpg
8	9	1440	Road to staging area, building	Southeast	20230809_144014.jpg
8	9	1440	building at staging area	northeast	20230809_144032.jpg
8	9	1440	building at staging area	East	20230809_144033.jpg
8	9	1440	building at staging area	Southeast	20230809_144042.jpg
8	9	1440	building at staging area	East	20230809_144047.jpg
8	9	1440	building at staging area	East	20230809_144051.jpg
8	9	1441	Back of building at staging area	Northwest	20230809_144105.jpg
8	9	1441	inside building - blurry, fence in foreground	West	20230809_144123.jpg
8	9	1441	staging area and water tanks in background	Northwest	20230809_144136.jpg
8	9	1441	building at staging area	Southeast	20230809_144142.jpg
8	9	1446	road down to Eastern area	northeast	20230809_144624.jpg
8	9	1446	road down to Eastern area	northeast	20230809_144638.jpg
8	9	1446	road down to Eastern area	northeast	20230809_144649.jpg
8	9	1447	Road down to eastern area, diversion area in background	northeast	20230809_144714.jpg
8	9	1447	Creek downstream of diversion dam	North	20230809_144734.jpg
8	9	1448	creek upstream of diversion dam	Northeast	20230809_144811.jpg
8	9	1448	Diversion dam	Southeast	20230809_144814.jpg
8	9	1448	Cement bags of diversion dam	Southeast	20230809_144817.jpg
8	9	1448	inside of diversion dam	Southeast	20230809_144834.jpg
8	9	1450	Slate rock outcrop	North	20230809_145011.jpg
8	9	1450	Creek downstream of diversion dam	South	20230809_145048.jpg
8	9	1450	Diversion dam	Northeast	20230809_145050.jpg
8	9	1458	Road to middle area	northeast	20230809_145854.jpg
8	9	1459	Road to middle area	northeast	20230809_145900.jpg
8	9	1459	Road to middle area	northeast	20230809_145913.jpg
8	9	1501	Creek from roadside in middle area	northwest	20230809_150107.jpg
8	9	1501	Creek from roadside in middle area	northwest	20230809_150113.jpg


20230809_143744.jpg


20230809_143755.jpg


20230809_144014.jpg


20230809_144032.jpg


20230809_144033.jpg


20230809_144042.jpg

20230809_144047.jpg


20230809_144051.jpg


20230809_144105.jpg


20230809_144123.jpg


20230809_144136.jpg


20230809_144142.jpg


20230809_144624.jpg


20230809_144638.jpg


20230809_144649.jpg


20230809_144714.jpg


20230809_144734.jpg


20230809_144811.jpg


20230809_144814.jpg


20230809_144817.jpg


20230809_144834.jpg


20230809_145011.jpg


20230809_145048.jpg


20230809_145050.jpg


20230809_145854.jpg


20230809_145900.jpg


20230809_145913.jpg


20230809_150107.jpg


20230809_150113.jpg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40

APPENDIX E

Energy Consumption Report
ECORP Consulting, Inc. – August 2023

Proposed Project
Total Construction-Related
Gasoline Usage

Construction

Table 1. Construction in First Calendar Year			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	174	174,000	10.15
Total Gallons Consumed During First Calendar Year of Construction:			**17,143**

Sources:

[1]CalEEMod version 2022.1.1.14

[2]Climate Registry. 2019 General Reporting Protocol for the Voluntary Reporting Program version 3.0. May 2019. https://theclimateregistry.org/wp-content/uploads/2023/08/General-Reporting-Protocol-v3.0.pdf

APPENDIX F

Roadway Construction Noise Model Version 1.1
ECORP Consulting, Inc. – August 8, 2023

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2023
Case Description: Phase 1 - Vegetation Clearing

Description	**Affected Land Use**
Phase 1 - Vegetation Clearing	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Concrete Saw	No	20		89.6	415	0
Concrete Saw	No	20		89.6	415	0
Concrete Saw	No	20		89.6	415	0
Concrete Saw	No	20		89.6	415	0
All Other Equipment > 5 HP	No	50	85		415	0

Results

Calculated (dBA)

Equipment		***Lmax**	**Leq**
Concrete Saw		71.2	64.2
Concrete Saw		71.2	64.2
Concrete Saw		71.2	64.2
Concrete Saw		71.2	64.2
All Other Equipment > 5 HP		66.6	63.6
	Total	71.2	**71.1**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2023
Case Description: Phase 2 - Diversion Structure and Water Pipeline Removal

Description
Phase 2 - Diversion Structure and Water Pipeline Removal

Affected Land Use
Residential

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	415	0
Excavator	No	40		80.7	415	0
Front End Loader	No	40		79.1	415	0
Front End Loader	No	40		79.1	415	0
All Other Equipment > 5 HP	No	50	85		415	0

Results

Calculated (dBA)

Equipment	*Lmax	Leq
Excavator	62.3	58.3
Excavator	62.3	58.3
Front End Loader	60.7	56.7
Front End Loader	60.7	56.7
All Other Equipment > 5 HP	66.6	63.6
Total	66.6	**66.6**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2023
Case Description: Phase 3 - Diversion Structure and Water Pipeline Installation

Description
Phase 3 - Diversion Structure and
Water Pipeline Installation

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	415	0
Excavator	No	40		80.7	415	0
Drum Mixer	No	50		80	415	0

Results

Calculated (dBA)

Equipment		*Lmax	Leq
Crane		62.2	54.2
Excavator		62.3	58.3
Drum Mixer		61.6	58.6
	Total	62.3	**62.2**

*Calculated Lmax is the Loudest value.