DRAFT

Initial Study and Mitigated Negative Declaration

Amador Water Agency Tank A and B Replacement Project

Lead Agency:

Amador Water Agency
12800 Ridge Road
Sutter Creek, California 95685

August 2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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for the

Amador Water Agency Tank A and B Replacement Project

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Prepared for:

Amador Water Agency
12800 Ridge Road
Sutter Creek, California 95685

Prepared by:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2525 Warren Drive
Rocklin, California 95677

DRAFT MITIGATED NEGATIVE DECLARATION
AMADOR WATER AGENCY TANK A AND B REPLACEMENT PROJECT

Lead Agency:

Amador Water Agency
12800 Ridge Road
Sutter Creek, California 95685

Project Location:

The Proposed Project is located in Amador County, California approximately 50 miles southeast of the City of Sacramento on the eastern slope of the Sierra Nevada. The Proposed Project is located just south of the end of Elkhorn Court on the undeveloped parcel next to the existing Tank A and B.

Project Description:

The Proposed Project would replace the two existing 0.25 million and 0.50 million-gallon aboveground water storage tanks with two new 1 million-gallon aboveground water storage tanks on the adjacent parcel. The new aboveground covered tanks would be approximately 75 feet in diameter and 36 feet in height and constructed from welded steel plates. The new tanks will sit on concrete pads with a 13-foot gravel setback. The site will be surrounded by an 8-foot-tall perimeter chain link fence and will have two gated and paved entrance points (one existing and a new one at the northwest corner of the site). The project will also include placement of overflow vaults on the north/northwest side of the tanks, meter vaults just south of the tanks, and a fire hydrant near the southern property line. Once the new tanks are constructed and operational, the existing tanks will be demolished.

Construction of the Proposed Project is anticipated to start in spring and take approximately 5 months to construct; however, due to statewide shutdowns due to COVID-19 it is possible that project construction could be delayed or take longer than anticipated.

Public Review Period: **August 28, 2020 – September 28, 2020**

Mitigation Measures Incorporated into the Project to Avoid Significant Effects

Biological Resources

BIO-1: Special-Status Birds and MBTA Protected Birds. If construction activities occur during the nesting season (February 1 through August 31), a pre-construction nesting bird survey shall be conducted within the Project Area and a 300-foot buffer area surrounding the Project. Surveys shall be conducted within 14 days of the commencement of construction activities. If active nests are found, no-work buffers will be established around active nesting areas and consultation with CDFW will take place.

Cultural Resources

CUL-1: Unanticipated Discovery. In the event any subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

A. If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.

B. If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the Amador Water Agency and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be eligible for inclusion in the NRHP or CRHR. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to their satisfaction.

CUL-2: Human Remains Discovery. If human remains of any kind are found during construction, or remains that are potentially human, a qualified professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Amador County Coroner (as per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California Public Resources Code (PRC), and Assembly Bill 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, then the Coroner will notify the Native American Heritage Commission, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Noise

NO-1: Noise-Reducing Construction Practices. To reduce noise impacts due to construction at nearby sensitive receptors to the maximum extent feasible, the applicant shall employ the following measures:

A. Construction activities shall only take place during the hours of 7:00 a.m. to 7:00 p.m., Monday to Friday and weekends only when necessary.

B. Construction equipment shall be properly equipped with feasible noise control devices (e.g., mufflers) and properly maintained in good working order.

C. Stationary construction equipment shall be located as far away from nearby residences, and equipped with engine-housing enclosures, as feasible.

D. Temporary noise barriers shall be considered when equipment is within close proximity of residences and noise complaints occur. Barriers may not always be feasible. Therefore, determining the feasibility of a barrier, including the barrier heights, lengths and materials should be done in consultation with a noise consultant.

E. Notify adjacent residents of the construction schedule.

F. Designate a "construction noise coordinator" who would be responsible for responding to any local complaints about construction noise. The construction noise coordinator shall determine the cause of the complaint and may require that reasonable measures warranted to correct the problem be considered, where feasible.

Paleontological Resources

P-1: **Unanticipated Discovery of Paleontological Resources.** If subsurface deposits believed to be paleontological in origin are discovered during construction, all work must halt within a 50-foot radius of the discovery and AWA shall be notified immediately. A Qualified Professional Paleontologist shall be retained and empowered to halt or divert ground-disturbing activities. A plan for monitoring and fossil recovery must be completed and implemented before ground-disturbing activities can recommence in the area of the fossil find to allow for the recovery of the find. Recovered fossils shall be analyzed to a point of identification and curated at an established accredited museum repository with permanent retrievable paleontological storage. A technical report of findings shall be prepared with an appended itemized inventory of identified specimens and submitted with the recovered specimens to the curation facility.

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LIST OF ACRONYMS

AAD	Amador Air District
AB	Assembly Bill
ACRA	Amador County Recreation Agency
AFPD	Amador Fire Protection District
APE	Area of Potential Effect
AWA	Amador Water Agency
BLM	Bureau of Land Management
BMP	Best Management Practices
BRA	Biological Resources Assessment
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAWP	Central Amador Water Project
CCR	California Code of Regulations
CDC	California Department of Conservation
CDCR	California Department of Corrections and Rehabilitation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	Methane
CNDDB	California Natural Diversity Database
CNEL	Community noise equivalent level
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dBA	A-weighted decibel
DOC	Department of Conservation
DPM	Diesel particulate matter
DTSC	Department of Toxic Substance Control
ECDMS	Energy Consumption Data Management System (California)
EDCAPCD	El Dorado County Air Pollution Control District
EDCAQMD	El Dorado County Air Quality Management District
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	Greenhouse gas
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan

IS	Initial Study
LOS	Level of service
MBTA	Migratory Bird Treaty Act
MCAB	Mountain Counties Air Basin
MLD	Most likely descendant
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zones
MS4	municipal separate storm sewer system
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
ND	Negative Declaration
NHPA	National Historic Preservation Act
NO_2	Nitrogen dioxide
NOI	Notice of Intent
NO_X	Nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPS	National Park Service
NRHP	National Register of Historic Places
OES	Office of Emergency Services
OHP	Office of Historic Preservation
PG&E	Pacific Gas and Electric
PM	Particulate matter
PRC	Public Resources Code
PS	Public Service
ROG	Reactive organic gas
RR	Rural residential
RTP	Regional Transportation Plan
RWD	Report of waste discharge
RWQCB	Regional Water Quality Control Board
SMARA	Surface Mining and Reclamation Act
SO_2	Sulfur dioxide
SR	State Route
SSC	Species of special concern
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TCR	Tribal Cultural Resource
TPZ	Timberland
UAIC	United Auburn Indian Community
UCMP	University California Museum of Paleontology
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture's

USFS	U.S. Forest Service
VMT	Vehicle miles traveled
WARF	Western Amador Recycling Facility
WBWG	Western Bat Working Group
WDR	Waste discharge requirement
WEAL	Western Electro-Acoustic Laboratory, Inc.
WUI	Wildland urban interface

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SECTION 1.0 BACKGROUND

1.1 Summary

Project Title:	Amador Water Agency Tank A and B Replacement Project
Lead Agency Name and Address:	Amador Water Agency 12800 Ridge Road Sutter Creek, California 95685
Contact Person and Phone Number:	Brandt Cook (209) 257-5206
Project Location:	The Proposed Project is located in Amador County, California, approximately 50 miles southeast of the City of Sacramento on the eastern slope of the Sierra Nevada. Tank A and B are located at the end of Elkhorn Court.
General Plan Designation:	Public Service (PS) and Rural Residential (RR)
Zoning:	Single Family Residential (R1)

1.2 Introduction

The Amador Water Agency (AWA) is the Lead Agency for this Initial Study. The Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Central Amador Water Project (CAWP) Tank A and B Relocation Project (Proposed Project). This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resource. Code [PRC], § 21000 et seq.) and State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. A CEQA Initial Study (IS) is generally used to determine which CEQA document is appropriate for a project (Negative Declaration [ND], Mitigated Negative Declaration [MND], or Environmental Impact Report [EIR]). As described previously, this document has been prepared to satisfy CEQA.

1.3 Surrounding Land Uses/Environmental Setting

Amador County is situated in the foothills of the Sierra Nevada. After the Gold Rush of the mid-nineteenth century, the population of the surrounding area grew rapidly. This was due to industries such as mining, lumber, wine, and agriculture taking advantage of the abundant natural resources in the area. The population has grown steadily since the mid-twentieth century, and tourism has become one of the main industries driving the local economy.

More than 20 percent of the land in Amador County is managed by federal agencies such as the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM). The western portion of the county is made up of rolling hills and oak woodlands, while the eastern portion of the county is made up of conifer forest along mountain peaks. A portion of State Route (SR) 88 has been designated as a scenic highway, and the rest of SR-88 and SR-49 are currently eligible for designation.

The Proposed Project site is just south of the end of Elkhorn Court, within Pioneer, California. Elevation is approximately 3,500 feet above mean sea level. The South Branch of Sutter Creek is located directly south of SR-88, 0.5 mile south of the Project Area. The Project site is surrounded by rural residential properties and forest.

SECTION 2.0 PROJECT DESCRIPTION

2.1 Project Location

The Proposed Project is located in Amador County, California, approximately 50 miles southeast of the City of Sacramento on the eastern slope of the Sierra Nevada (Figure 1. *Project Vicinity*). The Proposed Project is within the Pioneer community area, located approximately 15 miles northeast of the City of Jackson. Tank A and B are located at the end of Elkhorn Court.

2.2 Project Background

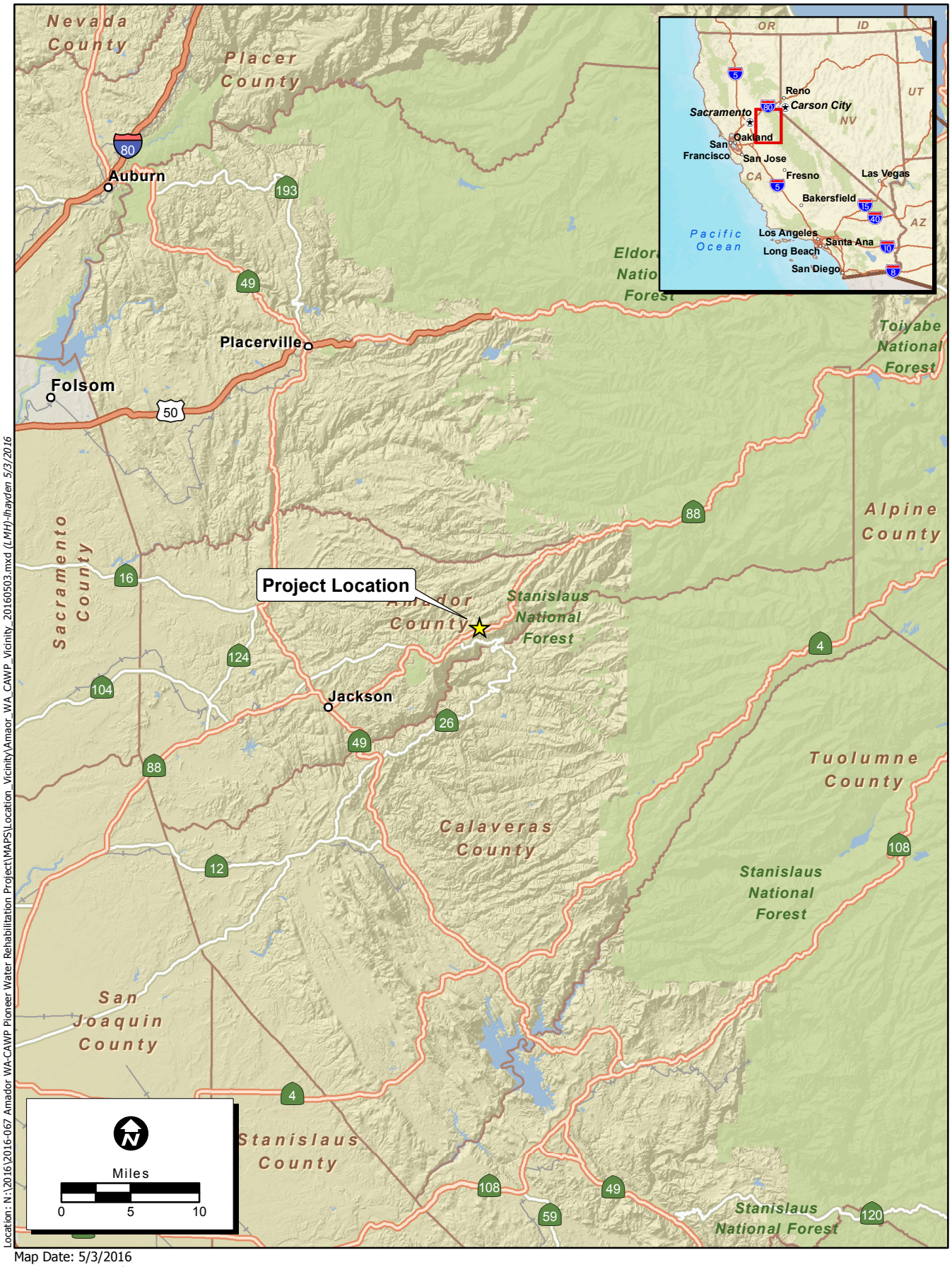
AWA serves a total of approximately 7,300 municipal customer connections, with the CAWP system serving approximately 3,400 of these connections extending from Ridgeway Pines to Sunset Heights and Jackson Pines. Water from the Mokelumne River is treated at the Buckhorn Water Treatment Plant; however, since 2015, the Buckhorn Treatment Plant also receives raw water from the Tiger Creek Regulator Reservoir via a 6.6-mile gravity pipeline. The original Buckhorn Water Treatment Plant was replaced in 2005 with a new plant designed for an ultimate capacity of five cubic feet per second (cfs). From the Buckhorn Plant, treated water is delivered to CAWP customers via approximately 90 miles of distribution and transmission pipelines and 24 water storage tanks. Due to growth and current fire flow requirements, most of the pipelines are considered undersized.

Three storage tanks exist within the service area of the Proposed Project. Tank A is located closest to the Buckhorn Treatment Plant on Elkhorn Court at an elevation of 3,528 feet and has a 500,000- gallon capacity. Tank B sits adjacent to Tank A and has a capacity of 250,000 gallons. Tank B also serves customers at the highest elevations of the Tank A distribution system via a booster pump station.

2.3 Amador Water Agency

AWA owns and operates the CAWP and serves as the main water supplier for the western portion of Amador County. There are approximately 3,400 connections within the CAWP service area

The primary source of water is the Mokelumne River watershed. Water in the Mokelumne River originates as rainfall and snowmelt from the Sierra Nevada, and eventually makes its way into AWA's two main water systems: the Amador Water System and the CAWP. Two other AWA systems are served primarily through local groundwater and include Lake Camanche Village and La Mel Heights.



Location: N:\2016\2016-067 Amador WA-CAWP Pioneer Water Rehabilitation Project\MAPS\Location_Vicinity\Amaor_WA_CAWP_Vicinity_20160503.mxd (LMH)-lhayden 5/3/2016

Map Date: 5/3/2016

Service Layer Credits: Sources: Esri, USGS, NOAA

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Figure 1. Project Vicinity

2016-067.05 AWA Tank A and B Replacement

2.3.1 Central Amador Water Project

CAWP receives water from the Bear River Reservoir and the North Fork Mokelumne River via Pacific Gas and Electric's (PG&E) Tiger Creek Regulator Reservoir. Water supplied to CAWP customers is treated at the Buckhorn Water Treatment Plant located in the Pioneer community area. The CAWP provides wholesale treated water to the upcountry communities of Mace Meadows and Pine Grove. In addition to delivering wholesale water, AWA also sells domestic water to approximately 2,700 homes in the communities of Jackson Pines, Pine Acres, Pioneer, Ridgeway Pines, Ranch House Estates, Silver Lake Pines, Rabb Park and the Sunset Heights area. AWA's CAWP distribution system is largely composed of undersized and aging piping and facilities. Areas within this distribution system, which extends from Ridgeway Pines to Pine Grove, are unable to deliver current industry standard fire flows. In fact, many areas of the system cannot even deliver a fraction of the current standard fire flow (1,000 gallons per minute) without creating extremely low or negative pressure in the distribution system.

The water distribution system in the Buckhorn Ridge Road corridor is fed primarily via gravity flow from two storage tanks: Tanks A & B located at the east end of Elkhorn Court. Tank C is located just south of Buckhorn Ridge Road near Deadwood Court, and is fed from Tanks A & B. One of the primary areas AWA has slated for fire flow improvement is the upper Buckhorn Ridge Road area, from Tanks A & B to Tank C. Currently, the upper Buckhorn Ridge Road area is fed from Tanks A & B via a six-inch pipeline that proceeds west on Buckhorn Ridge Road. The Proposed Project would increase capacity of the undersized Tank A & B to the Buckhorn Ridge Road area, improving existing distribution system reliability.

The IS/MND/Environmental Assessment (ECORP 2016) for Phase 1 addressed pipeline improvements between Tank C and the Pressure-Reducing Valve station at North Cedar Heights. The portion of Phase 2 extending from Tank C to the intersection of Buckhorn Ridge Road and Cedar Heights Drive was included in environmental documentation for Phase 1 of the overall Project. The remainder of Phase 2 was evaluated in a separate IS/MND/Environmental Assessment finalized in March 2018 (ECORP 2018). This portion of Phase 2 included pipeline improvements from the intersection of Buckhorn Ridge Road and Cedar Heights Drive extending east to Prospect Place. The pipeline would then continue north on Prospect Place, northeast on Oxbow Road, north on Deer Trail, and east on Elkhorn Court to Tank A. Phase 2 is currently under construction along with the replacement of the existing pump station.

2.4 Project Description

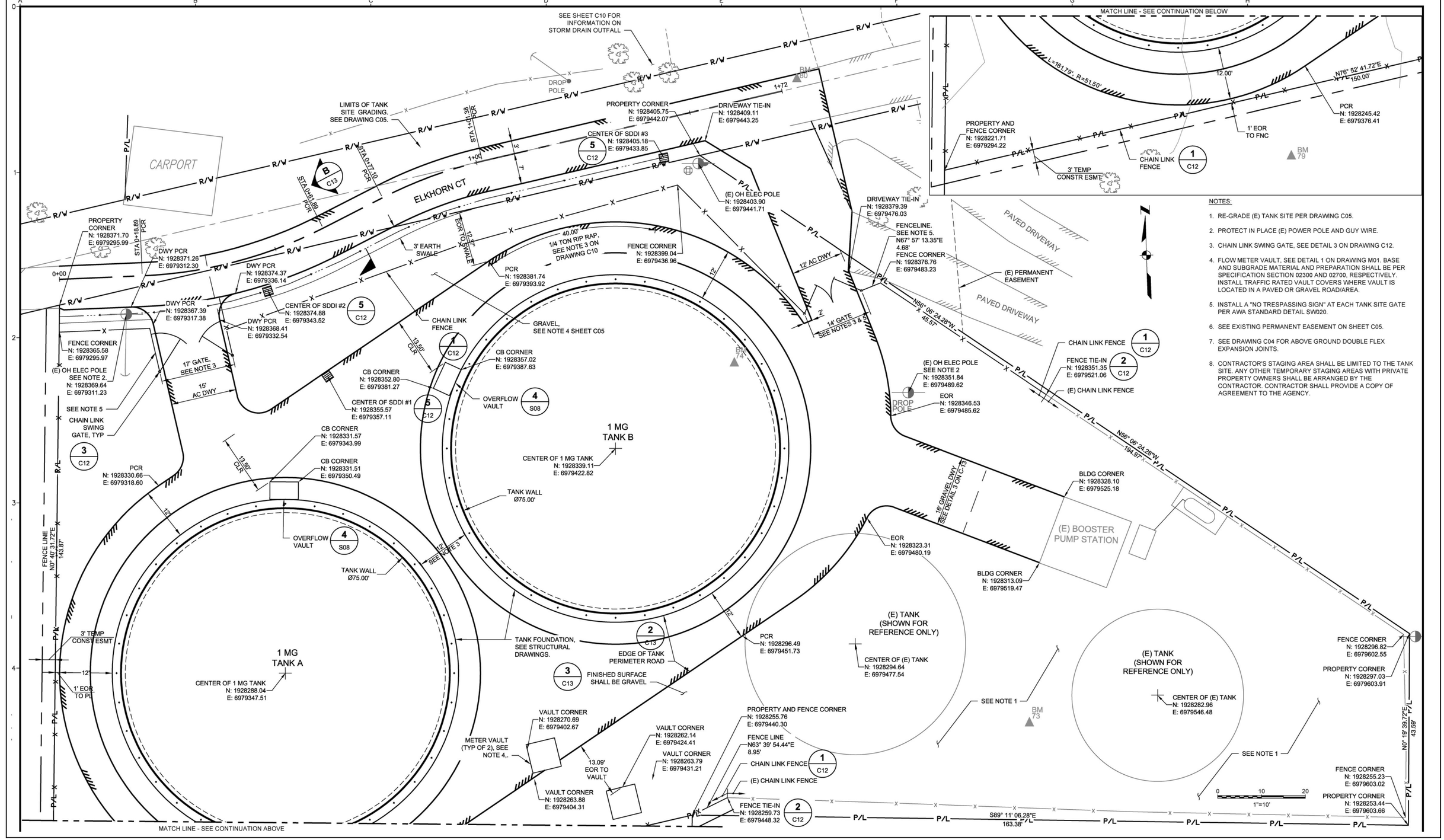
The Proposed Project involves replacement of the two existing aboveground water storage tanks (0.25 million and 0.50 million gallon capacity, respectively) with two new 1 million-gallon aboveground water storage tanks on the adjacent parcel. The new aboveground covered tanks would be approximately 75 feet in diameter and 36 feet in height and constructed from welded steel plates. The new tanks will sit on concrete pads with a 13-foot gravel setback. The site will be surrounded by an 8-foot-tall perimeter chain link fence and will have two gated and paved entrance points (one existing and a new one at the northwest corner of the site). The project will also include placement of overflow vaults on the north/northwest side of the tanks, meter vaults just south of the tanks, and a fire hydrant near the southern property line (*Figure 2: Site Plan*). Once the new tanks are constructed and operational, the existing tanks will be demolished.

Construction of the Proposed Project is anticipated to start early 2021 and take approximately 5 months; however, due to statewide shutdowns due to COVID-19, it is possible that project construction could be delayed. See table 2.4-1 below for detailed breakdown of construction activities and approximate timeframe to completion.

Table 2.4-1 Construction Operations

Description of Activity	Duration (approximate)
Excavation Operations	
Rubber tired backhoe loader(s) (sized up to Cat 450) Excavator(s) (likely no larger than Cat 335) Wheel loader(s) (likely no larger than Cat 966), dozer(s) (likely no larger than Cat D8 – for clearing right-of-way and spreading material) Trenching machines (not expected) Rock removal by hydraulic hammer on excavator (not expected to be required) Compaction via in-trench hand compaction (wacker, vibraplate) or equipment mounted (sheep's foot roller) Sweeper Air Compressor(s)	Approximately 2 months
Hauling Operations	
Rubber tired 10 wheel dump truck(s) 10 wheel transfer truck and trailers Semi bottom and end dumps possible but not likely considering narrow and winding access	Approximately 5 months
Paving Operations	
Roller compactor(s) Pavers asphalt grinders asphalt cutters concrete saw Sweeper	Approximately 1 week
Welding Operations	
Crane or lift (small crane), hand and machine welders, air compressor, portable generator	Approximately 3 months
Coating	
Sprayers, air compressor, portable generator	Approximately 2 months
Total Duration:	**5 months**

*Note: Some of these activities will be done concurrently



NOTES:

1. RE-GRADE (E) TANK SITE PER DRAWING C05.
2. PROTECT IN PLACE (E) POWER POLE AND GUY WIRE.
3. CHAIN LINK SWING GATE, SEE DETAIL 3 ON DRAWING C12.
4. FLOW METER VAULT, SEE DETAIL 1 ON DRAWING M01. BASE AND SUBGRADE MATERIAL AND PREPARATION SHALL BE PER SPECIFICATION SECTION 02300 AND 02700, RESPECTIVELY. INSTALL TRAFFIC RATED VAULT COVERS WHERE VAULT IS LOCATED IN A PAVED OR GRAVEL ROAD/AREA.
5. INSTALL A "NO TRESPASSING SIGN" AT EACH TANK SITE GATE PER AWA STANDARD DETAIL SW020.
6. SEE EXISTING PERMANENT EASEMENT ON SHEET C05.
7. SEE DRAWING C04 FOR ABOVE GROUND DOUBLE FLEX EXPANSION JOINTS.
8. CONTRACTOR'S STAGING AREA SHALL BE LIMITED TO THE TANK SITE. ANY OTHER TEMPORARY STAGING AREAS WITH PRIVATE PROPERTY OWNERS SHALL BE ARRANGED BY THE CONTRACTOR. CONTRACTOR SHALL PROVIDE A COPY OF AGREEMENT TO THE AGENCY.

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Figure 2. Site Plan

2016-067.05 AWA Tank A and B Replacement

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2.4.1 Construction Staging

AWA will use the proposed project site as well as the existing Tank A and B site owned by AWA for project staging. AWA requires the contractor to take certain measures to protect property affected by construction, including the repair of any damage that may occur during construction. In addition, AWA would consult with affected property owners as to what specific requirements could apply to the use of their property during construction.

2.5 Regulatory Requirements, Permits, and Approvals

The following approvals and regulatory permits may be required for implementation of the Proposed Project:

Table 2.8-1. Regulatory Requirements, Permits, and Approvals

Agency or Organization	Approval or Permit
State Water Resources Control Board (SWRCB)	• National Pollutant Discharge Elimination System (NPDES) permit • Construction Storm Water General Permit (including the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and • Best management practices

2.6 Consultation With California Native American Tribe(s)

The following California Native American tribes traditionally and culturally affiliated with the Project area were notified :

- United Auburn Indian Community of Auburn Rancheria,
- Buena Vista Rancheria of Mi-Wuk Indians, and
- Shingle springs Band of Miwok Indians.

All three tribes responded within the 30-day time frame. Buena Vista Rancheria has no specific knowledge of Tribal Cultural Resources (TCRs) and the tribe has no objections to the commencement of the Project. However, the tribe asked to be notified if anything is found during project implementation. United Auburn Indian Community (UAIC) requested additional locational information, which AWA provided as requested. UAIC said the tribe would review the location and correspondence and reply if there are any comments or concerns.

Shingle Springs was the only tribe that requested consultation. The tribe requested continued consultation in the form of project updates. AWA sent an official initiation of consultation to Shingle Springs and consultation is ongoing.

SECTION 3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Hazards/Hazardous Materials	☐ Public Services
☐ Agriculture and Forestry Resources	☐ Hydrology/Water Quality	☐ Recreation
☐ Air Quality	☐ Land Use and Planning	☐ Transportation/Traffic
☒ Biological Resources	☐ Mineral Resources	☐ Tribal Cultural Resources
☒ Cultural Resources	☒ Noise	☐ Utilities and Service Systems
☐ Geology and Soils	☒ Paleontological Resources	☐ Mandatory Findings of Significance
☐ Greenhouse Gas Emissions	☐ Population and Housing	

Determination

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☒

I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required. ☐

Larry McKenney
General Manager

Date

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SECTION 4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

Regional Setting

Located within the central Sierra foothills between the South Fork of the Cosumnes River and the North Fork of the Mokelumne River, Amador County's broad range of landscapes is characterized by rolling hills covered in annual grasslands and oak woodlands; montane conifer forests; agriculture and rangelands; historic mining areas and structures; and numerous lakes, rivers, and reservoirs, all of which contribute to the distinct visual and scenic resources found within the County (Amador County 2014a).

Situated within the central and western portions of the County along the SR-49 corridor, the incorporated cities of Plymouth, Amador City, Sutter Creek, and Jackson exemplify the historic mining areas of the Mother Lode, including the City of Ione located further west between SR-16 and SR-88. Continuing east on SR-88, the unincorporated communities of River Pines, Volcano, Pine Grove, Fiddletown, Pioneer, and Buckhorn are located on the periphery of a montane conifer forest setting. These community areas contain historic buildings amongst scattered residences creating a distinct visual quality, unique within the County (Amador County 2014a).

East of the Pioneer community area, Amador County is generally characterized by undeveloped timberland and National Forest Lands. The eastern boundary of Amador County encompasses portions of the Mokelumne Wilderness, consisting of varied topography and dominated by distinct volcanic peaks and ridges. The Mokelumne Wilderness ranges in elevation from 4,000 to 9,000 feet (Amador County 2014a).

Visual Setting

As described in Section 2.2 Project Setting, the new tanks will be located immediately adjacent to the existing tanks. This area is maintained by AWA for purposes of tank and equipment access and is kept cleared of most vegetation. Project site is surrounded by private rural residences amidst a mixed conifer forest; however, the project site has been recently cleared of all trees.

4.1.2 Regulatory Setting

State Scenic Highways

The California Scenic Highway Program protects and enhances the scenic beauty of California's highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view (Caltrans 2016).

Caltrans has designated SR-88 (Carson Pass Highway) as a state scenic highway from the Dew Drop Ranger Station, east, to the Alpine County line. SR-88 from the City of Jackson to the Dew Drop Ranger

Station and all of SR-49 within Amador County are considered to be eligible state scenic highways. Eligible state scenic highways are recognized for aesthetic quality; however, they are not officially designated as scenic highways (Amador County 2014a). Furthermore, SR-88, proceeding east from the Dew Drop Ranger Station to the Alpine County line is designated as a USFS National Forest Scenic Byway. The National Scenic Byways program requires that a road must have at least one inherent quality that demonstrates regional significance (Amador County 2014a).

The Proposed Project site is located approximately 0.50 mile north of SR-88 and approximately 7.5 miles southwest of the Dew Drop Ranger Station, and therefore is not visible from designated or eligible state scenic highway or National Forest Scenic Byways.

4.1.3 Aesthetics (I) Environmental Checklist and Discussion

Except as provided in Public Resources Code Section 21099, would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒

No Impact. The Proposed Project consists of the construction of two new 1-million-gallon water storage tanks and the demolition of the existing 0.25 and 0.5 million- gallon water storage tanks. The new tanks will be constructed immediately adjacent to the existing tanks location which is not within or near a scenic vista. Therefore, no impacts to scenic vistas would occur and no mitigation is required.

Except as provided in Public Resources Code Section 21099, would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

No Impact. As previously described in item a), the Proposed Project involves the replacement of water storage tanks in an area that currently has water storage tanks onsite. While the new tanks will be larger in diameter then the existing tanks, they will be the same overall height. The site was previously cleared of vegetation and trees and the proposed project will not require additional tree or vegetation removal. Additionally, the proposed project is not located within a state scenic highway. Therefore, the proposed project will not substantially damage scenic resources within a state scenic highway. No impact would occur, and no mitigation measures are required.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

Less than Significant Impact. As described previously in item a), the Proposed Project consists of construction of two new steel water storage tanks immediately adjacent to two existing water storage tanks that will be demolished following completion of the project. The project site currently consists of vacant land with cleared low-lying vegetation and stumps from previously existing trees (removed prior to this project) with the existing fencing and tanks in the background. Construction of the proposed facility would temporarily result in changes to the visual character of the area due to the presence of construction equipment and materials which would cease when construction is complete. The aboveground steel water storage tanks would be 75-feet in diameter and 36-feet in height and would be surrounded by a security fence with green privacy slats. These structures would be permanent and visible to residences located across the street from the project site. However, the views from these residents currently includes the existing fencing surrounding the existing tanks and the tanks themselves (which will be demolished after the construction of the new tanks), therefore, the proposed project will not substantially alter the visual character and will not degrade the visual character or quality of the site. Therefore, impacts are considered to be less than significant.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

No Impact. The Proposed Project consists of the replacement of two existing water storage tanks and does not include the addition of lighting beyond what currently exists at the current tank site. Construction would be mainly implemented during day light hours. No new source of substantial light would be created as a result of implementation of the Proposed Project; however, there could be some glare off of the tanks as they are constructed with non-painted metal. The glare will be similar to that produced by the existing tanks and should not create a new source of glare. A less then significant impact would occur, and no mitigation measures are required.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

Amador County contains eight major agricultural areas: Willow Springs, Ione Valley, Jackson Valley, Shenandoah Valley, the Fiddletown area, the Ridge Road area, the Clinton Road Tableau area, and the Shake Ridge Road area. In 2010, there was a total of 164,398 acres of agricultural lands, the vast majority being pasture and range lands. While wine grapes only make up 2% of agricultural acreage, they were the highest grossing crop of 2010, bringing in over $10 million across the county. Within Amador County there are 3,211 acres of Prime Farmland, 1,421 acres of Farmland of Statewide importance, 3,335 acres of Unique Farmland, and 1,864 acres of Farmland of Local Importance. From 2000 to 2010, there was a net decrease of 2% in total agricultural land.

Other agricultural lands outside of these eight major areas are generally characterized as rangeland or timberland areas. Timberland (TPZ) is a subset of forestlands which are designated as commercially viable. Amador County has designated approximately 29,169 acres of TPZ land within its planning area (Amador County 2014a). The project site does not contain any farmland of state or local importance, nor is the project site actively used for farming practices.

4.2.2 Regulatory Setting

California Important Farmland Inventory System and Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC) sponsors the Farmland Mapping and Monitoring Program. Important Farmland maps classify land into one of eight categories, which are defined as follows (Amador County 2014a):

- Prime Farmland – Land that has the best combination of features for the production of agricultural crops.
- Farmland of Statewide Importance – Land other than Prime Farmland that has a good combination of physical and chemical features for the production of agricultural crops.
- Unique Farmland – Land of lesser quality soils used for the production of the state's leading agricultural cash crops.
- Farmland of Local Importance – Land that is of importance to the local agricultural economy.
- Grazing Land – Land with existing vegetation that is suitable for grazing.
- Urban and Built-up Lands – Land occupied by structures with a density of at least one dwelling unit per 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public utility structures, and other developed purposes.
- Land Committed to Nonagricultural Use – Vacant areas; existing lands that have a permanent commitment to development but have an existing land use of agricultural or grazing lands.

- Other Lands – Land that does not meet the criteria of the remaining categories.

Williamson Act Contracts

The California Land Conservation Act of 1965, commonly known as the Williamson Act, enables local governments to enter into agreements with private landowners to restrict parcels for agricultural or related open space use. In return, landowners receive property tax assessments that are based on farming and open space uses instead of full market value. The Open Space Subvention Act of 1971 has historically provided local governments an annual subvention (subsidy) of forgone property tax revenues from the state; however, due to revenue shortfalls in recent years, these payments have been suspended since 2009 (DOC 2016). Amador County had approximately 93,623 acres of land under Williamson Act contracts. In 2010, approximately 2,735 acres (of the total 93,623 acres), or 3%, were in the nonrenewal process.

4.2.3 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

No Impact. The Proposed Project area is dominated by Rural Residential (RR) uses. According to Amador County's important farmland data, no Prime, Unique, or Farmland of Statewide Importance is located within the Pioneer community area (CDC 2014). The project site is designated as Public Service (PS). No impact would occur and no mitigation measures are required.

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

No Impact. As described previously in item a), the Proposed Project does not involve land that is either zoned as agricultural use or has a Williamson Act Contract. No impact would occur and no mitigation measures are required.

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒

No Impact. As described previously in item a), the Proposed Project does not involve properties zoned for forest land, timberland or Timberland Production, and therefore would not conflict with existing zoning codes. No impact would occur and no mitigation measures are required.

Would the project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact. See discussion under item c). No impact would occur.

Would the project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact. See discussion under item a), the Proposed Project would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest**.** No impact would occur and no mitigation measures are required.

4.3 Air Quality

4.3.1 Environmental Setting

The California Air Resources Board (CARB) and the Environmental Protection Agency (EPA) focus on the following criteria pollutants to determine air quality: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead. In Amador County, the majority of criteria pollutant emissions come from mobile sources

Toxic Air Contaminants (TACs) are separated into categories of carcinogens and noncarcinogens. Carcinogens, such as diesel particulate matter (diesel PM), are considered dangerous at any level of exposure. Noncarcinogens, however, have a minimum threshold for dangerous exposure. Common sources of TACs include, but are not limited to gas stations, dry cleaners, diesel generators, ships, trains, construction equipment, and motor vehicles.

Topography and Air Quality

Amador County is located within the Mountain Counties Air Basin (MCAB), which also encompasses Plumas, Sierra, Nevada, Calaveras, Tuolumne, and Mariposa counties, and portions of Placer and El Dorado counties. Air quality in the MCAB is affected by the rate, amount, and location of pollutant emissions and the associated meteorological and geographical conditions that influence pollutant movement and dispersal. Atmospheric conditions, including wind speed, wind direction, stability, and air temperature, in combination with local surface topography (i.e., geographic features such as mountains, valleys, and large bodies of water), determine the effect of air pollutant emissions on local air quality.

The topography of Amador County portion of the MCAB is highly variable and includes rugged mountain peaks and valleys with extreme slopes and differences in altitude in the Sierras, as well as rolling foothills to the west. The MCAB lies along the northern Sierra Nevada mountain range, close to or contiguous with the Nevada border, covering an area of approximately 11,000 square miles. Elevations in Amador County range from over 9,000 feet above sea level within the Sierra Nevada mountain range to several hundred feet above sea level at the County's boundary with Sacramento County.

4.3.2 Air Quality (III) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒

No Impact. The Amador Air District (AAD) is the agency primarily responsible for compliance with federal and state standards within Amador County. The AAD helps to ensure that air quality conditions are maintained through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the AAD includes adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the federal and California Clean Air Acts. A project is inconsistent with regional air quality planning if it would result in population and/or employment growth that exceeds growth estimated in the applicable air quality plan. The Proposed Project does not include development of new housing or employment centers and would not induce population or employment growth. The proposed Project improvements address existing deficiencies that

require modification in order to continue to provide reliable water service for existing development and future growth planned and evaluated in the County General Plan. Therefore, the proposed Project would not conflict with or obstruct regional air quality planning. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulatively considerable.

A portion of the Proposed Project's air quality impacts are attributable to construction activities. The majority of the long-term air quality impacts will be due to the operation of motor vehicles traveling to and from the site. For purposes of impact assessment, air quality impacts have been separated into construction impacts and operational impacts.

Construction Impacts

Less than Significant Impact. Implementation of the Proposed Project would result in short-term emissions from construction activities. Construction-generated emissions would be short term and of temporary duration, lasting only as long as construction activities occur. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM_{10} and $PM_{2.5}$ emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities. Off-road construction equipment is often diesel-powered and can be a substantial source of nitrogen oxide (NO_X) emissions, in addition to PM_{10} and $PM_{2.5}$ emissions. Worker commute trips and architectural coatings are dominant sources of reactive organic gas (ROG) emissions.

The AAD has not formally adopted recommended thresholds of significance for the evaluation of proposed projects that are subject to CEQA review. For purposes of this analysis and based on Amador County's current nonattainment designation for ozone, the significance thresholds for ozone precursors (i.e., ROG and NOx) were based on California Health and Safety Code Section 40918. Emission thresholds of the other criteria air pollutants, for which the county is currently designated either attainment or unclassified, were based on the definition of a "major source," as identified in AAD's Rule 500. The

predicted maximum daily emissions of ROG, NO_x, PM_{10}, $PM_{2.5}$, and CO associated with Project construction are summarized in **Table 4.3-1** and compared to the threshold promulgated by the California Health and Safety Code Section 40918 and AAD's Rule 500.

Table 4.3-1. Construction Air Quality Emissions- Maximum Pounds per Day

Construction Phase	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition	0.49	8.02	8.58	0.01	0.63	0.48
Construction	1.07	9.60	8.91	0.01	5.17	2.96
Significance Thresholds[1]	**137 lbs/day**	**137 lbs/day**	**548 lbs/day**	**548 lbs/day**	**384 lbs/day**	**None**
Exceed Significance Thresholds?	No	No	No	No	No	N/A

Source: CalEEMod, version 2016.3.2. See **Appendix A** for emission model outputs.
Note:
[1]Significance thresholds for ROG and NOx are based on California Health and Safety Code Section 40918. Significance thresholds for CO, SO_2, and PM_{10} are based on the definition of a "major source" derived from Amador Air District's Rule 500. To ensure a more conservative analysis and to provide additional protection to nearby receptors from localized concentrations of PM, PM_{10} emissions were based on standards applied to federal nonattainment areas. Because $PM_{2.5}$ is a subset of PM_{10} and given the region's current attainment status for both federal and state $PM_{2.5}$ ambient air quality standards, a quantitative significance threshold for $PM_{2.5}$ was not identified.

As shown, construction would not exceed any significance thresholds derived from the California Health and Safety Code Section 40918 and AAD's Rule 500.

For the purposes of further comparison, the significance thresholds for criteria pollutants set forth by the El Dorado County Air Quality Management District (EDCAQMD) are also noted. The El Dorado Air Pollution Control District's EDCAPCD's *Guide to Air Quality Assessment* (EDCAPCD 2002) includes significance thresholds to assist lead agencies in determining whether a project may have a significant air quality impact. While the significance thresholds promulgated in El Dorado County are not binding in Amador County, they are instructional for comparison purposes. The EDCAQMD's construction emission significance thresholds are 82 pounds per day of NO_x and ROG. As shown, construction of the proposed Project would not generate emissions of NO_x or ROG at levels greater than 82 pounds daily.

Construction impacts would be less than significant. No mitigation is required.

Long-Term Operational Impacts

The Proposed Project will not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, will not generate quantifiable criteria emissions from Project operations. The Project does not propose any buildings and therefore no permanent source or stationary source emissions. Once the Project is completed, there will be no resultant increase in automobile trips to the area because the improved facilities will not require daily visits. While it is anticipated that the Project would require intermittent maintenance, such maintenance would be minimal requiring a negligible amount of traffic trips on an annual basis and would be similar to current maintenance activities at the existing tanks. Therefore, operational impacts would be less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations??	☐	☐	☒	☐

Less than Significant Impact. Sensitive land uses are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of sensitive receptors are residences, schools, hospitals, and day care centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65 years old, children under the age of 14, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

Construction Impacts

Construction-related activities would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities.

The health effects associated with ozone are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in ozone precursor emissions (ROG or NOx) in excess of the California Health and Safety Code Section thresholds, the Project is not anticipated to substantially contribute to regional ozone concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve construction activities that would result in CO emissions in excess of the AAD's Rule 500 thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary toxic air contaminant (TAC) of concern. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a TAC by the CARB in 1998. The potential cancer risk from the inhalation of DPM outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. Based on the emission modeling conducted, the maximum onsite construction-related daily emissions of exhaust $PM_{2.5}$, considered a surrogate for DPM, would be 0.84 pounds/day (see Appendix A). ($PM_{2.5}$ exhaust is considered a surrogate for DPM because more than 90 percent of DPM is less than 1 microgram in diameter and therefore is a subset of particulate

matter under 2.5 microns in diameter (i.e., $PM_{2.5}$). Most $PM_{2.5}$ derives from combustion, such as use of gasoline and diesel fuels by motor vehicles.) As with ozone and NOx, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed thresholds. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

The impact is less than significant. No mitigation required.

Long-Term Operational Impacts

Operation of the proposed Project would not result in the development of any substantial sources of air toxics, as the improvements would not change existing activities on the Project site. There are no stationary sources nor delivery trucks associated with the operations of the Project. Therefore, the Project would not be a source of TACs and there would be no impact as a result of the Project during Project operations. No mitigation is required.

	Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Less than Significant Impact. Individual responses to odors are highly variable and can result in various effects, including psychological (i.e., irritation, anger, or anxiety) and physiological (i.e., circulatory and respiratory effects, nausea, vomiting, and headache). Generally, the impact of an odor results from a variety of interacting factors such as frequency, duration, offensiveness, location, and sensory perception.

Construction Impacts

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. The impact is less than significant. No mitigation is required.

Long-Term Operational Impacts

The California Air Resources Board's (CARB's) *Air Quality and Land Use Handbook* (CARB 2005) identifies the sources of the most common operational odor complaints received by local air districts. Typical sources include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. The Project does not contain any of the land uses identified as typically associated with emissions of objectionable odors. As such, no impact would occur. No mitigation is required.

4.4 Biological Resources

ECORP conducted a Biological Resources Assessment (BRA) for the AWA Pioneer Water Project Phase 2 (December 2017, Appendix B). The proposed project site was included in the survey area covered in the BRA. The below analysis is based on the findings of the December 2017 BRA.

4.4.1 Environmental Setting

Amador County contains approximately 387,429 acres of habitat. These are broken up into the following groups: Coniferous forest, Woodland, Shrub-dominated, Herbaceous-dominated, and Other. Coniferous forests cover about 26% of all available habitat and are the most common habitat above 2,500 feet above mean sea level. Woodland habitats are most common at the middle and lower elevations located in the western half of Amador County. These make up about 36% of all available habitat. Shrub-dominated habitats make up about 7% of all habitat in Amador County, and are mostly scattered throughout the area. Herbaceous-dominated habitats cover about 20% of habitat in Amador County, and occur in lower elevations. Approximately 26% of Amador County is not designated as a specific habitat type. This includes urban, agricultural, barren, and open water areas.

Site Characteristics and Surrounding Land Use

The Project Area occurs within rolling terrain at an elevational of 3,560 feet above mean sea level. The Project Area consists primarily of existing water infrastructure facilities and relatively flat, open forest of mature madrone (*Arbutus menziesii*), incense cedar (*Calocedrus decurrens*), and Douglas fir (*Pseudotsuga menziesii*). The project site has been previously cleared of trees and vegetation. The area is almost devoid of vegetation and shows signs of frequent disturbance. It appears that this area is subject to regular vegetation management. The area surrounding the Project is characterized by rural residential parcels and undeveloped forested land. No potential Waters of the U.S. were identified within the Project Area during the field visit. No special-status plant or animal species were observed within the Project during the field visit.

Evaluation of Species Identified in the Literature Search

Table 4.4-1 lists the special-status plant and wildlife species identified in the literature search as potentially occurring within the Project Area. Included in this table are the listing status for each species, a brief habitat description, and a determination of the potential to occur in the Project Area. Following the table is a brief description of each species determined to have potential to occur within the Project Area.

Several species and sensitive habitat types were included in the results of the database and literature searches but are not included in Table 4.4-1. These species and habitat types were not included in Table 4.4-1 because the species have been formally delisted or are only tracked by the California Natural Diversity Database (CNDDB) and possess no special-status, or because the identified sensitive habitats are not located within the Project area (CDFW 2017). They are not discussed further in this report.

Table 4.4-1. Evaluation of Special-Status Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Plants						
Three-bracted onion *(Allium tribracteatum)*	-	-	1B.2	Volcanic soils in chaparral, lower montane coniferous forests, and upper montane coniferous forests (3,609' – 9,843').	April – August	Potential – suitable habitat present on-site
Ione manzanita *(Arctostaphylos myrtifolia)*	FT	-	1B.2	Chaparral and cismontane woodlands associated with very acidic, nutrient-poor, coarse soils typical of the Ione Formation (196' – 1,903').	November – March	Absent – no suitable habitat present on-site
Scalloped moonwort *(Botrychium crenulatum)*	-	-	2B.2	Bogs and fens, meadows and seeps, and freshwater marshes and swamps within lower montane coniferous forest and upper montane coniferous forest (4,160' – 10,760').	June - September	Absent – no suitable habitat present on-site
Pleasant Valley mariposa-lily *(Calochortus clavatus* var. *avius)*	-	-	1B.2	Josephine silt loam and volcanic soils within lower montane coniferous forest (1,001' – 5,906').	May – July	Potential – suitable habitat present on-site
Red Hills soaproot *(Chlorogalum grandiflorum)*	-	-	1B.2	Serpentinite or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest, occasionally on non-ultramafic soils (804' – 5,545').	May – June	Low potential – marginally suitable habitat present on-site
Brandegee's clarkia *(Clarkia biloba* ssp. *brandegeeae)*	-	-	4.2	Chaparral, cismontane woodlands, and lower montane coniferous forest often along roadcuts (246' – 3,002').	May – July	Absent – outside elevational range
Sierra clarkia (*Clarkia virgata*)	-	-	4.3	Cismontane woodland and lower montane coniferous forest (1,312' – 5,299').	May – August	Potential – suitable habitat present on-site
Streambank spring beauty *(Claytonia parviflora* ssp. *grandiflora)*	-	-	4.2	Occurs in rocky cismontane woodland (820' – 3,937').	February – May	Absent – no suitable habitat present on-site
Bisbee Peak rush-rose *(Crocanthemum suffrutescens)*	-	-	3.2	Often gabbroic or Ione soil or in burned or disturbed areas within chaparral (246' – 2,198').	April-August	Absent – no suitable habitat present on-site
Yellow-lip pansy monkeyflower *(Diplacus pulchellus)*	-	-	1B.2	Meadows and seeps within lower montane coniferous forest (1,968' – 6,562').	April – July	Absent – no suitable habitat present on-site

Table 4.4-1. Evaluation of Special-Status Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Jepson's coyote thistle (*Eryngium jepsonii*)	-	-	1B.2	Clay soils within valley and foothill grassland, and vernal pools (10' – 984').	April – August	Absent – no suitable habitat present on-site
Tuolumne button-celery *(Eryngium pinnatisectum)*	-	-	1B.2	Vernal pools and other mesic conditions in cismontane woodland and lower montane coniferous forests (230' – 3,002').	May – August	Absent – no suitable habitat present on-site
Stanislaus monkeyflower (*Erythranthe marmorata)*	-	-	1B.1	Cismontane woodland and lower montane coniferous forest (330' – 2,950').	March - May	Absent – outside of elevational range
Parry's horkelia *(Horkelia parryi)*	-	-	1B.2	Ione and other soil formations in chaparral and cismontane woodlands (262' – 3,510').	April – September	Absent – no suitable habitat present on-site
Dubious pea *(Lathyrus sulphureus* var. *argillaceus)*	-	-	3	Cismontane woodland, lower montane coniferous forest and upper montane coniferous forest. (492' – 3,051').	April – May	Absent – outside of elevational range
Humboldt lily *(Lilium humboldtii* ssp. *humboldtii)*	-	-	4.2	Occurs in openings within chaparral, cismontane woodland, and lower montane coniferous forest (295' – 4,199').	May – August	Potential – suitable habitat present on-site
Stebbins' lomatium (*Lomatium stebbinsii*)	-	-	1B.1	Gravelly, volcanic clay soils within chaparral and lower montane coniferous forest (4,085' – 7,790').	March - May	Absent – outside of elevational range
Coleman's rein orchid *(Piperia colemanii)*	-	-	4.3	Sandy soils in chaparral and lower montane coniferous forest (3,937' – 7,546').	June – August	Absent – no suitable habitat present on-site
Prairie wedge grass *(Sphenopholis obtusata)*	-	-	2B.2	Meadows and seeps, and mesic areas in cismontane woodland (984' – 6,562').	April – July	Absent – no suitable habitat present on-site
Fish						
Delta smelt (*Hypomesus transpacificus*)	FT	CE	-	Sacramento-San Joaquin delta.	N/A	Absent - no suitable habitat present on-site.

Table 4.4-1. Evaluation of Special-Status Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Amphibians						
Foothill yellow-legged frog (*Rana boylii*)	-	-	SSC	Foothill yellow-legged frogs can be active all year in warmer locations but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed.	May - October	Absent - no suitable habitat present on-site.
California red-legged frog (*Rana draytonii*)	FT	-	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1- November 1	Absent – no suitable habitat on-site.
Sierra Nevada yellow-legged frog *(Rana sierrae)*	FE	CT	SSC	Historically ranged from Plumas County south through the Sierra Nevada to Inyo County. The southern part of the range is marked by Middle and South Forks of the Kings River. This frog also occurs at locations east of the Sierra Nevada crest. Always occurs near water at ponds, tarns, lakes, and streams. Tadpole may require 2 - 4 years to complete larval development.	March - September	Absent – no suitable habitat on-site.
Southern long-toed salamander *(Ambystoma macrodactylum sigillatum)*	-	-	SSC	Inhabits alpine meadows, high mountain ponds, and lakes at elevations up to about 10,000 ft. In California, this subspecies occurs in the northeast and along the northern Sierra Nevada south to Garner Meadows and Spicer Reservoir, and in Trinity and Siskiyou counties near the Trinity Alps.	October - January	Absent – no suitable habitat on-site.
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.	Any season	Absent - no suitable habitat present on-site.

Table 4.4-1. Evaluation of Special-Status Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Birds						
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.	March-August	Low potential – marginally suitable habitat present on-site
Sharp-shinned hawk *(Accipiter striatus)*	-	-	CDFW WL	Nests in trees in most forest types with at least some conifers. In California, nesting occurs in Sierra Nevada and Cascade Ranges (foothills to tree line) and northwestern coastal range.	April-August (nesting)	Potential – suitable habitat present on-site.
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 750-2250 meters). Nest in broken-topped dead trees, old raptor nests, mistletoe brooms, or human-made platforms.	April-July	Low potential – marginally suitable habitat present on-site
Mammals						
Townsend's big-eared bat *(Corynorhinus townsendii)*	-	-	SSC	Distribution is strongly correlated with the availability of caves and cave-like roosting habitat, including abandoned mines; habitat associations include coniferous forests, mixed mesophytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types (Western Bat Working Group [WBWG] 2017).	April-September	Absent - no suitable habitat present on-site

Table 4.4-1. Evaluation of Special-Status Species for the Project Area

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Fringed myotis *(Myotis thysanodes)*	-	-	-	Desert scrub, mesic coniferous forest, grassland, and sage-grass steppe habitats; roosts in crevices in buildings, underground mines, rocks, cliff faces, and bridges; hibernacula include caves, mines and buildings (WBWG 2017).	April-September	Absent - no suitable habitat present on-site
Long-legged myotis *(Myotis volans)*	-	-	-	Abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark, and hollows within snags as summer day roosts; caves and mine tunnels as hibernacula (WBWG 2017).	April-September	Potential – suitable habitat present on-site
Sierra Nevada red fox (*Vulpes vulpes necator*)	FC	CT	-	Found in the Cascades in Siskiyou County, and from Lassen County to Tulare County; rare in the Sierra Nevada. Sierra Nevada populations found in alpine dwarf-shrub, wet meadow subalpine conifer, lodgepole pine, red fir, aspen, montane chaparral, montane riparian, mixed conifer, and ponderosa pine. Most sightings in Sierra Nevada area above 7,000 feet but range from 3,900 to 11,900 feet.	Any season	Potential – suitable habitat present on-site

Status Codes:

FESA	Federal Endangered Species Act
CESA	California Endangered Species Act
FT	ESA listed, Threatened.
FC	Candidate for ESA listing as Threatened or Endangered.
FE	ESA listed, Endangered.
CT	CESA listed, Threatened.
CE	CESA listed, Endangered.
SSC	CDFW Species of special concern
CDFW WL	CDFW Watch List
1B	CRPR /Rare or Endangered in California and elsewhere.
2	CRPR /Rare or Endangered in California, 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	Native Plant Protection Act

4.4.2 Biological Resources (IV) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	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 the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Less than Significant Impact with Mitigation.

Plants

In total, 19 special-status plant species were identified as having the potential to occur, within the project area, based on the literature review (Table 4.4-1). Upon further analysis and a reconnaissance site visit, 14 species were determined to be absent from the project site due to the lack of suitable habitat, or because the Project Area is outside the species elevational range. The Project site, located at approximately 3,500 feet above mean sea level, was considered potential habitat for special-status plant species. Five special-status plant species were determined to have potential to occur within the project site: three-bracted onion (*Allium tribracteatum*), Pleasant Valley mariposa-lily (*Calochortus clavatus* var. *avius*), Red Hills soaproot (*Chlorogalum grandiflorum*), Sierra clarkia (*Clarkia virgata*), and Humboldt lily (*Lilium humboldtii* ssp. *humboldtii*). . Special-status plant surveys were conducted in 2019 for the project site as a part of the AWA Pioneer Water Project Phase 2. The plant surveys did not identify special-status plants within the project area. Therefore, no further mitigation is necessary ECORP 2017b.

Birds

Three special-status bird species were determined to have the potential to occur within the Project area: northern goshawk (*Accipiter gentilis*), sharp-shinned hawk (*Accipiter striatus*), and great gray owl (*Strix nebulosa*). These species have the potential to nest in trees within the Project Site and immediately outside of the Project. There are no documented CNDDB occurrences of northern goshawk or sharp-shinned hawk within five miles of the Project. There is one documented CNDDB occurrence of great gray owl within five miles of the Project, with specific location details suppressed. Additionally, nesting birds protected by the Migratory Bird Treaty Act (MBTA) have the potential to nest in trees within and immediately outside of the Project Area. Suitable nesting and/or wintering and foraging habitat for three special-status bird species is present within the Project Area. These include northern goshawk, sharp-shinned hawk, and great gray owl. If present, the Project could result in direct take of birds or nests and could result in harassment to nesting individuals and may temporarily disrupt foraging activities.

In addition to the above-listed special-status birds, all native birds, including raptors, are protected under the California Fish and Game Code and the MBTA. As such, implementation of BIO-1 will ensure that there are no impacts to protected active nests.

Mammals

Four special-status mammal species were identified as having potential to occur within the Project Area based on the literature review (Table 4.4-1). Upon further analysis and after the reconnaissance visits, three species were considered to have potential to occur on-site: Townsend's big-eared bat (*Corynorhinus townsendii*), long-legged myotis (*Myotis volans*), and Sierra Nevada red fox (*Vulpes vulpes necator*). Townsend's big-eared bat and long-legged myotis have the potential to use trees within the Project Area as day roosts. Sierra Nevada red fox has potential to use the Project Area as a movement corridor but does not have the potential to den within the Project Area.

Suitable habitat for two special-status mammals (long-legged myotis, and Sierra Nevada red fox) is present within the Project Area. Sierra Nevada red fox may use the Project site for foraging and as a movement corridor. However, there is no suitable den habitat for Sierra Nevada red fox within the Project Area. No mitigation measures are recommended for Sierra Nevada red fox. There is potential for long-legged myotis and other bats to roost in trees within the Project Area. However, the project is not anticipating tree removal, therefore there will be no impact due to tree removal.

Fish, Reptiles, and Amphibians

Six special-status fish, reptiles, and amphibians were identified as having the potential to occur within the Project Area based on the literature review. Upon further analysis and after the reconnaissance visits, these species were determined to be absent from the Project Area due to the lack of suitable habitat.

Mitigation Measures

BIO-1: Special-Status Birds and MBTA Protected Birds. If construction activities occur during the nesting season (February 1 through August 31), a pre-construction nesting bird survey shall be conducted within the Project Area and a 300-foot buffer area surrounding the Project. Surveys shall be conducted within 14 days of the commencement of construction activities. If an active nest is found no-work buffers will be established around the active nesting area and consultation with CDFW will take place.

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

Less than significant Impact. All construction activities will take place in an area that has already been cleared of trees and vegetation. Therefore, the project will have a less than significant impact to these types of habitats. No mitigation required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

No Impact. No potential Waters of the U.S. were observed within the Project footprint during the November 2, 2017 field visit; therefore, the project will not impact federally protected wetlands as defined by Section 404 of the Clean Water Act. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) 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?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated, please see discussion 4.2.2 a). With implementation of BIO-1 impacts to nesting birds protected by the Migratory Bird Treaty Act (MBTA) will be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. With implementation of BIO-1 the proposed Project will not impact wildlife or associated habitat. The proposed Project will take place entirely within the project site located adjacent to Tanks A and B. The project site has been previously cleared of trees. These trees did not represent sensitive or regulated species and are not subject to tree preservation policies or ordinances. With implementation of BIO-1 the project will not conflict with local policies or ordinances protecting biological resources.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

No Impact. The proposed Project will not modify habitat or impact natural communities. Therefore, the project will not conflict with adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other local, regional, or state habitat conservation plans.

4.5 Cultural Resources

ECORP conducted a Cultural Resources Inventory Report for the AWA Pioneer Water Project Phase 2 IS/MND (ECORP 2017, Appendix C) to determine if cultural resources were present in or adjacent to the Project area and assess the sensitivity of the Project area for undiscovered or buried cultural resources. The proposed project site was included in the survey area and was therefore covered in the analysis within that environmental document. The analysis below is based on the findings of the previously completed Cultural Resource Inventory Report.

4.5.1 Environmental Setting

The project area is surrounded by private rural residences within a mixed conifer forest. Elevations range from approximately 3,200 to 3,500 feet above mean sea level. The South Branch of Sutter Creek is located directly south of SR-88, 0.5 mile south of the Project Area.

Despite the age of the underlying geomorphology, there is alluvium present along Sutter Creek, located south of SR-88. Given the likelihood of prehistoric archaeological sites located along perennial waterways, there exists the potential for buried prehistoric archaeological sites in the Project Area.

Ethnographically, the Project Area is in the northern portion of the territory occupied by the Penutian-speaking Miwok. At the time of contact, the Miwok were one of the largest groups in California, occupying vast stretches of land extending from the Sierra Nevada Range, across the Great Valley, and into portions of the North Coast above San Francisco. The Area of Potential Effect (APE) is in Northern Sierra Miwok territory, which includes land in the foothills and higher elevations of the Sierra Nevada Range, between the Cosumnes River to the north, and the divide between Calaveras and the Stanislaus rivers to the south (Levy 1978).

The Project Area is located within the northern end of the West Point Gold District, established in the 1860s (Clark 1970). The West Point Gold District is an extensive gold belt that includes the eastern areas of Amador and Calaveras counties (Clark 1970). By 1870, lode mines and about ten custom mills were active. Activities at these mines occurred from the 1880s to 1914 and again in the 1920s and 1930s (Clark 1970).

Project Area History

Located approximately 12 miles southwest of the Project Area, the City of Jackson was named after the lawyer Alden M. Jackson in 1850. Prior to 1850 the place that would become Jackson was originally named Bottileas, based on the Spanish word for bottle (*botella*), due to the large amounts of refuse left over from miners that lived in the area. Jackson was originally settled as a result of gold mining and was one of the first towns to be established within the Mother Lode due to its centralized location along the road between Sacramento and the southern gold mines in the hills to the east. The consistent amount of gold extracted from surrounding mines and creeks helped Jackson maintain a steady population (Kyle 2002).

Amador County was formed in 1854 when it was separated from Calaveras County by the California legislature. Amador County was named for Jose Maria Amador, who owned the San Ramon land grant in Contra Costa County. During the Gold Rush in 1848-1849, he and his men mined along a creek that was later named Amador Creek. His gold mining camp came to be known as Amador City. Jackson, which had previously been the county seat of Calaveras County, became the county seat of Amador County (Amador County 2016).

Several famous and lucrative mines are located near Jackson, including the Jackson Gate, the Kennedy, and the Argonaut mines, located approximately one mile north of town. The lucrative gold mines near Jackson were a part of the most productive district of the Mother Lode belt, producing over $180 million in gold (Clark 1970). The Argonaut Mine was worked from the 1850s to 1942, producing an overall estimated $25 million. However, in 1922, 47 miners were killed as a result of a fire within the mine. To this day, the Argonaut Mine disaster in 1922 is the largest loss of life in a California mine. As with the Argonaut Mine, the Kennedy Mine was a high producer, with an estimated return of nearly $34 million (Kyle 2002). Operations at the Kennedy Mine began in 1856 and continued until the beginning of World War II. The Kennedy Mine was one of the deepest gold mines in the United States at 5,912 vertical feet and also had a 100-stamp mill (Clark 1970). The Kennedy, Argonaut, Keystone, and Plymouth mines were the largest and most productive mines in Amador County.

The Project Area is located within the northern end of the West Point Gold District, established in the1860s (Clark 1970). The West Point Gold District is an extensive gold belt that includes the eastern areas of Amador and Calaveras counties (Clark 1970). The town of West Point is located between the North and Middle forks of the Mokelumne River, approximately 3.5 miles southeast of the Project Area. West Point is located in Calaveras County and was named in 1854 (Gudde 1969). The streams and surface ores were extensively mined during the 1850s (Clark 1970). By 1870, lode mines and about ten custom mills were active. Activities at these mines occurred from the 1880s to 1914 and again in the 1920s and 1930s (Clark 1970). Located 0.5 mile southeast of Pioneer was the Defender Mine, which produced over $100,000 (Clark 1970). The Defender Mine was worked from the 1900s through the late 1930s.

The current SR-88 follows much of the same route as the Amador-Nevada wagon road, which served the needs of miners and travelers along the route. Pioneer, one of the communities along this route, is located in the Project Area. The Pioneer community developed around the Pioneer Station (P-3-448), a general store that opened in 1905 (Marvin and Psota 2000). Information about the history of the Census-

Designated place of Buckhorn and Buckhorn Ridge Road was not available; maps and aerials indicate this community and thoroughfare were developed in the mid-twentieth century.

Cultural Resources

The cultural context of the Project area including regional and local prehistory, ethnography, and regional and Project area histories was included in the previously drafted Cultural Resources Inventory Report for the AWA Pioneer Water Project Phase 2 and is summarized below.

A records search for the property was completed at the North Central Information Center (NCIC) of the California Historic Research Information System at California State University, Sacramento on November 13, 2017 (NCIC search #SAC-13-1105; provided as Attachment A). The purpose of the records search was to determine the extent of previous surveys within a 0.5-mile (800-m) radius of the proposed Project location, and whether previously documented prehistoric or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area.

In addition to the official records and maps for archaeological sites and surveys in Amador County, the following historic references were also reviewed: Historic Property Data File for Amador County (Office of Historic Preservation [OHP] 2012); *The National Register Information System websit*e (National Park Service [NPS] 2017); *Office of Historic Preservation, California Historical Landmarks* website (OHP 2017); *California Historical Landmarks* (OHP 1996 and updates); *California Points of Historical Interest* (OHP 1992 and updates); *Directory of Properties in the Historical Resources Inventory* (1999); *Caltrans Local Bridge Survey* (Caltrans 2017a); *Caltrans State Bridge Survey* (Caltrans 2017b); and *Historic Spots in California* (Kyle 2002).

In addition to the record search, ECORP contacted the California Native American Heritage Commission (NAHC) on November 10, 2017 to request a search of the Sacred Lands File for the APE. This search determined whether or not Sacred Lands have been recorded by California Native American tribes within the APE, because the Sacred Lands File is populated by members of the Native American community who have knowledge about the locations of tribal resources.

ECORP mailed letters to the Amador County Historical Society on November 10, 2017 to solicit comments or obtain historical information that the repository might have regarding events, people, or resources of historical significance in the area.

On November 22, 2017, ECORP subjected the APE to an intensive pedestrian survey under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (NPS 1983) using 15-m transects. ECORP expended one person-day in the field. At that time, the ground surface was examined for indications of surface or subsurface cultural resources. All cultural resources encountered during the survey were recorded using Department of Parks and Recreation 523-series forms approved by the California OHP.

4.5.2 Regulatory Setting

To meet the regulatory requirements of this Project, the cultural resources investigation was conducted pursuant to the provisions for the treatment of cultural resources contained within Section 106 of the National Historic Preservation Act (NHPA) and in CEQA (Public Resources Code [PRC] § 21000 et seq.) The

goal of NHPA and CEQA is to develop and maintain a high-quality environment that serves to identify the significant environmental effects of the actions of a proposed project and to either avoid or mitigate those significant effects where feasible. CEQA pertains to all proposed projects that require state or local government agency approval, including the enactment of zoning ordinances, the issuance of conditional use permits, and the approval of development project maps. The NHPA pertains to projects that entail some degree of federal funding or permit approval.

The NHPA and CEQA (Title 14, CCR, Article 5, § 15064.5) apply to cultural resources of the historical and prehistoric periods. Any project with an effect that may cause a substantial adverse change in the significance of a cultural resource, either directly or indirectly, is a project that may have a significant effect on the environment. As a result, such a project would require avoidance or mitigation of impacts to those affected resources. Significant cultural resources must meet at least one of four criteria that define eligibility for listing on either the California Register of Historical Resources (CRHR (PRC § 5024.1, Title 14 CCR, § 4852) or the National Register of Historic Places (NRHP) (36 Code of Federal Regulations [CFR] 60.4). Cultural resources eligible for listing on the NRHP are considered historic properties under 36 Code of Federal Regulations Part 800 and are automatically eligible for the CRHR. Resources listed on or eligible for inclusion in the CRHR are considered Historical Resources under CEQA.

4.5.3 Cultural Resources (V) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated. One of the previous cultural resources investigations covered at least a portion of the APE, in addition to other survey coverage areas outside of the APE. As a result of the one previous investigation, no previously recorded cultural resources were recorded within the APE. Since no previous investigation covered the entire Project Area, a current pedestrian survey of the APE was conducted.

The records search also determined that 24 previously recorded prehistoric and historic-era cultural resources are located within 0.5 mile of the APE covering approximately 40 percent of the total area surrounding the property within the record search radius. Of these, six are believed to be associated with Native American occupation of the vicinity, and 17 are historic-age sites, associated with early Euro-American ranching and mining activities or historic-aged structures. No cultural resources have been previously recorded within the APE.

The *Office of Historic Preservation's Directory of Properties, Historic Property Data File for Amador County* (dated April 5, 2012) lists seven historic period resources within 0.5 mile of the APE located within Pioneer (OHP 2012). All historic period resources are located at least 0.3 mile outside of the APE to the southwest.

All seven historic-age resources have been determined ineligible for the National Register by consensus through Section 106 and have not yet been evaluated for the California Register or local listing.

A search of the Sacred Lands File by the NAHC failed to indicate the presence of Native American cultural resources in the Project Area. No responses to the letters sent to the Amador County Historical Society have been received as of the preparation of the previous project (that included the proposed project site.

The closest cultural resource to the project site is a single cultural resource, AWAP2-001, and was identified during the 2017 field inventory. AWAP2-001 is a 1.24-mile-long segment of Buckhorn Ridge Road, the alignment of which is visible on the 1948 West Point, California U.S. Geological Survey 1:24000 scale Topographic Quadrangle Map. The segment consists of a two lane, paved, rural roadway that averages 20 feet in width with soft earthen shoulders and receives regular maintenance. AWAP2-001 is an historic road segment that dates to approximately 1948. The 2017 Cultural Resource Inventory Report included an evaluation of AWAP2-001.

The evaluation found that, regardless of integrity, AMAP2-001, Buckhorn Road, does not meet the eligibility criteria for inclusion in the CRHR as an individual resource and does not contribute to any known or possible district. It was not considered a historical resource as defined in §15064.5.

Although unlikely, there is the potential for unknown buried prehistoric archaeological sites in the Project Area to be encountered during ground disturbance. If previously unrecorded resources are encountered during construction, implementation of Mitigation Measure CR-1 would reduce impacts to a less than significant level.

Mitigation Measure

CR-1: Unanticipated Discovery. In the event that any subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

A. If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.

B. If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the Amador Water Agency and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be eligible for inclusion in the NRHP or CRHR. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to their satisfaction

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated. No archaeological resources have been previously recorded within the Project Area. One historic-age resource was observed within the project vicinity (AWAP2-001, Buckhorn Road. As previously described, AWAP2-001 is not eligible for inclusion in the CRHR under any criteria and is not considered an archaeological resource and is not within the project site. However, there remains the possibility that the Proposed Project may impact unknown buried archaeological resources as a result of ground disturbing construction activities. With the implementation of Mitigation Measure CR-1 impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated. The Native American Heritage Commission (NAHC) was contacted and a search of Sacred Lands File was conducted for the Proposed Project. The search was requested to determine whether there are sensitive or sacred Native American resources in the vicinity of the Project Area that could be affected by the Proposed Project. The Sacred Lands File search conducted by the NAHC failed to indicate the presence of Native American cultural resources in the Project Area.

No formal cemeteries are located in or near the Project Area and no human remains have been reported in the project vicinity. Most Native American human remains are found in prehistoric archaeological sites. Four prehistoric archaeological sites have been documented within a 1-mile radius of the Project Area, however no sites have been recorded within the Project Area (ECORP 2017c). Therefore, the Proposed Project has low potential to disturb human remains. Impacts to resources would be less than significant with the Implementation of Mitigation Measure CR-2.

Mitigation Measure

CR-2: Human Remains Discovery. If human remains of any kind are found during construction, or remains that are potentially human, a qualified professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Amador County Coroner (per §7050.5 of the Health and Safety Code). The provisions of §7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, then the Coroner

will notify the Native American Heritage Commission, which then will designate a Native American Most Likely Descendant (MLD) for the project (§5097.98 of the Public Resources Code). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, then the NAHC can mediate (§5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

4.6 Energy

4.6.1 Environmental Setting

Electricity/Natural Gas Services

The Pacific Gas and Electric Company (PG&E) provides electricity and natural gas to the Project area. PG&E generates or buys electricity from hydroelectric, nuclear, renewable, natural gas, and coal facilities. PG&E provides natural gas and electricity to most of the northern two-thirds of California, from Bakersfield and Barstow to near the Oregon, Nevada and Arizona State Line. It provides 5.2 million people with electricity and natural gas across 70,000 square miles.

Energy Consumption

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g. of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

The electricity consumption associated with all non-residential uses in Amador County from 2015 to 2018 is shown in **Table 4.6-1**. As indicated, the demand has increased since 2015.

Table 4.6-1. Electricity Consumption in Amador County 2015-2018

Year	Electricity Consumption (kilowatt hours)
2018	163,013,446
2017	169,612,048
2016	173,832,142
2015	152,643,553

Source: Energy Consumption Data Management System (California) (ECDMS) 2019

The natural gas consumption associated with all uses in Amador County from 2015 to 2018 is shown in **Table 4.6-2**. As indicated, the demand has increased since 2015.

Table 4.6-2. Natural Gas Consumption in Amador County 2015-2018

Year	Natural Gas Consumption (therms)
2018	4,274,682
2017	4,207,693
2016	3,624,657
2015	3,104,651

Source: ECDMS 2019

Automotive fuel consumption in Amador County from 2014 to 2019 is shown in **Table 4.6-3**. Fuel consumption has slightly decreased between 2015 and 2019.

Table 4.6-3. Automotive Fuel Consumption in Amador County 2016-2019

Year	Total Fuel Consumption (gallons)
2019	18,763,190
2018	19,203,015
2017	19,638,095
2016	19,615,100

Source: CARB 2017

4.6.2 Energy Consumption (VI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

The impact analysis focuses on the one source of energy that is relevant to the Proposed Project: equipment-fuel necessary for Project construction. Once construction is complete, post construction operations would not result in the addition of new trips on area roadways, thus there would be no increase in automotive fuel attributable to the Project during post construction operations. Additionally, since the Proposed Project consists of the replacement of existing water tanks it would not contribute to electricity and natural gas usage.

Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use project. For the purpose of this analysis, the amount of fuel necessary for Project construction is calculated and compared to that consumed in Amador County.

The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. Energy consumption associated with the Proposed Project is summarized in **Table 4.6-4**.

Table 4.6-4. Proposed Project Construction Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Project Construction	7,291 gallons	0.03 percent

Source: See Appendix D
Notes: The Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2019.

As shown in **Table 4.6-4**, the Project's gasoline fuel consumption during the one-time construction period is estimated to be 7,291 gallons of fuel, which would increase the annual countywide gasoline fuel use in the county by 0.03 percent. As such, Project construction would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. This impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

The Project would not conflict or obstruct any local or state plans for renewable energy or energy efficiency. For these reasons, this impact would be less than significant.

4.7 Geology and Soils

4.7.1 Environmental Setting

Amador County is located in the foothills of the Sierra Nevada, on the eastern fringe of the Sacramento Valley. The County's elevation ranges from less than 300 feet above sea level at the western end of the County to a high of more than 9,000 feet in the easternmost portion of the County. The Sierra Nevada trends north-northwest from Bakersfield to Lassen Peak, and includes the Sierra Nevada mountain range and a broad belt of western foothills. The project site is located within the Sierra Nevada geomorphic province. The area bedrock generally consists of fault-bounded lithologic terranes of Paleozoic- and Mesozoic-age marine sedimentary and volcanic rock that have been isoclinally folded, deformed and metamorphosed, as well as Cenozoic-age volcanic rock. Structural orientations (bedding, foliation, fault/shear zones) generally have a north to northwest trend, and dip steeply east. Active faults that mark the eastern edge of the Sierra Nevada have resulted in upthrusting and tilting of the entire Sierra Nevada block in the last five million years—steeply on the eastern edge (adjacent to the Mono Basin), and gently along the western edge. The gently rolling Sierra Nevada foothills are comprised of metamorphosed sedimentary rocks that have been intruded by igneous rocks. The rock formations that make up the western edge of the Sierra Nevada likely originally formed as a volcanic arc that was later accreted (added) to the western margin of the continent during the Jurassic period (Amador County 2014a).

Geomorphic Setting

The geology within the project area is mapped as Cenozoic-age Mehrten Formation and Mesozoic-age granitic intrusive rock, chiefly granodiorite). The Mehrten Formation is described as stream channel, alluvial, and mudflow deposits derived mainly from andesitic volcanic rocks. The contact of the two geologic units in the area is mapped generally close to the alignment of Pioneer Creek Road – with volcanic rock to the west and granitic rock to the east.

Regional Seismicity and Fault Zones

An "active fault," according to California Department of Conservation, Division of Mines and Geology, is a fault that has indicated surface displacement within the last 11,000 years. A fault that has not shown geologic evidence of surface displacement in the last 11,000 years is considered "inactive."

Amador County is located within an area with relatively low seismic activity. Seismic activity may result in geologic and seismic hazards, including seismically induced fault displacement and rupture, ground shaking, liquefaction, lateral spreading, landslides and avalanches, and structural hazards. No Alquist-Priolo Earthquake Fault Zones are located in the Planning Area (Amador County 2014a). Several inactive faults are known to be present in Amador County. These faults, which are not known to have been active within the past 10,000 years, include faults associated with the Bear Mountains Fault Zone and the Melones Fault Zone of the Foothills Fault System, and with the Calaveras Shoo Fly Thrust. Nearby Alpine County is affected by Alquist-Priolo Earthquake fault zones and includes the closest active fault zones: the Genoa Fault (Amador County 2014a).

Soils

According to the U.S. Department of Agriculture's (USDA's) Web Soil Survey website (USDA 2017), two soil types are located within the Project Area: Cohasset very cobbly loam (CbE), 16 to 51 percent slopes; and Aiken loam (AhC), 9 to 16 percent slopes. Both well-drained soils found on ridges and shoulders. Underlying geomorphology consist primarily of Mesozoic granite rocks (Mesozoic granite, quartz monzonite, granodiorite, and quartz diorite), of Permian to tertiary age. In the very southern portion of the Project Area, underlying rocks are tertiary pyroclastic and volcanic mudflow deposits, primarily andesite. In the very northern portion of the Project Area, underlying geomorphology consist of undivided Paleozoic metasedimentary rocks (slate, sandstone, shale, chert, conglomerate, limestone, dolomite, marble, phyllite, schist, hornfels, and quartzite). These geologic formations are two to 24 million years old (Jennings et al. 1977)

Despite the age of the underlying geomorphology, there is alluvium present along Sutter Creek, located south of SR-88.

Paleontological Resources

As presented in the Amador County General Plan Update Draft EIR (Amador County 2014a), the potential paleontological importance of a project site can be assessed by identifying the paleontological importance of exposed rock units within the project site. The EIR identified four rock units, county-wide that exhibit high sensitivity for significant paleontological resources. The rock units include:

- Riverbank Formation;
- Modesto Formation;
- Ione Formation; and
- Mehrten Formation.

Of the four rock units listed above, only the Mehrten Formation occurs within the areas affected by the Proposed Project. Vertebrate mammal and plant fossils have been reported from the Mehrten Formation throughout the Sierra Nevada foothills and the eastern margin of the Central Valley. Within Amador County, the primary outcrop of the Mehrten Formation is near Camanche Reservoir, where several vertebrate fossil specimens have been discovered. Other vertebrate fossils have been recovered from the Mehrten Formation from over 40 locations in Calaveras, San Joaquin, Stanislaus, Tuolumne, and Merced Counties. In addition, several specimens of plant fossils have been recovered from the Mehrten Formation in Amador County near Camanche Reservoir, and in Granite Bay, Roseville, and Rocklin. Because of the large number of fossils that have been recovered from the Mehrten Formation, it is considered a paleontologically sensitive rock unit under the Society of Vertebrate Paleontology guidelines (Amador County 2014a).

Proposed Project Site

A paleontological records search was requested from the University of California Museum of Paleontology (UCMP) on June 21, 2016. The UCMP records search was conducted by Museum Scientist (Microfossil

Collections) Ken Finger, Ph.D. The search included a review of the institution's paleontology specimen collection records for the Project Area and vicinity. In addition a query of the University of California Museum of Paleontology (UCMP) catalog records; a review of regional geologic maps from the California Geological Survey; a review of local soils data; and a review of existing literature on paleontological resources of Amador County by ECORP. The purpose of the assessment was to determine the sensitivity of the Project Area, whether or not known occurrences of paleontological resources are present within or immediately adjacent to the Project Area, and whether or not implementation of the project could result in significant impacts to paleontological resources. Paleontological resources include mineralized (fossilized) or un-mineralized bones, teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains.

The results of the search of the UCMP indicated that of the three paleontological specimens recorded from three localities in Amador County: Amador County General, Logtown Ridge, and Jones Butte. No paleontological resources have been previously recorded within or near the Proposed Project site. Review of geologic maps for the project shows the site is underlain with Cenozoic-age Mehrten Formation and Mesozoic-age granitic intrusive rock. No cataloged fossil specimens are recorded in or within a 0.5-mile radius of the Proposed Project site (Finger 2016).

4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☒	☐

i and ii)

No Impact. As noted, the Proposed Project would construct two water storage tanks immediately adjacent to the existing tanks, which would be removed upon Project completion. This improvement is designed to help meet demand of existing residents and improve fire flow and would not increase the

system's capability to serve future development. As such, the Proposed Project would not directly or indirectly result in the construction of occupied structures. For this reason, and because Amador County is located within an area with relatively low seismic activity, the Proposed Project will have no adverse effects that could result in risk of loss, injury, or death due to fault rupture or strong seismic ground shaking. No impact would occur and no mitigation measures are required.

iii)

No Impact. Liquefaction is a phenomenon whereby granular material (i.e., silt and sand) is transformed from a stable state into a freely moving liquid-like state as a result of an increase in pore-water (water between the grains) pressure due to an earthquake. The project site is underlain by soils with a low depth to rock (generally less than 40 inches), and therefore is not at high risk for liquefaction. In addition, the Proposed Project would comply with applicable State seismic safety standards to minimize risk from liquefaction. Lastly, as described in Items i and ii above, the project would not directly or indirectly result in the construction of occupied structures. For these reasons, and because Amador County is located within an area with relatively low seismic activity, the Proposed Project will have no adverse effects that could result in risk of loss, injury, or death due to liquefaction that may occur during a seismic event. No impact would occur and no mitigation measures are required.

iv)

Less than Significant Impact. Landslides refer to a wide variety of processes that result in the perceptible downward and outward movement of soil, rock, and vegetation under gravitational influence.

Replacement of the existing water storage tanks would require excavation activities within a relatively flat area adjacent to the existing tanks and would have little possibility to result in exposure of the site to increased incidence of erosion and site instability due to landslides. Best Management Practices (BMPs) are included as part of the Storm Water Pollution Prevention Plan (SWPPP) prepared for the Proposed Project and would be implemented to manage erosion and the loss of topsoil during construction-related activities (see *Section 4.10.3 Hydrology and Water Quality Environmental Checklist and Discussion*). With the implementation of the SWPPP, soils erosion during construction, project staging and the construction of related facilities would be minimized. With limited erosion anticipated from the project site due to the relatively flat nature of the site, the potential for project-induced landslides is considered less than significant. No mitigation is required.

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☐

Less than Significant Impact. According to the USDA's Web Soil Survey website (USDA 2017), one type of soil is located within the project area: Aiken loam (AhB), 9 to 16 percent slopes. During construction, trenching and fill on the project site could create locally unstable soil conditions that could result in a localized increase in wind- or water-related soil erosion. Areas with less topographic differences are not

as prone to erosion hazards. As described above, Exhibit 4.6-1 of the Draft Amador County General Plan Update illustrates erosion hazards that occur county-wide (Amador County 2014a). As shown in the exhibit, erosion potential for soil types on the project site is considered moderate to slight.

All excavation activities, grading, and construction would be conducted according to standard construction practices and building codes. A National Pollutant Discharge Elimination (NPDES) permit would be required for construction activities from the Regional Water Quality Control Board (RWQCB), requiring a Stormwater Pollution Prevention Plan (SWPPP). Implementation of the SWPPP, including the use of stormwater quality BMPs, would prevent erosion of soil in storm water runoff during project construction. [See Hydrology and Water Quality: Section IX of this Environmental Checklist]. Once construction is completed, soils would be stabilized and monitored according to the SWPPP until a Notice of Termination for the NPDES construction permit is filed with the RWQCB. Consequently, the Proposed Project would not result in substantial erosion and/or unstable earth conditions from project construction or operation. This is applicable to all proposed phases of construction. For these reasons, erosion-related impacts are considered to be less than significant. No mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

Less than Significant Impact. For reasons discussed in items a) and b) above, adequate measures would be employed during tank installation, construction staging and the construction of related facilities to control and limit on and off-site soil erosion. With the limited potential for on- and off-site erosion and low depth to bedrock at the project site, the potential for project-induced landslides, lateral spreading, subsidence, liquefaction, and collapse is minimal. The impact, therefore, is considered less than significant. No mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐

Less than Significant Impact. "Shrink-swell potential" is the potential for volume changes in a soil with a loss or gain in moisture. If the shrink-swell potential is rated moderate to high, damage to buildings, roads, and other structures can occur. These limitations can vary substantially over short distances. Some clayey soils tend to expand when wet and contract upon drying, which can cause structural damage if not accounted for in construction designs. Soils on the project site are generally cobbly and stony loams with

low shrink-swell potential and do not pose a hazard of this kind. However, the potential effects due to shrink-swell characteristics of the soil within the project area is low. For these reasons, the impact is less than significant. No mitigation is required.

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

No Impact. The Proposed Project would not directly or indirectly result in the installation of any new septic systems or alternative waste water disposal systems. No mitigation required.

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated. Ground disturbance will take place during the construction of the new tanks and concrete pads. Although the proposed excavation depth would be limited to approximately 72 to 78 inches below grade, excavations may result in penetration of the underlying Mehrten Formation which, as noted above, has yielded fossils in other areas. These activities may damage or destroy unknown paleontological resources. Due to the noted paleontological resources previously recorded in the Tertiary Mehrten Formation and the project site subsurface conditions described above, unknown significant, non-renewable paleontological resources could be adversely affected by proposed construction activities. This potential impact can be mitigated to a level that is less than significant with the implementation of Mitigation Measure P-1.

Mitigation Measure

P-1: Unanticipated Discovery of Paleontological Resources.

If subsurface deposits believed to be paleontological in origin are discovered during construction, then all work must halt within a 50-foot radius of the discovery and AWA shall be notified immediately. A Qualified Professional Paleontologist shall be retained and empowered to halt or divert ground-disturbing activities. A plan for monitoring and fossil recovery must be completed and implemented before ground-disturbing activities can recommence in the area of the fossil find to allow for the recovery of the find. Recovered fossils shall be analyzed to a point of identification and curated at an established accredited museum repository with permanent retrievable paleontological storage. A technical report of findings

shall be prepared with an appended itemized inventory of identified specimens and submitted with the recovered specimens to the curation facility.

4.8 Greenhouse Gas Emissions

4.8.1 Environmental Setting

Greenhouse gases (GHGs) are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally-occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each Greenhouse gas (GHG) differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

The local air quality agency regulating Amador County is the AAD, the regional air pollution control officer for the basin. The AAD has not established GHG thresholds for land use projects in Amador County. Therefore, Project emissions are compared to the thresholds issued by the California Air Pollution Control Officers Association (CAPCOA), which is an association of the air pollution control officers from all 35 local air quality agencies throughout California, including the AAD. CAPCOA recommends a significance threshold of 900 metric tons of CO_2e annually. This threshold is based on a capture rate of 90 percent of land use development projects, which in turn translates into a 90 percent capture rate of all GHG emissions. The 900 metric ton threshold, the lowest promulgated in any region in the state, is considered by CAPCOA to be low enough to capture a substantial fraction of future projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions.

4.8.2 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Less than Significant Impact. Greenhouse Gas (GHG) emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects contributes substantially to the phenomenon of global climate change and its associated environmental impacts and as such is addressed only as a cumulative impact.

Construction Impacts

GHG emissions associated with the Project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. The approximate quantity of daily GHG emissions generated by construction equipment utilized to build the proposed Project is depicted in **Table 4.8-1.**

Table 4.8-1. Construction GHG Emissions - Metric Tons per Year

Construction Activities	CO_2e
Demolition & Construction Total	74
CAPCOA's Potentially Significant Impact Threshold	*900*
Exceed Significance Threshold?	**No**

Source: CalEEMod, version 2016.3.2. See **Appendix A** for emission model outputs.

As shown, construction would generate a maximum of approximately 74 metric tons of CO_2e over the course of construction. Project construction would not result in the exceedance of 900 metric tons of CO_2e during any year of construction. Once construction is complete, the generation of these GHG emissions would cease.

Long-Term Operational Impacts

In terms of operational GHG emissions, the Proposed Project does not propose an automotive trip-generating land use, the most potent source of GHG emissions in the state. The Proposed Project would not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, would not generate quantifiable GHG emissions from Project operations. The Project does not propose any buildings and therefore no permanent source or stationary source emissions. Once the Project is completed, there would be no resultant increase in automobile trips to the area because the improved facilities would not require daily visits. While it is anticipated that the Project would require intermittent maintenance, such maintenance would be minimal requiring a negligible amount of traffic trips on an annual basis and would be similar to those associated with the existing water tanks. The Proposed Project addresses existing deficiencies that require modification in order to continue to provide reliable water service for existing development and future growth planned and evaluated in the County General Plan.

For these reasons, the Proposed Project would result in a less than significant impact related to GHG emissions. No mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Less than Significant Impact. The Project would not conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The Proposed Project is subject to compliance with statewide GHG-reducing goals promulgated by the California 2008 Climate Change Scoping Plan and subsequent updates. As discussed previously, the proposed Project-generated GHG emissions would not surpass the CAPCOA's significance threshold, which is the lowest promulgated in any region in the state.

The proposed Project would not conflict with an adopted plan, policy, or regulation pertaining to GHGs. This impact is less than significant.

4.9 Hazards and Hazardous Materials

4.9.1 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less than Significant Impact. The Proposed Project consists of the replacement of two existing water storage tanks to increase the flow and reliability of the CAWP distribution system. The Proposed Project is located immediately adjacent to the existing water tanks surrounded by private rural residences amidst a mixed conifer forest setting.

The Proposed Project is anticipated to require the use of some hazardous materials such as diesel fuel during construction. The transport of hazardous materials by truck is regulated by federal safety standards under the jurisdiction of the U.S. Department of Transportation. The use of such materials would not create a significant hazard to the public and impacts would be less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

Less than Significant Impact. On-site storage and/or use of large quantities of hazardous materials capable of affecting soil and groundwater are not proposed. The potential risk associated with accidental discharge associated with use and storage of equipment-related hazardous materials during tank replacement is considered low because the handling of any such materials would be addressed through the implementation of BMPs associated with the Storm Water Pollution Prevention Plan (SWPPP) required for the project. The Proposed Project is an infrastructure project that would not require the long-term use or storage of hazardous substances; therefore, no potential for the release of hazardous materials into the environment is expected. A less than significant impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

No Impact. The Proposed Project consists of replacing two existing water tanks to increase storage and the associated flow and reliability of the CAWP distribution system. Hazardous materials, substances, or waste would be handled consistent with federal, state, and local regulations. Pioneer Elementary School located at 24625 CA-88, Pioneer, CA 95666 is the nearest school to the Proposed Project site. Pioneer Elementary School is located approximately 0.5 miles south of the project site. No impact would occur. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

No Impact. The project site is not located on a list of hazardous materials sites (DTSC 2016). The nearest hazardous materials site is a voluntary clean-up site located southwest of Climax Road on Highway 88,

Pine Grove, CA 95665, approximately 6 miles southwest of the project site. No impact would occur. No mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

No Impact. According to the Amador County Airport Land Use Commission Airport Land Use Plan, the Westover Field Airport is the nearest public use airport to the project site. The Proposed Project is located approximately 14.5 miles northeast of the Westover Field Airport (ALUC 1990). Therefore, no safety hazards to people residing or working in the Project Area would result due to the proximity to a public or public use airport. No impact would occur. No mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

Less than Significant Impact. The Amador County Emergency Operation Plan is considered the primary document when discussing how disasters will be managed by the County. Currently this plan is being revised and will be made available when approved. The Proposed Project would benefit the area in providing better fire protection and would not interfere with the adopted Amador County Multi-Hazard Mitigation Plan, which focuses on strategies that will enable Amador County to become less vulnerable to future disaster losses (Amador County 2014b). Traffic disruption will not occur during project construction.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Less than Significant Impact. According to the Amador County Local Hazard Mitigation Plan, wildfire risk is predominantly associated with wildland urban interface (WUI) areas. The WUI is defined as an area where development is located adjacent to landscapes that support wildland fires. The Proposed Project is located within the WUI in Amador County (Amador County 2014b). Although these areas have the

potential for fire hazard, no habitable structures are proposed as part of the Proposed Project. Construction of the Proposed Project would implement BMPs to avoid incidental/accidental wildland fires. The Proposed Project would have a beneficial impact by increasing water storage and fire flows in the CAWP water distribution system resulting in more reliable fire flow. Therefore, no additional risk of loss, injury, or death involving wildland fires would occur. Impacts would be less than significant. No mitigation is required.

4.10 Hydrology and Water Quality

4.10.1 Environmental Setting

Regional Hydrology

Amador County, located approximately 30 miles southeast of Sacramento on the western slope of the Sierra Nevada, is situated in a transitional zone between the San Joaquin Valley and the Sierra Nevada range and can be divided into two distinct physical regions, the forested "upcountry" to the east and the lower foothills to the west. (Amador County, 2014)

The primary sources of water in the County are the Upper Mokelumne and, to a lesser extent, the Upper Cosumnes River watersheds, and the South Fork American River watershed in the far northeast around the Kirkwood area, with snowmelt and rainfall from the Sierra transported via the rivers and their tributaries. In Amador County, only 2 percent of the public domestic or treated water supply is from groundwater and 98 percent of the total supply is from the Mokelumne River (Amador County, 2014).

Multiple rivers, streams, creeks, and associated watersheds transect Amador County. The County is situated in a region that dramatically drops in elevation from the Sierra Nevada Mountains in the east to the central and western portions, where excess rain or snow can contribute to downstream flooding. The Cosumnes and Mokelumne Rivers are both tributary to the San Joaquin River. The North Fork Mokelumne River originates in the Sierra Nevada and flows west to its confluence with the San Joaquin River in the Central Valley. Annual precipitation and streamflow in the Mokelumne River is extremely variable both month to month and year to year. Stream flow is modified by upstream diversions and regulated by reservoir storage operations for hydroelectric power generation and water supply.

Other significant rivers or streams in the western foothills region include Sutter Creek and Jackson Creek. With headwaters near Pine Grove, Sutter Creek flows through the cities of Sutter Creek and Ione. West of Ione, below Lake Camanche, Sutter Creek flows into Dry Creek which eventually discharges to the Mokelumne River.

Site Hydrology and On-Site Drainage

As described in Section 2 of this IS, the Proposed Project would replace existing water storage tanks with larger ones to help increase supply for existing residents and improve fire flow in the CAWP system.

Construction of the Proposed Project would occur immediately adjacent to the existing tanks. Due in large part to the Projects location on the ridge crest, the project site contains no perennial or intermittent drainages with discernable incised channels. While storm runoff from the site may ultimately drain to

Pioneer Creek to the north of the project site, site topography indicates the site mostly drains to the north to a drain inlet at the end of Elkhorn Court.

Regional Water Quality

Surface and groundwater water quality in Amador County is generally good. The western portion of Amador County contains the majority of the population and associated developed land uses, and therefore has the greatest potential for water quality problems. In the Sutter Creek watershed (encompassing more populated western foothill areas), Caltrans has identified several common contaminants from road runoff found in measurable quantities: Total Dissolved Solids, Total Suspended Solids, Dissolved and Total Organic Carbon, nutrients (ammonia, nitrate, phosphorus, and ortho-phosphate), and metals (arsenic, cadmium, chromium, copper, lead, nickel, and zinc). (Amador County, 2014)

4.10.2 Regulatory Setting

Federal Plans, Policies, Regulations, and Laws

Clean Water Act

The Clean Water Act of 1972 (CWA) is the primary federal law that governs and authorizes water quality control activities by the U.S. Environmental Protection Agency (EPA), the lead federal agency responsible for water quality management. By establishing water quality standards, issuing permits, monitoring discharges, and managing polluted runoff, the CWA seeks to restore and maintain the chemical, physical, and biological integrity of surface waters to support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." EPA is the federal agency with primary authority for implementing regulations adopted pursuant to CWA and has delegated the state of California as the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 described below.

Water Quality Criteria and Standards

EPA has published water quality regulations under Volume 40 of the Code of Federal regulations (40 CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question and (2) criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. Section 303(d) mandates the creation of a list of waterbodies and associated pollutants that exceed water quality criteria.

National Pollutant Discharge Elimination System Permit Program

The National Pollutant Discharge Elimination System (NPDES) permit program was established to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges including point source municipal

waste discharges and nonpoint source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

In November 1990, the EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase I of the permitting program applied to municipal discharges of stormwater in urban areas where the population exceeded 100,000 persons. Amador County is subject to the requirements of Phase II of the NPDES stormwater permit regulations, which became effective in March 2003 and required NPDES permits be issued for construction activity for projects that disturb between 1 and 5 acres. Phase II of the municipal permit system (i.e., known as the NPDES General Permit for Small municipal separate storm sewer system [MS4s]) required small municipality areas of less than 100,000 persons to develop stormwater management programs. The Regional Water Quality Control Boards (RWQCBs) in California are responsible for implementing the NPDES permit system (refer to additional details in the section "State Plans, Policies, Regulations, and Laws" below).

Section 401 Water Quality Certification or Waiver

Under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirements is delegated by the SWRCB to the nine regional boards.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) is responsible for issuing permits for discharge of dredged or fill material into waters of the United States. These permits are required under Sections 401 and 404 of the Clean Water Act. Water supply projects that involve instream construction, such as dams or other types of diversion structures, trigger the need for these permits and related environmental reviews by USACE. USACE also is responsible for flood control planning and assisting state and local agencies with the design and funding of local flood control projects.

State Plans, Policies, Regulations, and Laws

State Water Resources Control Board

In California, the SWRCB has broad authority over water-quality control issues for the state. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the state by the federal government under the CWA. Other state agencies with jurisdiction over water quality regulation in California include California Department of Public Health (for drinking-water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Wildlife (CDFW), and the Office of Environmental Health and Hazard Assessment. Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The regional boards are required to formulate and adopt Basin Plans for all areas in the region and establish water quality objectives in the plans. California

water quality objectives (or "criteria" under the Clean Water Act) are found in the Basin Plans adopted by the State Water Resources Control Board and each of the nine Regional Water Quality Control Boards. The Central Valley RWQCB is responsible for Amador County.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is California's statutory authority for the protection of water quality. Under the act, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update Basin Plans. Basin Plans are the regional water quality control plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The act also requires waste dischargers to notify the RWQCBs of their activities through the filing of reports of waste discharge (RWDs) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. The RWQCBs also have authority to issue waivers to RWDs and/or WDRs for broad categories of "low threat" discharge activities that have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.

California General Construction Activity Storm Water Permit

The EPA and the SWRCB regulate point sources of pollution, such as construction sites, that have the potential to discharge pollutants into the waters of the United States. This is accomplished through the issuance of NPDES storm water discharge permits. NPDES Phase II regulations took effect in March 2003, requiring that applicants proposing construction activities involving disturbance of from one to five acres, and associated storm water discharge, must obtain a NPDES permit from the State. Construction activities larger than five acres were already regulated, under NPDES Phase I (1990). (Phase II also required that small [population of less than 100,000] MS4 operators obtain a NPDES permit.) Landowners are responsible for applying for coverage under the permit and complying with permit requirements but may delegate specific duties to developers and contractors by mutual consent.

Permit applicants are required to prepare, and retain at the construction site, an SWPPP, which describes the site, erosion and sediment controls, means of waste disposal, implementation of local plans, control of post-construction sediment and erosion control measures and maintenance responsibilities, and non-storm water management control. Dischargers are also required to inspect construction sites before and after storms to identify storm water discharge from construction activity, and to identify and implement controls where necessary.

Regional

Integrated Regional Water Management Plan

As a result of the passage in 2002 of Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act, Integrated Regional Water Management Plans (IRWMPs) were authorized for regional management of water resources in at least four main areas: water supply, groundwater management, ecosystem restoration, and water quality. Projects and programs included in the Integrated

Regional Water Management Plan (IRWMP) are designed to integrate multiple strategies and projects in order to provide multiple benefits both locally and regionally. An Integrated Regional Water Management region encompassing Amador County was formed in 2006 by various cooperation agencies including: AWA, Calaveras County Water District, Amador County, City of Jackson, City of Sutter Creek, City of Plymouth, Amador Regional Sanitation Authority, and East Bay Municipal Utility District. These agencies entered into a Memorandum of Understanding for the purpose of coordinating water resources planning and implementation activities associated with the IRWMP (Amador County 2016).

Local

Amador County Code of Ordinances: 1690 – Erosion Control

The Amador County General Plan does not include relevant hydrology and water quality policies that are directly applicable to the Proposed Project. The County outlines rules and recommendations to minimize potential erosion hazards associated with grading construction activities, as described in the Amador County Guidelines for Grading and Erosion Control, Pursuant to Ordinance No. 1581 and in the Amador County Code of Ordinances, Chapter 15.40 - Ordinance No. 1619: Erosion Control

Amador County Code of Ordinances: 15.16.170 - Standards for Utilities

Ordinance 15.16.170 of the Amador County Code states:

A. All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate:

   1. Infiltration of floodwaters into the system; and
   2. Discharge from systems into floodwaters.

B. On-site waste disposal systems shall be located to avoid impairment to them, or contamination from them during flooding. (Ord. 1503(part), 2000).

4.10.3 Hydrology and Water Quality (X) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

Less than Significant Impact

Project Operation

The Proposed Project would replace an existing water storage tanks with no alteration in water source or treatment relative to current conditions. The project as designed will increase storage capacity from .75 million gallons to 2 million gallons. The increase in capacity will allow for improved fire flow in the system.

As such, long-term operation of the Proposed Project will have no impact on existing water quality standards or waste discharge requirements.

Project Construction

Site preparation and construction activities associated with proposed water tank storage replacement and demolition will involve temporary/short-term earth-moving activities including trenching and grading which can facilitate soil erosion and sediment loading to nearby a drain inlet at the end of Elkhorn Court. Construction activities that are subject to the NPDES Construction General Permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, which result in soil disturbances of at least one acre of total land area. The SWRCB permits all regulated construction activities under Order No. 98-08-DWQ (1999). This Order requires that prior to beginning any construction activities, the permit applicant must obtain coverage under the General Construction Permit by preparing and submitting a Notice of Intent (NOI) and appropriate fee to the SWRCB. Additionally, coverage will not occur until an adequate Stormwater Pollution Prevention Plan (SWPPP) has been prepared. A separate NOI shall be submitted to the SWRCB for each construction site.

Required elements of a SWPPP include (1) site description addressing the elements and characteristics specific to the site; (2) descriptions of BMPs for erosion and sediment controls; (3) BMPs for construction waste handling and disposal; (4) implementation of approved local plans; (5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements; and (6) non-stormwater management.

Typical construction BMPs include, but are not necessarily limited to, scheduling or limiting activities to certain times of year; prohibiting certain construction practices; implementing equipment maintenance schedules and procedures; implementing a monitoring program; other management practices to prevent or reduce pollution, such as using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks do not enter the storm drain system or surface waters; developing and implementing a spill prevention and cleanup plan; installing traps, filters, or other devices at drop inlets to prevent contaminants from entering storm drains; and using barriers, such as straw bales or plastic, to minimize the amount of uncontrolled runoff that could enter drains or surface water. Typical operation BMPs include, but are not necessarily limited to, controlling roadway and parking lot contaminants by installing oil and grease separators at storm drain inlets, incorporating peak-flow reduction and infiltration features (such as grass swales, infiltration trenches, and grass filter strips) into landscaping, and implementing educational programs. Because construction of the Proposed Project would cumulatively disturb more than one acre, all activities would be subject to these permit requirements.

With preparation of the required SWPPP, implementation of BMPs associated with that plan and listed above and compliance with the Amador County Erosion Control Ordinance 1690, the construction activities for the Proposed Project would fully comply with all relevant water quality standards and waste discharge requirements as described above. The impact, therefore, is less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

Less than Significant Impact. Construction and operation of the Proposed Project would in no way alter current use of groundwater within the CAWP service area. Due to the existing conditions of the construction area and construction details any localized effects of the project on groundwater recharge would be unsubstantial. Therefore, this impact is less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:	☐	☐	☒	☐
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐

Less than Significant Impact. As discussed in Item a) above, storm runoff from the site may ultimately drain to Pioneer Creek to the north of the project site, site topography indicates the site mostly drains to the north to a drain inlet at the end of Elkhorn Court. Construction of the Proposed project will not alter the existing drainage pattern of the area nor will it alter the course of a stream or river through addition of impervious surfaces. Project construction and staging activities will result in soil disturbances of at least one acre of total land area. As such, an NPDES Construction General Permit will be required prior to the start of construction. Additionally, coverage will not occur until an adequate Stormwater Pollution Prevention Plan (SWPPP) has been prepared.

As noted, required elements of a SWPPP include (1) site description addressing the elements and characteristics specific to the site; (2) descriptions of BMPs for erosion and sediment controls; (3) BMPs for construction waste handling and disposal; (4) implementation of approved local plans; (5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements; and (6) non-stormwater management.

Excavation and grading activities associated with the Proposed Project will expose bare soil surfaces making these surfaces more susceptible to erosion and sediment transport. To comply with the requirements of the NPDES Construction General Permit AWA will be required to file a Notice of Intent (NOI) with the State of California and submit a SWPPP defining BMPs for construction and post-construction related control of the Proposed Project site runoff and sediment transport. Requirements for the SWPPP include incorporation of both erosion and sediment control BMPs. The SWPPP should include the following applicable elements:

- diversion of offsite run-off away from the construction area;
- prompt revegetation of proposed landscaped areas;
- perimeter straw wattles or silt fences and/or temporary basins to trap sediment before it leaves the site;
- regular sprinkling of exposed soils to control dust during construction during the dry season;
- installation of a minor retention basin(s) to alleviate discharge of increased flows;
- specifications for construction waste handling and disposal;
- erosion control measures maintained throughout the construction period;
- preparation of stabilized construction entrances to avoid trucks from imprinting debris on surrounding roadways;
- contained wash out and vehicle maintenance areas;
- training of subcontractors on general construction area housekeeping;
- construction scheduling to minimize soil disturbance during the wet weather season; and
- regular maintenance and storm event monitoring.

Note that the SWPPP is a "live" document and should be kept current by the person responsible for its implementation. Preparation of, and compliance with a required SWPPP would effectively prevent Proposed Project on-site erosion and sediment transport off-site. This will reduce potential runoff, erosion, and siltation associated with construction and operation of the Proposed Project. The effects of the Proposed Project on on-site and off-site erosion and siltation, therefore, would be less than significant and no mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation	☐	☐	☐	☒

No Impact. The proposed project is not located within an area that experiences floods or tsunamis. Therefore no impact would occur and no mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Less than Significant Impact. As discussed under Items a, c, and e, above, with acquisition of the required SWPPP, and compliance with standard permit measures for the control and management of construction-related erosion and polluted runoff, the Proposed Project impacts on the quality and quantity of runoff during project construction would be less than significant. With restoration of the project site to pre-project conditions relative to topography and cover after project completion, the long-term impact of the project on water quality is less than significant. No mitigation is required.

4.11 Land Use and Planning

4.11.1 Environmental Setting

The Proposed Project is located within the Pioneer community area, Amador County, California. The Proposed Project is located on a parcel that is designated in the Amador County General Plan (General Plan) Public Service (PS) and Rural Residential (RR). Title 19 of the Amador County Zoning Code designates these parcels as Single Residential(R1) (Amador County 2016).

As described in Section 1.2 Surrounding Land Uses/Environmental Setting, the Proposed Project site is located adjacent to the existing tanks and is surrounded by private rural residences amidst a mixed conifer forest setting.

The Proposed Project was reviewed to determine consistency with Amador County's plans and policies (see Section 2.6 Regulatory Requirements, Permits, and Approvals, Table 2 identifying specific requirements to be fulfilled prior to implementation of the Proposed Project).

4.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Physically divide an established community?	☐	☐	☒	☐

Less than Significant Impact. The Proposed Project consists of the replacement of existing water tanks to better service existing customers and increase the reliability of the CAWP distribution system. The proposed project will be constructed within the same area as the existing water storage tanks. As described above, the Proposed Project would not physically divide an established community. A less than significant impact would occur and no mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Less than Significant Impact. The Proposed Project involves the construction of two new water storage tanks and demolition of the old tanks. The Proposed Project is consistent with Amador County's plans and policies; and therefore, the Proposed Project would not conflict with any applicable land use plan, policy or regulation. A less than significant impact would occur and no mitigation is required.

4.12 Mineral Resources

4.12.1 Environmental Setting

The Surface Mining and Reclamation Act (SMARA) of 1975 requires all cities and counties to incorporate the mapped mineral resource designations approved by the State Mining and Geology Board, in their General Plans. These designations categorize land as Mineral Resource Zones (MRZ-1 through MRZ-4) and are defined below.

The State-mandated SMARA requires the identification and classification of mineral resources in areas within the State subject to urban development or other irreversible land uses that could otherwise prevent the extraction of mineral resources. MRZs are classified by the State Geologist by analyzing associated geologic and economic factors without regard to current land use or ownership (DOC 2013). There are four general classifications (MRZ-1 through MRZ-4) based upon the State Geologist's determination of identified mineral resource significance and are defined below:

- MRZ-1 "Areas of No Mineral Resource Significance", wherein geologic information indicates no significant mineral deposits are present;

- MRZ-2 "Areas of Identified Mineral Resource Significance," are areas that contain Identified mineral resources;
- MRZ-3 "Areas of Undetermined Mineral Resource Significance," are areas of undetermined mineral resource significance; and
- MRZ-4 "Areas of Unknown Mineral Resource Significance", are areas of unknown mineral resource potential.

There are numerous known mineral resources throughout Amador County including limestone, gold, copper, zinc, clay, sand, lignite, many of which are currently being mined. SMARA classifications (indicating lands needed for their mineral content) have been applied to several areas of the County (Amador County 2014a).

4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐

Less than Significant Impact. The Proposed Project area is classified as MRZ-3 by the County (Amador County 2014a). As defined above in 4.11.1 Environmental Setting, MRZ-3 are areas of undetermined mineral significance. Although potential mineral resources may exist within the Proposed Project area, construction and operation of the Proposed Project does not preclude the extraction of these mineral resources. Therefore, implementation of the Proposed Project would not result in the loss of availability of a known mineral resource. A less than significant impact would occur and no mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

Less than Significant Impact. The Proposed Project is not located within a current locally important mineral resource recovery site and it has not been historically mined (Amador County 2014a). As described in item a), the Proposed Project site is classified as MRZ-3 by Amador County; however, it has not been delineated within the general plan or other land use plans as a locally-important mineral resource recovery site. As such, a less than significant impact would occur. No mitigation is required.

4.13 Noise

4.13.1 Environmental Setting

Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in CNEL). The L_{eq} is a measure of ambient noise, while CNEL is a measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source (EPA 1971). Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Transit Administration [FTA] 2011). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about 5 dBA (FTA 2006), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction of 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. [WEAL] 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the "line of sight" between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend length-wise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise

transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver.

The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2004). The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (Harris Miller Miller & Hanson, Inc. [HMMH] 2006).

Sensitive Noise Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

Vibration

Ground vibration can be measured several ways to quantify the amplitude of vibration produced. This can be through peak particle velocity or root mean square velocity. These measure maximum particle at one point or the average of the squared amplitude of the signal, respectively. Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

4.13.2 Noise (XIII) Environmental Checklist and Discussion

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐

Construction Impacts

Less than Significant with Mitigation Incorporated. Construction of the Proposed Project would result in a temporary short-term increase of noise levels in the Project vicinity. The proposed Project would be completed in approximately five months and would require the use of construction equipment such as a graders, tractors, loaders, forklifts, rollers, pavers and other paving equipment.

The noise levels generated by construction equipment would vary greatly depending upon factors such as the type and specific model of the equipment, the operation being performed, the condition of the equipment and the prevailing wind direction. The noise levels for various types of construction equipment that could be required during construction of the Proposed Project are provided in **Table 4.12-1**.

Table 4.12-1. Typical Noise Levels from Construction Equipment

Equipment	Typical Noise Level (dBA) at 50 Feet from Source	
	L_{max}	L_{eq}
Air Compressor	77.7	73.7
Backhoe	77.6	73.6
Concrete Mixer Truck	78.8	74.8
Concrete Saw	89.9	82.6
Crane	80.6	72.6
Dozer	81.7	77.7
Excavator	80.7	76.7
Generator	80.6	77.6
Gradall (Forklift)	83.4	79.4
Grader	85.0	81.0
Other Equipment	85.0	82.0
Pavement Scarifier	89.5	82.5
Paver	77.2	74.2
Roller	80.0	73.0
Scraper	83.6	79.6
Tractor	84.0	80.0
Welder	74.0	70.0

Source: FHWA, Roadway Construction Noise Model (FHWA-HEP-05-054), dated January 2006.
Notes: L_{eq} is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eg} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or night, L_{max} is the maximum A-weighted noise level during the measurement period.

As shown, the noise levels from construction equipment at 50 feet range from 70.0 dBA to 82.6 dBA L_{eq}. L_{max} events, the maximum noise level during the measurement period, can be even greater. There are residential land uses in close proximity to the Project site. Policy N-1.3 of the County of Amador General Plan Noise Element requires mitigation of all significant noise impacts (including construction and short-term noise impacts) as a condition of project approval. Thus, incorporation of Mitigation Measure N-1 is required. Implementation of this measure would ensure a less than significant impact.

Mitigation Measure

NO-1 Noise-Reducing Construction Practices

To reduce noise impacts due to construction at nearby sensitive receptors to the maximum extent feasible, the applicant shall employ the following measures:

A. Construction activities shall only take place during the hours of 7:00 a.m. to 7:00 p.m., Monday to Friday and weekends only when necessary.

B. Construction equipment shall be properly equipped with feasible noise control devices (e.g., mufflers) and properly maintained in good working order.

C. Stationary construction equipment shall be located as far away from nearby residences, and equipped with engine-housing enclosures, as feasible.

D. Temporary noise barriers shall be considered when equipment is within close proximity of residences and noise complaints occur. Barriers may not always be feasible. Therefore, determining the feasibility of a barrier, including the barrier heights, lengths and materials should be done in consultation with a noise consultant.

E. Notify adjacent residents of the construction schedule.

F. Designate a "construction noise coordinator" who would be responsible for responding to any local complaints about construction noise. The construction noise coordinator shall determine the cause of the complaint and may require that reasonable measures warranted to correct the problem be considered, where feasible.

Long-Term Operational Impacts

There will be no new operational activities associated with the Proposed Project. Additionally, because the proposed Project would not directly or indirectly introduce a new population into the region, the total number of automobile trips, a substantial noise source, generated by the Project is not expected to change significantly from existing conditions. Therefore, there is no impact related to operational noise.

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Result in generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

Construction Impacts

Less than Significant Impact. Construction operations have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. The ground vibration levels associated with various types of construction equipment are summarized in **Table 4.12-2**. Ground vibration generated by construction equipment spreads through the

ground and diminishes in magnitude with increases in distance. The effects of ground vibration may be imperceptible at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels.

Table 4.12-2. Representative Vibration Source Levels for Construction Equipment

Equipment Type	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Pile Driver	0.170
Caisson Drilling	0.089
Loaded Trucks	0.076
Rock Breaker	0.089
Jackhammer	0.0.5
Small Bulldozer/Tractor	0.003

Source: Federal Transit Administration (FTA) 2018; Caltrans 2013

The County of Amador does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans' (2017) recommended standard of 0.2 inch per second peak particle velocity with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

It is acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to the nearest structure. The nearest off-site structure to any of the construction areas is approximately 50 feet distance. Based on the vibration levels presented in **Table 4.12-2**, ground vibration generated by heavy-duty equipment would not be anticipated to exceed approximately 0.089 inches per second peak particle velocity at 25 feet. Thus, the structure located at 50 feet would not be negatively affected. Predicted vibration levels at the nearest structures would not exceed recommended criteria. This impact is less than significant.

Long-Term Operational Impacts

Once operational, the project would not be a source of groundborne vibration. For these reasons, there is no impact. No mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

No Impact. The Project site is not located within an area covered by an airport land use plan or within two miles of a public or public use airport. Thus, no impact would occur with implementation of the proposed Project. No mitigation is required.

4.14 Population and Housing

4.14.1 Environmental Setting

The Proposed Project is located within the Pioneer community area of Amador County, California. U.S. Census data reports that population growth in unincorporated Amador County, including the Pioneer community area, has increased 6.5 percent from 20,503 to 21,831 between 2000 and 2010 (Amador County 2014a). A closer examination of the Pioneer community area shows that according to the U.S. Census Bureau American Community Survey 5-year Estimates, the current total population is approximately 1,237 people (U.S. Census Bureau 2010). Housing in unincorporated Amador County has a relatively high vacancy rate with average sized households of approximately 2.34 people per household (in 2011) (Amador County 2014a).

4.14.2 Population and Housing (XIV) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

No Impact. The Proposed Project objective is to replace the existing undersized water storage tanks with new larger tanks. The project wouldn't extend service to areas that do not currently have service. Upon completion of the Proposed Project, the existing old tanks would be demolished and the Project Area would be returned to existing conditions. Implementation of the Proposed Project would upgrade existing deficient infrastructure and would not induce substantial population growth in the area. Furthermore,

minimal operation and maintenance would be required and no permanent employees would be hired as a result of the Proposed Project. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact. As described above, the Proposed Project will replace the existing water storage tanks on an adjacent vacant lot. The Proposed Project would not displace any existing housing and therefore, no impact would occur and no mitigation is required.

4.15 Public Services

4.15.1 Environmental Setting

Police Services

The Amador County Sheriff's Office (Sheriff's Office) provides law enforcement services to the unincorporated areas of Amador County including the Pioneer community area. As of 2014, there were approximately 100 employees, including 30 deputy sheriff's, eight extra help deputy sheriff's, 20 corrections officers, 11 sergeants, six corrections sergeants, 10 dispatchers, one dispatch supervisor, three lieutenants, two captains, seven professional staff personnel committed to law enforcement services, one undersheriff and the Sheriff. The Sheriff's Office has 1.7 paid sworn officers per 1,000 residents. The Sheriff's Office maintains two facilities: Amador County Sheriff's Office and Jail located at 700 Court Street in the City of Jackson, and Amador County Sheriff's Office Warehouse located at 12370 Airport Road in the City of Martell (Amador County 2014a)

Fire Services

There are seven cooperative districts that provide local fire protection services in Amador County: Amador Fire Protection District (AFPD), Ione Fire Department, Jackson Fire Department, Jackson Valley Fire Protection District, Lockwood Fire Protection District, Sutter Creek Fire Protection District, and Kirkwood Meadows Public Utilities District. These local fire protection districts respond to structural fires and provide emergency medical services within their designated service areas. Wildfires located outside of urban communities are serviced by state and federal agencies supported by the local fire protection districts (Amador County 2014a).

AFPD's service area encompasses 85 percent of the unincorporated area of the County (approximately 491 square miles) and includes the communities of Amador Pines, Fiddletown, Pioneer, Pine Grove, Volcano, Martell, Drytown, Willow Springs, and River Pines as well as the Golden Vale Specific Plan Area. Approximately 29 percent of the AFPD service area is served by other providers through automatic aid

agreements including CAL FIRE, which responds to all calls within the AFPD service area (Amador County 2014a).

Schools

Amador County Unified School District is responsible for providing Kindergarten through twelfth grade education to students within Amador County. There are 13 schools throughout Amador County including two high schools, one continuation high school, one independent study school, two junior high schools, and six elementary schools, as well as a County Office of Education operated opportunity school (Amador County 2014a). Pioneer Elementary School located at 24625 Highway 88 is located approximately 1.5 miles southwest of the Proposed Project site.

Parks

A total of 118.4 acres of parkland are currently located within the Amador County planning area, including 11.8 acres of neighborhood parks, 98.0 acres of community parks, 6.2 acres of regional parks, 0.3 acre of special use areas, 0.5 acre of landscaped area, and 1.6 acres of undeveloped parkland. These parklands are managed by Amador County Recreation Agency (ACRA), the Pine Grove Community Services District, and the Volcano Community Services District (Amador County 2014a). Pioneer Park is the closest park to the Project Area, located along Buckhorn Ridge Road.

Other Public Facilities

Amador County Library provides materials and services to promote lifelong learning needs of residents from pre-school to adulthood. There are five library branches that support the Amador County Library including Jackson Main, Ione, Pine Grove, Pioneer, and Plymouth Branch Libraries. Pioneer Branch Library is located adjacent to Pioneer Park along Buckhorn Ridge Road. Other public facilities within Amador County include the Amador County Museum, Hub Youth and Community Center, and Community Garden all located within the City of Jackson (Amador County 2016).

4.15.2 Public Services (XV) Environmental Checklist and Discussion

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☒	☐
	Fire Protection?	☐		☒	☐

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Police Protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other Public Facilities?	☐	☐	☐	☒

No Impact. The Proposed Project consists of the replacement of two existing undersized water storage tanks with two adequately sized water storage tanks to help increase fire flow and improve the distribution system reliability in the Buckhorn Ridge and Prospect Place area of the CAWP. The proposed project would be maintained by AWA and would not require public services beyond existing conditions. The increased fire flow would assist local Firefighters in providing improved fire protection service to the local community. The Proposed project is located on vacant land immediately adjacent to the existing tank site and would not interfere with emergency response times or use of schools, parks, or other facilities.

4.16 Recreation

4.16.2 Environmental Setting

As stated previously in Section 4.15 Public Services, ACRA manages parkland throughout Amador County in conjunction with the Pine Grove Community Services District, and the Volcano Community Services District. ACRA has adopted a standard of securing five acres of parkland for every 1,000 residents. Currently there are eight parks located within Amador County managed by ACRA. These include neighborhood, regional day use, community, special use area, and landscape area classified parkland.

Undeveloped recreation areas including trails, lakes, rivers, and creeks are not managed by ACRA; access is available to the public through national forest land managed by USFS, Bureau of Land Management lands, Bureau of Reclamation lands, and East Bay Municipal District's lands located along Pardee and Camanche reservoirs and within the National Forest (Amador County 2014a; Amador County 1969).

4.16.3 Recreation (XVI) Materials Checklist

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒

No Impact. The Proposed Project consists of the replacement of existing water storage tanks to increase fire flow and improve the distribution system reliability in the Buckhorn Ridge and Prospect Place area of the CAWP. The population would not increase as a result of the project; and therefore, use of the existing neighborhood, regional parks, or other recreational facilities would not change from the current use. As such, the Proposed Project would not increase the use of existing recreational facilities that could cause substantial physical deterioration of the facilities. Therefore, no impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

No Impact. See discussion under item a). The Proposed Project consists of the replacement of existing water storage tanks. No recreational facilities are proposed as part of the project, and therefore, no impact would occur and no mitigation is required.

4.17 Transportation/Traffic

4.17.1 Environmental Setting

Project Area Transportation Setting

The Proposed Project is located in Amador County, California approximately 50 miles southeast of the City of Sacramento on the western slope of the Sierra Nevada. The Proposed Project is located within the Pioneer community area, approximately 15 miles northeast of the City of Jackson.

The Proposed Project is located on a vacant parcel immediately adjacent to the existing water storage tanks (A and B) and is primarily surrounded by private rural residences amidst a mixed conifer forest setting. The Proposed Project is not intended to increase service capacity in the CAWP system and, as such, would not directly or indirectly result in future growth and development not served by existing facilities.

4.17.2 Regulatory Setting

Federal and State

There are no federal or state standards related to transportation relevant to the project.

Local

Regional Transportation Plan

The Regional Transportation Plan (RTP) is a multi-modal, long-range planning document prepared by the Amador County Transportation Commission. The current (2004) RTP includes programs and policies for congestion management, transit, bicycles and pedestrians, roadways, freight, and constrained financing. The RTP is updated periodically to address a 20-year projection of needs.

Each agency responsible for building and managing transportation facilities, including Amador County, has implementation responsibilities under the RTP. The RTP relies on local plans and policies governing circulation and transportation to identify the region's future multi-modal transportation system.

The RTP includes the following goals:

- Maintain level of service (LOS_ C or better for average daily conditions on all State highways and local streets and roads outside of incorporated cities and other developed communities.
- Maintain LOS D or better for average daily conditions within incorporated cities and other developed communities.
- LOS C and D may not be achievable on certain sections of the State highway and local road system because of prohibitive costs and/or environmental impacts, and the lower LOS levels shall not require denial of any development project provided the County or city finds that a project's benefits are sufficient to override the project contributing to a LOS level other than C or D.

Amador County Emergency Operations Plan

The Amador County Sheriff's Office of Emergency Services (County OES) is responsible for the administration of the county emergency management program on a day-to-day basis and during disasters. The office is charged with providing the necessary planning, coordination, response support, and communications with all agencies affected by large scale emergencies or disasters. County OES works cooperatively with other agencies and districts (e.g., law enforcement, fire, emergency medical services, state and federal agencies, utilities, private industry, volunteer groups) to provide a coordinated response to disasters, and manages the County's Emergency Operations Center, which is located in the Sheriff's Office (Amador County 2014a).

4.17.3 Transportation/Traffic (XVII) Environmental Checklist and Discussion

	Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐

Less than Significant Impact. Because the Proposed Project would not directly or indirectly introduce a new population into the region, the total number of trips generated by the project is not expected to change significantly from existing conditions. Project construction will, however, result in temporary increases in local traffic due to the transport of construction personnel, equipment and material to the project site.

As noted in Section 2 of this Initial Study, the Proposed Project would be completed in approximately five months.. Construction activities would require the use of diesel construction equipment such as a crane, excavators, loaders, cement mixers, rollers, pavers and other paving equipment.

Project construction would have a temporary impact on traffic flow in the vicinity of the proposed project. Existing traffic levels would increase on the project roadways due to deliveries of materials and equipment to the project site and by workers commuting to the site on a daily basis. It is assumed that construction workers would travel to and from the construction site in personal vehicles.

Trips generated by delivery of equipment and materials would vary and depend on the construction method selected by the contractor and cannot be accurately quantified at this time.

Construction activities may minimally degrade traffic conditions due to additional vehicle trips for the delivery of construction equipment, haul trucks, and worker vehicle trips. However, construction activities will not be located within a roadway nor will the project require lane closures or full roadway closures. Therefore, slight increases in traffic due to construction workers and equipment are considered less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐

Less than Significant Impact. As noted, the Proposed Project would not directly or indirectly result in long-term increases in vehicle traffic in the Project Area or within the CAWP Service Area. As such, the project would not be inconsistent with any adopted local or regional transportation plans or CEQA guidelines. No lane closures or traffic disruption is anticipated as a part of the proposed project. The threshold for vehicle miles traveled (VMT) is 125 trips per day. A slight increases in VMT may occur during project construction, however, it will not be over the threshold of 125 and this is considered a short-term and less then significant impact.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

No Impact. The proposed project does not include changes to traffic lanes or roadways. Therefore, no impact on geometric design features and no mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Result in inadequate emergency access?	☐	☐	☐	☒

No Impact. The Proposed Project would not require modifications to roadway features and, therefore would not result in any adverse impact on emergency access.

4.18 Tribal Cultural Resources

This section describes the affected environment and regulatory setting for TCRs in the Project Area. The following analysis of the potential environmental impacts related to TCRs is derived primarily from the following sources:

- California Native American Heritage Commission Sacred Lands File Search, November 10, 2017;
- Cultural Resources Inventory, Testing and Evaluation Report for the Amador Water Agency's CAWP Pioneer Water Rehabilitation Project, Phase 2, Amador County, California (ECORP 2018);
- Ethnographic overviews of the Miwok (Kroeber 1936; Levy 1978; Robinson 1948); and
- Confidential AB52 tribal consultation record between Amador Water Agency (AWA) and the Buena Vista Rancheria of Me-Wuk Indians, the Shingle Spring Band of Miwok Indians, and the United Auburn Indian Community.

4.18.1 Environmental Setting

Ethnographic, Religious, and Cultural Context

Ethnographically, the Project Area is in the northern portion of the territory occupied by the Penutian speaking Miwok. At the time of contact, the Miwok were one of the largest groups in California, occupying vast stretches of land extending from the Sierra Nevada Range, across the Great Valley, and into portions of the North Coast above San Francisco. The Project is in Northern Sierra Miwok territory, which includes land in the foothills and higher elevations of the Sierra Nevada Range, between the Cosumnes River to the north, and the divide between Calaveras and the Stanislaus rivers to the south

(Levy 1978). Sierra Miwok groups moved with the seasons to obtain resources within their territory. The most important subsistence resources were acorns (acorns from tan oak and black oak were preferred), seeds, nuts (pine nuts derived from the grey pine were prized) and other plant resources, deer, antelope, rabbits, and fish (Levy 1978).

The Miwok lived in small groups called "tribelets" (Kroeber 1936) with a range of 100 to 300 people (Levy 1978). Each tribelet was an independent socio-political organization. Each tribelet had a few permanent settlements (villages) and several seasonal campsites. The typical Sierra Miwok mountain dwelling was ta cone shaped dwelling constructed of bark. Earth roundhouses that were partially underground were constructed for ceremonial purposes. After the death of a chief, the roundhouse would be burned as part of the Miwok mourning ceremony (Levy 1978).

Sierra Miwok used bows and arrows as their primary weapon for hunting and warfare. They made their bows from ash, oak, willow, pepperwood, maple, or hazel. Flaked and ground stone tools included knives, arrow and spear points, arrow straighteners, scrapers, rough cobble pestles and shaped pestles, and bedrock mortars. Non-utilitarian artifacts included pipes and charmstones. Obsidian was highly valued as a raw material for stone tools (Levy 1978).

The English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay in 1579. The Spanish arrived on the central California coast in 1769 and by 1776 the Miwok territory bordering the Nisenan on the south had been explored by José Canizares. By the time California became a state in 1850, the entirely of the Sierra Miwok territory had been encroached upon by explorers and colonists (Robinson 1948).

4.18.2 Regulatory Setting

Assembly Bill 52

Effective July 1, 2015, AB 52 amended CEQA to require that: 1) a lead agency provide notice to those California Native American tribes that requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the PRC defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-federally recognized tribes.

Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

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

a. included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or
b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
c. a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria a and b also meet the definition of an Historical Resource under CEQA, a TCR may also require additional consideration as an Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

In accordance with Section 21082.3(c)(1) of the PRC, "… information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with subdivision (r) of Section 6254 of, and Section 6254.10 of, the Government Code, and subdivision (d) of Section 15120 of Title 14 of the CCR, without the prior consent of the tribe that provided the information." Therefore, the details of tribal consultation summarized herein are provided in a confidential administrative record and not available for public disclosure without written permission from the tribes.

Summary of Tribal Consultation under AB 52

AB52 consultation requirements went into effect on July 1, 2015 for all projects that had not already published a Notice of Intent to Adopt a Negative Declaration or MND or published a Notice of Preparation of an EIR (Section 11 [c]) before that date. At the time the AWA was ready to initiate CEQA review, it had received written requests to receive project notices from the three following California Native American Tribes, which identified themselves as being traditionally and culturally affiliated with the lands subject to AWA jurisdiction:

- the Buena Vista Rancheria of Me-Wuk Indians;
- the Shingle Spring Band of Miwok Indians; and
- the United Auburn Indian Community of Auburn Rancheria.

On July 13, 2020, AWA determined that it had a complete project description and it was ready to begin review under CEQA. AWA sent initial notification letters to each of the three tribes with project

information and an invitation to consult on the Project. AWA requested responses to the offer to consult within 30 days of the receipt of the letter. All three tribes responded within the required time frame. Correspondence with Buena Vista Rancheria of Me-Wuk Indians, Shingle Spring Band of Miwok Indians, and United Auburn Indian Community is summarized below.

Buena Vista Rancheria of Me-Wuk Indians

On July 30, 2020, Buena Vista Rancheria of Me-Wuk Indians sent formal response to AWA via email. The tribe acknowledged receipt of the Agency's offer to consult and stated that after reviewing the information and conducting a project area visit on July 28, 2020, there are no known TCRs in the Project area and they have no objection to the commencement of the Project. They requested to be notified if any native cultural resources are encountered during project implementation. The tribe did not request consultation for this Project.

Shingle Springs Band of Miwok Indians

On August 11, 2020, the Shingle Spring Band of Miwok Indians sent formal response to AWA via email with an attached letter dated August 7, 2020. The email referred to the attached letter and designated a contact for any questions or responses. The tribe acknowledged receipt of AWA's offer to consult, and although they know of no cultural resources within the Project area, they requested consultation through updates as the project continues, and to be notified of any project description changes. They also requested copies of any completed records searches or surveys that were completed in or around the Project Area.

On August 12, 2020, AWA responded via email with an attached letter officially initiating consultation for the Project under Section 21080.3.1(e) of the California Public Resources Code, and provided a copy of the 2018 ECORP cultural study that covered the Project area. The letter stated AWA would give regular project updates to Shingle Springs throughout the course of the Project planning. Consultation is ongoing as of the preparation of this document and, in accordance with state law, will be concluded before the adoption of this environmental document.

United Auburn Indian Community

On July 30, 2020, UAIC sent a response to AWA via email, acknowledging receipt of AWA's offer to consult. In its response, UAIC requested further clarification of the Project Area location on a more detailed map in order to evaluate impacts to TCRs. AWA responded via email on August 6, 2020 with a more precise locational description and a more detailed map. UAIC responded via email on August 7, 2020, acknowledging receipt of the map and indicating it would reply if there are any comments or concerns on the Project. No further correspondence has been received and because UAIC did not request consultation prior to the close of the 30-day response window, AWA did not enter into formal consultation with UAIC.

Tribal Cultural Resources

Information about potential impacts to TCRs was drawn from: 1) the results of a search of the Sacred Lands File of the NAHC; 2) existing ethnographic information about pre-contact lifeways and settlement patterns; 3) information on archaeological site records obtained from surveys of the Project area and the

California Historical Recourse Information System; and 4) the tribal consultation record under AB52 for the Project.

(1) Sacred Lands File Search

A search of the NAHC Sacred Lands File was requested for the Project Area on November 10, 2017. The NAHC responded on November 27, 2017 that the sacred lands file search was negative, which means that no sacred lands have been recorded within the Project Area. The NAHC included a list of suggested tribal representatives to contact who may have more information. The Buena Vista Rancheria of Me-Wuk Indians, Shingle Springs Band of Miwok Indians, and the United Auburn Indian Community were on the list of contacts; all of these were offered an opportunity to consult and provide information, as summarized above.

(2) Ethnographic Information

The ethnographic information reviewed for the Project, including ethnographic maps (Levy 1978), lists several villages near Jackson and Sutter creeks. Due to the scale of the map, it cannot be verified if any villages are within the vicinity of the Project Area. There is nothing in the ethnographic literature that suggests that the Project location is either known or suspected to have ethnographic villages or resources within its boundaries.

(3) Archaeological Site Records

The entire project area was subjected to an archaeological survey and records search review, and no Native American sites were identified within its boundaries. In addition, approximately 40 percent of the area within a 0.5-mile radius surrounding the Project Area has been subject to cultural surveys; no pre-contact archaeological sites have been previously recorded in the vicinity.

(4) Tribal Consultation Results

The Buena Vista Rancheria of Mi-Wuk Indians indicated there were no known TCRs within the Project Area and did not request formal consultation under AB52. The Shingle Springs Band of Miwok Indians indicated there are no known TCRs within the project area, and consultation with the tribe to date has not resulted in any information on TCRs. UAIC requested additional information but did not request consultation. However, based on information provided by the both the Shingle Springs Band of Miwok Indians and the Buena Vista Rancheria of Me-Wuk Indians, there remains a possibility that undiscovered TCRs could become known during construction, and if TCRs are impacted, this would be considered a significant impact. Therefore, a mitigation measure is required to reduce the impact to unknown TCRs to less than significant.

4.18.3 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☐	☒
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated. The Project Area is located on a vacant, highly disturbed parcel immediately adjacent to the existing water storage tanks. No tribes requested AB 52 consultation for AWA Pioneer Water Pipeline Project, Phase 2 (which include the proposed project area), and the ethnographic record does not provide any information about tribal cultural resources. Therefore, no known tribal cultural resources have been identified (as defined in Section 21074) within the proposed Project Area as of the preparation of this document; however, tribal consultation is still ongoing. The proposed Project would not cause a substantial adverse action to a known Tribal Cultural Resource. Impacts to unknown Tribal Cultural Resources that may be discovered during project construction would be less than significant with the incorporation of Mitigation Measure TCR-1.

4.18.4 Mitigation Measures

TCR-1: Unanticipated Discovery - If any suspected TCRs are discovered during ground disturbing construction activities, all work shall cease within 100 feet of the find, or an agreed upon distance based on the project area and nature of the find. The AWA shall invite a Tribal Representative from a California Native American tribe that is traditionally and culturally affiliated with the

geographic area to make recommendations about whether or not the discovery represents a TCR (PRC §21074) and, if so, to make recommendations for culturally-appropriate treatment. The contractor shall implement any measures determined by the AWA to be necessary. Work at the discovery location cannot resume until the treatment has been implemented to the satisfaction of the AWA.

4.19 Utilities and Service Systems

4.19.1 Environmental Setting

Water Service

As described in Section 2.1 Project Background, AWA owns and operates the CAWP water system and serves as the main water supplier for the central and western portions of Amador County. There are approximately 2,700 connections within AWA's CAWP service area including wholesale connections. CAWP receives water from the Bear River and the North Fork Mokelumne River via PG&E's Tiger Creek Regulator Reservoir. Water supplied to CAWP customers is treated at the Buckhorn Water Treatment Plant located in the Pioneer community area. The CAWP provides wholesale treated water to the upcountry communities of Mace Meadows and Pine Grove. In addition to delivering wholesale water, AWA also sells domestic water to approximately 2,700 homes in the communities of Jackson Pines, Pine Acres, Pioneer, Ridgeway Pines, Ranch House Estates, Silver Lake Pines, Rabb Park, and the Sunset Heights area.

Wastewater

Wastewater collection, conveyance, and treatment services are provided by several agencies in various geographic locations throughout Amador County. These agencies include AWA, Amador Regional Sanitation Authority, East Bay Municipal Utility District, River Pines Public Utility District, Fiddletown Community Services District, Kirkwood Meadows Public Utility District, and State facilities such as California Department of Corrections and Rehabilitation (CDCR) Mule Creek State Prison, CAL FIRE Academy, and the CDCR Preston Youth Correctional Facility (Amador County 2014a).

The Pioneer community area functions through individual on-site septic tanks, as there is no formal wastewater system in the community area.

Solid Waste

Amador County contracts waste disposal with ACES Waste Services. Waste collected by ACES Waste Services is take to the Western Amador Recycling Facility (WARF), also known as the Buena Vista Landfill Transfer Station, located in Ione. WARF is permitted to accept a maximum daily disposal of 333 tons per day (tpd). Any recyclable materials are sorted and separated at the WARF. Residual municipal waste is disposed at the Keifer Landfill in Sacramento County (Amador County 2014a). Waste collected in the eastern unincorporated communities, such as Pioneer, is taken to the Pine Grove Transfer Station in Pine Grove. The transfer station is permitted to accept a maximum of 150 tpd of solid waste. The Pine Grove Transfer Station accepts industrial waste and mixed municipal waste. Solid waste that is brought to the Pine Grove Transfer Station is transferred to the Kiefer Landfill (Amador County 2014a).

4.19.2 Utilities and Service Systems (XIX) Environmental Checklist and Discussion

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒

No Impact. The Proposed Project involves the replacement of existing undersized water storage tanks with larger adequately sized water storage tanks. Minimal operations and maintenance will be required. Replacement of the existing water storage tanks would not generate an increase in population and therefore, would not require new or expanded (or relocation of) water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. No impact would occur and no mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐

Less than Significant Impact. As previously stated in discussion item a), the Proposed Project involves the replacement of existing undersized water storage tanks to increase capacity only to serve existing customers and would therefore have sufficient supply for the service area. Therefore, a less than significant impact would occur and no mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

No Impact. The proposed project does not require wastewater services. Therefore, no Impact would occur and no mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐

No Impact. No recycling or waste disposal would be required for operation and maintenance of the Proposed Project and therefore would not affect landfill capacity because the amount of construction debris requiring disposal would be minor and would only occur during the construction and demolition period. Demolition of the existing tanks will create some debris that will need to be disposed of at a facility that receives construction-material; however, the two existing tanks will not create a significant amount of solid waste that tax the capacity of receiving facilities. AWA's contractors would be responsible for disposing of construction-related debris in local construction-material receiving areas. A less than significant impact would occur. No mitigation is required.

Would the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

No Impact. As previously described, no recycling or waste disposal would be required for operation and maintenance of the Proposed Project. AWA's contractors would be responsible for disposing of construction-related debris in local construction-material receiving facilities and would comply with all federal, state, and local statues and regulations related to solid waste. Therefore, no impact would occur and no mitigation is required.

4.20 Wildfire

4.20.1 Environmental Setting

Typically, the California fire season extends from spring to late fall. Fire conditions arise from a combination of hot weather, an accumulation of vegetation, and low moisture content in the air. These conditions, when combined with high winds and years of drought, increase the potential for wildfire to occur. CAL FIRE provides wildland fire protection services on private, non-federal lands for the purpose of life, property and resource protection. USFS and BLM provide wildland fire protection services on federal lands in Federal Responsibility Areas for watershed and resource protection. Some areas are also identified as Local Responsibility Areas.

4.20.2 Wildfire (XX) Environmental Checklist and Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

Less than significant impact. The Project site is located in a very high fire hazard severity zone in a state responsibility area. However, construction of the Proposed Project will take place on a vacant parcel and will not impair or conflict with an adopted emergency response or evacuation plan for areas in very high fire hazard severity zones. There would be a less than significant impact.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒

Less than significant impact. The Proposed Project will replace two existing and undersized aboveground covered tanks with two new, larger capacity tanks that will be approximately 75 feet in diameter and 36 feet in height, constructed from welded steel plates. These new tanks will sit on concrete pads with a 13-foot gravel setback. The site is cleared of trees and vegetation and will be surrounded by an 8-foot-tall perimeter chain link fence and will have two gated and paved entrance points. The project will also include placement of overflow vaults on the north/northwest side of the tank, meter vaults just south of the tanks, and a fire hydrant near the southern property line (see *Figure 2. Site Plan*). Once the new tanks are constructed and operational, the existing tanks will be demolished. The new tanks will provide a larger storage capacity and will help increase fire flow conditions in the existing system. The project site will maintain the existing cleared vegetation and trees and will therefore create a fire break in the case of a wildfire in the area. As described above, the tanks themselves will not be made of flammable materials and the surrounding area will be cleared of flammable materials as well. Therefore, the Proposed Project would not expose nearby occupants to pollutants or increased wildfire risk. Impacts are less than significant.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐

Less than significant impact. See above discussion. New infrastructure would not exacerbate existing fire risk that would result in temporary or ongoing impacts. Similar infrastructure already exists on the Project site, and it will be replaced with new materials and the old structures will be removed when the Proposed Project is completed. Maintenance would be similar to existing conditions and impacts would be less than significant.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Less than significant impact. Replacement of the existing water storage tanks would require excavation activities within a relatively flat area adjacent to the existing tanks and would have little possibility to result in exposure of the site to increased incidence of erosion and site instability due to landslides. BMPs are included as part of the Storm Water Pollution Prevention Plan (SWPPP) prepared for the Proposed Project and would be implemented to manage erosion and the loss of topsoil during construction-related activities (see *Section 4.10.3 Hydrology and Water Quality Environmental Checklist and Discussion*). With the implementation of the SWPPP, soil erosion during construction, project staging, and the construction of related facilities would be minimized. With limited erosion anticipated from the Project site due to the relatively flat nature of the site, the potential for Project-induced landslides is considered less than significant. No mitigation is required.

4.20.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.21 Mandatory Findings of Significance

4.21.1 Mandatory Findings of Significance (XIX.) Environmental Checklist and Discussion

	Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated. As stated previously in Section 4.4, Biological Resources, with implementation of Mitigation Measure BIO-1 the Proposed Project would result in a less than significant impact on the habitat of a fish or wildlife species or population levels, on any plant or animal community, and would not restrict the range of a rare or endangered plant or animal. Furthermore, as stated above in Section 4.5, Cultural Resources and Section 4.13, Paleontological Resources, with the implementation of proposed Mitigation Measures CR-1, CR-2, and P-1, development of the Proposed Project would not result in the elimination or significant impact to major Cultural resources from California's history or important examples of prehistory.

	Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐

Less than Significant Impact. Project impacts would not be cumulatively considerable. No mitigation is required relevant to potential cumulative impacts.

For natural resource subjects (Aesthetics, Agriculture and Forest Resources, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, and Mineral Resources), there would be no cumulative effects because all impacts would be less than significant or would be reduced to less than significant with mitigation incorporated. The Proposed Project involves the replacement of existing water storage tanks in order to increase fire flow and improve the systems reliability in the Buckhorn Ridge

Prospect Place area of the CAWP. The Project Area would be returned to pre-project conditions after completion of construction. In addition, the project would temporarily involve minimal hazardous materials use associated with construction and would not result in a cumulative effect on the environment.

The nature of the Proposed Project would not induce population growth or result in the development of new housing or employment-generating uses. Therefore, the Proposed Project would not result in a cumulative effect regarding increased demand or expansion for services or utilities. Furthermore, as of the time of this document, there are no approved or planned projects within proximity to the Proposed Project that would contribute to cumulative effects.

Does the Project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated. Direct and indirect impacts to human beings would be less than significant with the implementation of mitigation measures listed in this Initial Study.

SECTION 5.0 LIST OF PREPARERS

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SECTION 7.0 LIST OF APPENDICES

Appendix A – Emission Model Output

Appendix B – Biological Resources Assessment Memorandum

Appendix C – Cultural Resources Assessment (Confidential)

APPENDIX A

Air Quality/Climate Change Technical Report

Pioneer Water Tank Replacement and Booster Pump

Amador County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.75	Acre	0.75	32,670.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	1			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Project implemention estimated to last 5 month. Paving and water tank installation assumed to occur simultaneously

Grading -

Demolition -

Land Use Change -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.0736	9.6024	8.9183	0.0144	4.8361	0.5271	5.1719	2.5165	0.4850	2.9631	0.0000	1,403.4696	1,403.4696	0.3719	0.0000	1,412.7671
Maximum	**1.0736**	**9.6024**	**8.9183**	**0.0144**	**4.8361**	**0.5271**	**5.1719**	**2.5165**	**0.4850**	**2.9631**	**0.0000**	**1,403.4696**	**1,403.4696**	**0.3719**	**0.0000**	**1,412.7671**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.0736	9.6024	8.9183	0.0144	4.8361	0.5271	5.1719	2.5165	0.4850	2.9631	0.0000	1,403.4696	1,403.4696	0.3719	0.0000	1,412.7671
Maximum	**1.0736**	**9.6024**	**8.9183**	**0.0144**	**4.8361**	**0.5271**	**5.1719**	**2.5165**	**0.4850**	**2.9631**	**0.0000**	**1,403.4696**	**1,403.4696**	**0.3719**	**0.0000**	**1,412.7671**

Pioneer Water Tank Replacement and Booster Pump - Amador County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0178	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.6000e-004	1.6000e-004	0.0000		1.8000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0178**	**0.0000**	**8.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.6000e-004**	**1.6000e-004**	**0.0000**	**0.0000**	**1.8000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0178	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.6000e-004	1.6000e-004	0.0000		1.8000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0178**	**0.0000**	**8.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.6000e-004**	**1.6000e-004**	**0.0000**	**0.0000**	**1.8000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/16/2020	6/29/2020	5	10	
2	Site Preparation	Site Preparation	6/30/2020	6/30/2020	5	1	
3	Grading	Grading	7/1/2020	7/2/2020	5	2	
4	Building Construction	Building Construction	7/3/2020	11/19/2020	5	100	
5	Paving	Paving	11/20/2020	11/26/2020	5	5	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.75

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	2.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	14.00	5.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0408	0.0000	0.0408	6.1700e-003	0.0000	6.1700e-003			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457		1,147.2352	1,147.2352	0.2169		1,152.6578
Total	**0.8674**	**7.8729**	**7.6226**	**0.0120**	**0.0408**	**0.4672**	**0.5080**	**6.1700e-003**	**0.4457**	**0.4518**		**1,147.2352**	**1,147.2352**	**0.2169**		**1,152.6578**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8500e-003	0.0743	0.0212	1.7000e-004	3.4300e-003	3.3000e-004	3.7500e-003	9.3000e-004	3.1000e-004	1.2500e-003		17.7263	17.7263	3.2000e-004		17.7344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1357	0.0836	0.9457	1.2200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.6000e-004	0.0347		120.4868	120.4868	7.9100e-003		120.6847
Total	**0.1375**	**0.1579**	**0.9669**	**1.3900e-003**	**0.1312**	**1.2600e-003**	**0.1324**	**0.0348**	**1.1700e-003**	**0.0360**		**138.2131**	**138.2131**	**8.2300e-003**		**138.4191**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0408	0.0000	0.0408	6.1700e-003	0.0000	6.1700e-003			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457	0.0000	1,147.2352	1,147.2352	0.2169		1,152.6578
Total	**0.8674**	**7.8729**	**7.6226**	**0.0120**	**0.0408**	**0.4672**	**0.5080**	**6.1700e-003**	**0.4457**	**0.4518**	**0.0000**	**1,147.2352**	**1,147.2352**	**0.2169**		**1,152.6578**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8500e-003	0.0743	0.0212	1.7000e-004	3.4300e-003	3.3000e-004	3.7500e-003	9.3000e-004	3.1000e-004	1.2500e-003		17.7263	17.7263	3.2000e-004		17.7344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1357	0.0836	0.9457	1.2200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.6000e-004	0.0347		120.4868	120.4868	7.9100e-003		120.6847
Total	**0.1375**	**0.1579**	**0.9669**	**1.3900e-003**	**0.1312**	**1.2600e-003**	**0.1324**	**0.0348**	**1.1700e-003**	**0.0360**		**138.2131**	**138.2131**	**8.2300e-003**		**138.4191**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.7723	0.0000	4.7723	0.5153	0.0000	0.5153			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085		943.4872	943.4872	0.3051		951.1158
Total	**0.6853**	**8.4307**	**4.0942**	**9.7400e-003**	**4.7723**	**0.3353**	**5.1076**	**0.5153**	**0.3085**	**0.8238**		**943.4872**	**943.4872**	**0.3051**		**951.1158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0678	0.0418	0.4729	6.1000e-004	0.0639	4.7000e-004	0.0643	0.0169	4.3000e-004	0.0174		60.2434	60.2434	3.9600e-003		60.3423
Total	**0.0678**	**0.0418**	**0.4729**	**6.1000e-004**	**0.0639**	**4.7000e-004**	**0.0643**	**0.0169**	**4.3000e-004**	**0.0174**		**60.2434**	**60.2434**	**3.9600e-003**		**60.3423**

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.7723	0.0000	4.7723	0.5153	0.0000	0.5153			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085	0.0000	943.4872	943.4872	0.3051		951.1158
Total	**0.6853**	**8.4307**	**4.0942**	**9.7400e-003**	**4.7723**	**0.3353**	**5.1076**	**0.5153**	**0.3085**	**0.8238**	**0.0000**	**943.4872**	**943.4872**	**0.3051**		**951.1158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0678	0.0418	0.4729	6.1000e-004	0.0639	4.7000e-004	0.0643	0.0169	4.3000e-004	0.0174		60.2434	60.2434	3.9600e-003		60.3423
Total	**0.0678**	**0.0418**	**0.4729**	**6.1000e-004**	**0.0639**	**4.7000e-004**	**0.0643**	**0.0169**	**4.3000e-004**	**0.0174**		**60.2434**	**60.2434**	**3.9600e-003**		**60.3423**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457		1,147.2352	1,147.2352	0.2169		1,152.6578
Total	**0.8674**	**7.8729**	**7.6226**	**0.0120**	**4.5166**	**0.4672**	**4.9838**	**2.4827**	**0.4457**	**2.9283**		**1,147.2352**	**1,147.2352**	**0.2169**		**1,152.6578**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1357	0.0836	0.9457	1.2200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.6000e-004	0.0347		120.4868	120.4868	7.9100e-003		120.6847
Total	**0.1357**	**0.0836**	**0.9457**	**1.2200e-003**	**0.1277**	**9.3000e-004**	**0.1287**	**0.0339**	**8.6000e-004**	**0.0347**		**120.4868**	**120.4868**	**7.9100e-003**		**120.6847**

3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5166	0.0000	4.5166	2.4827	0.0000	2.4827			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457	0.0000	1,147.2352	1,147.2352	0.2169		1,152.6578
Total	**0.8674**	**7.8729**	**7.6226**	**0.0120**	**4.5166**	**0.4672**	**4.9838**	**2.4827**	**0.4457**	**2.9283**	**0.0000**	**1,147.2352**	**1,147.2352**	**0.2169**		**1,152.6578**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1357	0.0836	0.9457	1.2200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.6000e-004	0.0347		120.4868	120.4868	7.9100e-003		120.6847
Total	**0.1357**	**0.0836**	**0.9457**	**1.2200e-003**	**0.1277**	**9.3000e-004**	**0.1287**	**0.0339**	**8.6000e-004**	**0.0347**		**120.4868**	**120.4868**	**7.9100e-003**		**120.6847**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**		**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0220	0.6331	0.2068	1.2600e-003	0.0303	3.3900e-003	0.0337	8.7100e-003	3.2400e-003	0.0120		131.8100	131.8100	4.0900e-003		131.9123
Worker	0.1899	0.1170	1.3240	1.7100e-003	0.1788	1.3100e-003	0.1801	0.0474	1.2100e-003	0.0486		168.6816	168.6816	0.0111		168.9586
Total	**0.2119**	**0.7501**	**1.5308**	**2.9700e-003**	**0.2092**	**4.7000e-003**	**0.2139**	**0.0561**	**4.4500e-003**	**0.0606**		**300.4915**	**300.4915**	**0.0152**		**300.8708**

3.5 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**	**0.0000**	**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0220	0.6331	0.2068	1.2600e-003	0.0303	3.3900e-003	0.0337	8.7100e-003	3.2400e-003	0.0120		131.8100	131.8100	4.0900e-003		131.9123
Worker	0.1899	0.1170	1.3240	1.7100e-003	0.1788	1.3100e-003	0.1801	0.0474	1.2100e-003	0.0486		168.6816	168.6816	0.0111		168.9586
Total	**0.2119**	**0.7501**	**1.5308**	**2.9700e-003**	**0.2092**	**4.7000e-003**	**0.2139**	**0.0561**	**4.4500e-003**	**0.0606**		**300.4915**	**300.4915**	**0.0152**		**300.8708**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7716**	**7.2266**	**7.1128**	**0.0113**		**0.3950**	**0.3950**		**0.3669**	**0.3669**		**1,035.3926**	**1,035.3926**	**0.3016**		**1,042.9323**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2442	0.1504	1.7023	2.1900e-003	0.2299	1.6800e-003	0.2316	0.0610	1.5500e-003	0.0625		216.8763	216.8763	0.0143		217.2324
Total	**0.2442**	**0.1504**	**1.7023**	**2.1900e-003**	**0.2299**	**1.6800e-003**	**0.2316**	**0.0610**	**1.5500e-003**	**0.0625**		**216.8763**	**216.8763**	**0.0143**		**217.2324**

3.6 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7716**	**7.2266**	**7.1128**	**0.0113**		**0.3950**	**0.3950**		**0.3669**	**0.3669**	**0.0000**	**1,035.3926**	**1,035.3926**	**0.3016**		**1,042.9323**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2442	0.1504	1.7023	2.1900e-003	0.2299	1.6800e-003	0.2316	0.0610	1.5500e-003	0.0625		216.8763	216.8763	0.0143		217.2324
Total	**0.2442**	**0.1504**	**1.7023**	**2.1900e-003**	**0.2299**	**1.6800e-003**	**0.2316**	**0.0610**	**1.5500e-003**	**0.0625**		**216.8763**	**216.8763**	**0.0143**		**217.2324**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.523484	0.043821	0.188281	0.135005	0.047054	0.008517	0.026505	0.013676	0.002039	0.000974	0.007092	0.001187	0.002364

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0178	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.6000e-004	1.6000e-004	0.0000		1.8000e-004
Unmitigated	0.0178	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.6000e-004	1.6000e-004	0.0000		1.8000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.2200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.6000e-004	1.6000e-004	0.0000		1.8000e-004
Total	**0.0178**	**0.0000**	**8.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.6000e-004**	**1.6000e-004**	**0.0000**		**1.8000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.2200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.6000e-004	1.6000e-004	0.0000		1.8000e-004
Total	**0.0178**	**0.0000**	**8.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.6000e-004**	**1.6000e-004**	**0.0000**		**1.8000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Pioneer Water Tank Replacement and Booster Pump

Amador County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.75	Acre	0.75	32,670.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	1			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Project implemention estimated to last 5 month. Paving and water tank installation assumed to occur simultaneously

Grading -

Demolition -

Land Use Change -

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.50	4.50
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0616	0.5525	0.5119	8.3000e-004	0.0148	0.0303	0.0451	3.7700e-003	0.0280	0.0318	0.0000	73.1041	73.1041	0.0189	0.0000	73.5765
Maximum	**0.0616**	**0.5525**	**0.5119**	**8.3000e-004**	**0.0148**	**0.0303**	**0.0451**	**3.7700e-003**	**0.0280**	**0.0318**	**0.0000**	**73.1041**	**73.1041**	**0.0189**	**0.0000**	**73.5765**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0616	0.5525	0.5119	8.3000e-004	0.0148	0.0303	0.0451	3.7700e-003	0.0280	0.0318	0.0000	73.1041	73.1041	0.0189	0.0000	73.5764
Maximum	**0.0616**	**0.5525**	**0.5119**	**8.3000e-004**	**0.0148**	**0.0303**	**0.0451**	**3.7700e-003**	**0.0280**	**0.0318**	**0.0000**	**73.1041**	**73.1041**	**0.0189**	**0.0000**	**73.5764**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-16-2020**	**9-15-2020**	0.3408	0.3408
2	**9-16-2020**	**9-30-2020**	0.0572	0.0572
		Highest	0.3408	0.3408

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.2500e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2500e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.2500e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2500e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-83.2500
Total	**-83.2500**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/16/2020	6/29/2020	5	10	
2	Site Preparation	Site Preparation	6/30/2020	6/30/2020	5	1	
3	Grading	Grading	7/1/2020	7/2/2020	5	2	
4	Building Construction	Building Construction	7/3/2020	11/19/2020	5	100	
5	Paving	Paving	11/20/2020	11/26/2020	5	5	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.75

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	2.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	14.00	5.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-004	0.0000	2.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**	**2.0000e-004**	**2.3400e-003**	**2.5400e-003**	**3.0000e-005**	**2.2300e-003**	**2.2600e-003**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.9000e-004	1.1000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0801	0.0801	0.0000	0.0000	0.0801
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.6000e-004	4.0800e-003	1.0000e-005	6.1000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4978	0.4978	3.0000e-005	0.0000	0.4986
Total	**6.3000e-004**	**8.5000e-004**	**4.1900e-003**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**6.4000e-004**	**1.6000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5779**	**0.5779**	**3.0000e-005**	**0.0000**	**0.5787**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-004	0.0000	2.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**	**2.0000e-004**	**2.3400e-003**	**2.5400e-003**	**3.0000e-005**	**2.2300e-003**	**2.2600e-003**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.9000e-004	1.1000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0801	0.0801	0.0000	0.0000	0.0801
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.6000e-004	4.0800e-003	1.0000e-005	6.1000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4978	0.4978	3.0000e-005	0.0000	0.4986
Total	**6.3000e-004**	**8.5000e-004**	**4.1900e-003**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**6.4000e-004**	**1.6000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5779**	**0.5779**	**3.0000e-005**	**0.0000**	**0.5787**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	4.2200e-003	2.0500e-003	0.0000		1.7000e-004	1.7000e-004		1.5000e-004	1.5000e-004	0.0000	0.4280	0.4280	1.4000e-004	0.0000	0.4314
Total	**3.4000e-004**	**4.2200e-003**	**2.0500e-003**	**0.0000**	**2.3900e-003**	**1.7000e-004**	**2.5600e-003**	**2.6000e-004**	**1.5000e-004**	**4.1000e-004**	**0.0000**	**0.4280**	**0.4280**	**1.4000e-004**	**0.0000**	**0.4314**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0249	0.0249	0.0000	0.0000	0.0249
Total	**3.0000e-005**	**2.0000e-005**	**2.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0249**	**0.0249**	**0.0000**	**0.0000**	**0.0249**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	4.2200e-003	2.0500e-003	0.0000		1.7000e-004	1.7000e-004		1.5000e-004	1.5000e-004	0.0000	0.4280	0.4280	1.4000e-004	0.0000	0.4314
Total	**3.4000e-004**	**4.2200e-003**	**2.0500e-003**	**0.0000**	**2.3900e-003**	**1.7000e-004**	**2.5600e-003**	**2.6000e-004**	**1.5000e-004**	**4.1000e-004**	**0.0000**	**0.4280**	**0.4280**	**1.4000e-004**	**0.0000**	**0.4314**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0249	0.0249	0.0000	0.0000	0.0249
Total	**3.0000e-005**	**2.0000e-005**	**2.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0249**	**0.0249**	**0.0000**	**0.0000**	**0.0249**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-004	7.8700e-003	7.6200e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.5000e-004	4.5000e-004	0.0000	1.0408	1.0408	2.0000e-004	0.0000	1.0457
Total	**8.7000e-004**	**7.8700e-003**	**7.6200e-003**	**1.0000e-005**	**7.5000e-004**	**4.7000e-004**	**1.2200e-003**	**4.1000e-004**	**4.5000e-004**	**8.6000e-004**	**0.0000**	**1.0408**	**1.0408**	**2.0000e-004**	**0.0000**	**1.0457**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	9.0000e-005	8.2000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0996	0.0996	1.0000e-005	0.0000	0.0997
Total	**1.2000e-004**	**9.0000e-005**	**8.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0996**	**0.0996**	**1.0000e-005**	**0.0000**	**0.0997**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-004	7.8700e-003	7.6200e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.5000e-004	4.5000e-004	0.0000	1.0408	1.0408	2.0000e-004	0.0000	1.0457
Total	**8.7000e-004**	**7.8700e-003**	**7.6200e-003**	**1.0000e-005**	**7.5000e-004**	**4.7000e-004**	**1.2200e-003**	**4.1000e-004**	**4.5000e-004**	**8.6000e-004**	**0.0000**	**1.0408**	**1.0408**	**2.0000e-004**	**0.0000**	**1.0457**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	9.0000e-005	8.2000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0996	0.0996	1.0000e-005	0.0000	0.0997
Total	**1.2000e-004**	**9.0000e-005**	**8.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0996**	**0.0996**	**1.0000e-005**	**0.0000**	**0.0997**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0431	0.4426	0.3694	5.7000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	50.0302	50.0302	0.0162	0.0000	50.4348
Total	**0.0431**	**0.4426**	**0.3694**	**5.7000e-004**		**0.0261**	**0.0261**		**0.0240**	**0.0240**	**0.0000**	**50.0302**	**50.0302**	**0.0162**	**0.0000**	**50.4348**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1100e-003	0.0325	0.0109	6.0000e-005	1.4700e-003	1.7000e-004	1.6400e-003	4.2000e-004	1.6000e-004	5.9000e-004	0.0000	5.9331	5.9331	1.9000e-004	0.0000	5.9380
Worker	8.6200e-003	6.5000e-003	0.0572	8.0000e-005	8.6100e-003	7.0000e-005	8.6700e-003	2.2900e-003	6.0000e-005	2.3500e-003	0.0000	6.9697	6.9697	4.5000e-004	0.0000	6.9808
Total	**9.7300e-003**	**0.0390**	**0.0681**	**1.4000e-004**	**0.0101**	**2.4000e-004**	**0.0103**	**2.7100e-003**	**2.2000e-004**	**2.9400e-003**	**0.0000**	**12.9028**	**12.9028**	**6.4000e-004**	**0.0000**	**12.9188**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0431	0.4426	0.3694	5.7000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	50.0302	50.0302	0.0162	0.0000	50.4347
Total	**0.0431**	**0.4426**	**0.3694**	**5.7000e-004**		**0.0261**	**0.0261**		**0.0240**	**0.0240**	**0.0000**	**50.0302**	**50.0302**	**0.0162**	**0.0000**	**50.4347**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1100e-003	0.0325	0.0109	6.0000e-005	1.4700e-003	1.7000e-004	1.6400e-003	4.2000e-004	1.6000e-004	5.9000e-004	0.0000	5.9331	5.9331	1.9000e-004	0.0000	5.9380
Worker	8.6200e-003	6.5000e-003	0.0572	8.0000e-005	8.6100e-003	7.0000e-005	8.6700e-003	2.2900e-003	6.0000e-005	2.3500e-003	0.0000	6.9697	6.9697	4.5000e-004	0.0000	6.9808
Total	**9.7300e-003**	**0.0390**	**0.0681**	**1.4000e-004**	**0.0101**	**2.4000e-004**	**0.0103**	**2.7100e-003**	**2.2000e-004**	**2.9400e-003**	**0.0000**	**12.9028**	**12.9028**	**6.4000e-004**	**0.0000**	**12.9188**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	4.2000e-004	3.6800e-003	0.0000	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4481	0.4481	3.0000e-005	0.0000	0.4488
Total	**5.5000e-004**	**4.2000e-004**	**3.6800e-003**	**0.0000**	**5.5000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4481**	**0.4481**	**3.0000e-005**	**0.0000**	**0.4488**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9300e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	4.2000e-004	3.6800e-003	0.0000	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4481	0.4481	3.0000e-005	0.0000	0.4488
Total	**5.5000e-004**	**4.2000e-004**	**3.6800e-003**	**0.0000**	**5.5000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4481**	**0.4481**	**3.0000e-005**	**0.0000**	**0.4488**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.523484	0.043821	0.188281	0.135005	0.047054	0.008517	0.026505	0.013676	0.002039	0.000974	0.007092	0.001187	0.002364

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

5.2 Energy by Land Use - NaturalGas

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

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

5.3 Energy by Land Use - Electricity

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.2500e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	3.2500e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**3.2500e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**3.2500e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-83.2500	0.0000	0.0000	-83.2500

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Trees	0.75 / 0	-83.2500	0.0000	0.0000	-83.2500
Total		**-83.2500**	**0.0000**	**0.0000**	**-83.2500**

APPENDIX B

Biological Resources Assessment and Rare Plant Survey Results

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

January 26, 2018

Mr. Brandt Cook
Amador Water Agency
12800 Ridge Road
Sutter Creek, California 95685

RE: Amador Water Agency Pioneer Water Rehabilitation Project Phase 2, Amador County, California – Biological Resources Assessment Technical Memorandum

Dear Mr. Cook:

On behalf of the Amador Water Agency, ECORP Consulting, Inc. has conducted a biological resources assessment for the proposed Pioneer Water Rehabilitation Project Phase 2 Project (Project) located in Amador 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 or regulatory constraints to Project activities.

PROJECT DESCRIPTION

The Project is located in Amador County, approximately 50 miles southeast of the City of Sacramento on the western slope of the Sierra Nevada. The Project transects the Pioneer community area, located approximately 15 miles northeast of the City of Jackson along Buckhorn Ridge Road, and spans a distance of approximately 1.8 miles (Attachment A). The portion of the Project extending from Tank C to the intersection of Buckhorn Ridge Road and Cedar Heights Drive was included in environmental documentation for Phase 1 of the overall Project and is not included as part of this assessment. The portion of the Project included in this assessment begins at the intersection of Buckhorn Ridge Road and Cedar Heights Drive, and extends east to Prospect Place (Attachment B). The Project then continues north on Prospect Place, northeast on Oxbow Road, north on Deer Trail, and east on Elkhorn Court, terminating at Tank A. A maintained dirt playing field to the south of Buckhorn Ridge Road, west of Cedar Heights Drive, will be used as an equipment and materials staging area for the Project. A partially wooded parcel immediately to the west of Tanks A and B will be used as an additional staging area.

The Project would include the installation of a new water pipeline paralleling the existing pipeline in Buckhorn Ridge Road between Deadwood Court and Elkhorn Court. The current pipeline causes a severe distribution system bottleneck, which inhibits downstream flow. Specifically, the Project consists of the installation of approximately 6,700 feet of new 12-inch pipeline extending from the North Cedar Heights pressure-reducing valve station in Buckhorn Ridge Road at Cedar Heights Drive to Elkhorn Court at Tank A. The new pipeline will provide increased capacity from Buckhorn Ridge Road to Tank C, increased

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capacity at Tank C, and increased capacity downstream. This ensures that Tank C will be able to refill properly during peak usage.

The proposed pipeline would be installed in a trench within the existing roadway at a maximum depth of five feet below ground surface with approximately 18-36 inches of cover. The total trenched width would include a 12-inch pipeline with approximately six to eight inches of select backfill on each side of the pipeline contingent upon layback or shoring. Approximately 6 inches of bedding would be placed underneath the pipeline. There would be approximately 6-12 inches of select backfill over the pipeline, and up to 24 inches of general trench backfill would be placed over the select backfill. General trench backfill may consist of native material, two sack sand slurry or Class 2 aggregate base. The maximum exterior pipeline diameter would be 14 inches. Interior pipeline dimensions would be approximately 12 inches. The proposed Project alignment would typically be routed over or under existing utilities, depending on the type and location of the existing utility. A minimum of 4 inches and up to a maximum of 12 inches of distance would be maintained between the utilities. All crossings would be constructed in accordance with Amador Water Agency Standards. Construction is anticipated to commence in summer of 2018 and expected to take approximately 8 months to complete.

METHODS

Literature Review

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

- CDFW CNDDB California Natural Diversity Database (CNDDB) data for the "West Point, California" 7.5-minute quadrangle as well as the eight surrounding USGS quadrangles (CDFW 2017);
- CDFW CNDDB map of special-status species occurrences that occur within five miles of the Project (CDFW 2017);
- U.S. Fish and Wildlife Service (USFWS) Resource Report List for Federal Endangered and Threatened Species that may be affected by the Project (USFWS 2017); and
- California Native Plant Society's (CNPS) electronic Inventory of Rare and Endangered Plants of California was queried for the "West Point, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles (CNPS 2017).

SITE RECONNAISSANCE

ECORP Biologist Clay DeLong conducted the site reconnaissance visits on November 2, 2017 and January 10, 2018. Special attention was given to identifying those portions of the Project site with the potential to support special-status species and sensitive habitats. During the field surveys, biological communities occurring onsite were characterized and the following biological resource information was collected:

- Animal species directly observed

- Burrows and any other special habitat features
- Habitat and vegetation types
- Representative site photographs (Attachment C)
- Potential wetlands and Waters of the U.S.

RESULTS

Site Characteristics and Surrounding Land Use

The Project Area occurs within rolling terrain at an elevational range of approximately 3,160 feet to 3,560 feet above mean sea level. The Project Area consists primarily of paved roadways and existing water infrastructure facilities. The only semi-natural area included in the Project Area is the staging area adjacent to Tanks A and B. This staging area is composed of a relatively flat, open forest of mature madrone (*Arbutus menziesii*), incense cedar (*Calocedrus decurrens*), and Douglas fir (*Pseudotsuga menziesii*). The understory of this staging area is almost completely devoid of vegetation, and shows signs of frequent disturbance. It appears that this staging area is subject to regular vegetation management. The area surrounding the Project is characterized by rural residential parcels and undeveloped forested land. The undeveloped areas surrounding the Project consist primarily of mixed conifer forest (*Pinus ponderosa-Calocedrus decurrens* forest alliance, Sawyer et al. 2009), a vegetation community characterized by an overstory tree canopy dominated by conifers such as ponderosa pine (*Pinus ponderosa*), Douglas fir, and incense cedar. Hardwood trees and shrubs, including California black oak (*Quercus kelloggii*), madrone, and white leaf manzanita (*Arctostaphylos viscida*), are also common in the areas surrounding the Project. No potential Waters of the U.S. were identified within the Project Area during the field visit. No special-status plant or animal species were observed within the Project during the field visit.

Evaluation of Species Identified in the Literature Search

Table 1 lists all of the special-status plant and wildlife species identified in the literature search as potentially occurring within the Project Area. Included in this table are the listing status for each species, a brief habitat description, and a determination of the potential to occur in the Project Area. Following the table is a brief description of each species determined to have potential to occur within the Project Area.

Several species and sensitive habitat types were included in the results of the database and literature searches, but are not included in Table 1. These species and habitat types were not included in Table 1 because the species have been formally delisted or are only tracked by the CNDDB and possess no special-status designation, or because the identified sensitive habitats are not located within the Project area. These species and habitats are therefore not discussed further in this report.

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

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Plants						
Three-bracted onion *(Allium tribracteatum)*	-	-	1B.2	Volcanic soils in chaparral, lower montane coniferous forests, and upper montane coniferous forests (3,609' – 9,843').	April – August	Potential – suitable habitat present on-site.
Ione manzanita *(Arctostaphylos myrtifolia)*	FT	-	1B.2	Chaparral and cismontane woodlands associated with very acidic, nutrient-poor, coarse soils typical of the Ione Formation (196' – 1,903').	November – March	Absent – no suitable habitat present on-site.
Scalloped moonwort *(Botrychium crenulatum)*	-	-	2B.2	Bogs and fens, meadows and seeps, and freshwater marshes and swamps within lower montane coniferous forest and upper montane coniferous forest (4,160' – 10,760').	June - September	Absent – no suitable habitat present on-site.
Pleasant Valley mariposa-lily *(Calochortus clavatus* var. *avius)*	-	-	1B.2	Josephine silt loam and volcanic soils within lower montane coniferous forest (1,001' – 5,906').	May – July	Potential – suitable habitat present on-site.
Red Hills soaproot *(Chlorogalum grandiflorum)*	-	-	1B.2	Serpentinite or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest, occasionally on non-ultramafic soils (804' – 5,545').	May – June	Low potential – marginally suitable habitat present on-site.
Brandegee's clarkia *(Clarkia biloba* ssp. *brandegeeae)*	-	-	4.2	Chaparral, cismontane woodlands, and lower montane coniferous forest often along roadcuts (246' – 3,002').	May – July	Absent – outside elevational range.
Sierra clarkia (*Clarkia virgata*)	-	-	4.3	Cismontane woodland and lower montane coniferous forest (1,312' – 5,299').	May – August	Potential – suitable habitat present on-site.
Streambank spring beauty *(Claytonia parviflora* ssp. *grandiflora)*	-	-	4.2	Occurs in rocky cismontane woodland. (820' – 3,937').	February – May	Absent – no suitable habitat present on-site.
Bisbee Peak rush-rose *(Crocanthemum suffrutescens)*	-	-	3.2	Often gabbroic or Ione soil or in burned or disturbed areas within chaparral (246' – 2,198').	April-August	Absent – no suitable habitat present on-site.

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

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Yellow-lip pansy monkeyflower *(Diplacus pulchellus)*	-	-	1B.2	Meadows and seeps within lower montane coniferous forest (1,968' – 6,562').	April – July	Absent – no suitable habitat present on-site.
Jepson's coyote thistle (*Eryngium jepsonii*)	-	-	1B.2	Clay soils within valley and foothill grassland, and vernal pools (10' – 984').	April – August	Absent – no suitable habitat present on-site.
Tuolumne button-celery *(Eryngium pinnatisectum)*	-	-	1B.2	Vernal pools and other mesic conditions in cismontane woodland and lower montane coniferous forests (230' – 3,002').	May – August	Absent – no suitable habitat present on-site.
Stanislaus monkeyflower (*Erythranthe marmorata)*	-	-	1B.1	Cismontane woodland and lower montane coniferous forest (330' – 2,950').	March - May	Absent – outside of elevational range.
Parry's horkelia *(Horkelia parryi)*	-	-	1B.2	Ione and other soil formations in chaparral and cismontane woodlands (262' – 3,510').	April – September	Absent – no suitable habitat present on-site.
Dubious pea *(Lathyrus sulphureus* var. *argillaceus)*	-	-	3	Cismontane woodland, lower montane coniferous forest and upper montane coniferous forest. (492' – 3,051').	April – May	Absent – outside of elevational range.
Humboldt lily *(Lilium humboldtii* ssp. *humboldtii)*	-	-	4.2	Occurs in openings within chaparral, cismontane woodland, and lower montane coniferous forest (295' – 4,199').	May – August	Potential – suitable habitat present on-site.
Stebbins' lomatium (*Lomatium stebbinsii*)	-	-	1B.1	Gravelly, volcanic clay soils within chaparral and lower montane coniferous forest (4,085' – 7,790').	March - May	Absent – outside of elevational range.
Coleman's rein orchid *(Piperia colemanii)*	-	-	4.3	Sandy soils in chaparral and lower montane coniferous forest (3,937' – 7,546').	June – August	Absent – no suitable habitat present on-site.
Prairie wedge grass *(Sphenopholis obtusata)*	-	-	2B.2	Meadows and seeps, and mesic areas in cismontane woodland (984' – 6,562').	April – July	Absent – no suitable habitat present on-site.
Fish						
Delta smelt (*Hypomesus transpacificus*)	FT	CE	-	Sacramento-San Joaquin delta.	N/A	Absent - no suitable habitat present on-site.

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

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Amphibians						
Foothill yellow-legged frog (*Rana boylii*)	-	-	SSC	Foothill yellow-legged frogs can be active all year in warmer locations, but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed.	May - October	Absent - no suitable habitat present on-site.
California red-legged frog (*Rana draytonii*)	FT	-	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1- November 1	Absent – no suitable habitat on-site.
Sierra Nevada yellow-legged frog *(Rana sierrae)*	FE	CT	SSC	Historically ranged from Plumas County south through the Sierra Nevada to Inyo County. The southern part of the range is marked by Middle and South Forks of the Kings River. This frog also occurs at locations east of the Sierra Nevada crest. Always occurs near water at ponds, tarns, lakes, and streams. Tadpole may require 2 - 4 years to complete larval development.	March - September	Absent – no suitable habitat on-site.
Southern long-toed salamander *(Ambystoma macrodactylum sigillatum)*	-	-	SSC	Inhabits alpine meadows, high mountain ponds, and lakes at elevations up to about 10,000 ft. In California, this subspecies occurs in the northeast and along the northern Sierra Nevada south to Garner Meadows and Spicer Reservoir, and in Trinity and Siskiyou counties near the Trinity Alps.	October - January	Absent – no suitable habitat on-site.
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.	Any season	Absent - no suitable habitat present on-site.

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

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Birds						
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.	March-August	Low potential – marginally suitable habitat present on-site. Unlikely to nest on-site due to disturbed habitat and frequent human visitation.
Sharp-shinned hawk *(Accipiter striatus)*	-	-	CDFW WL	Nests in trees in most forest types with at least some conifers. In California, nesting occurs in Sierra Nevada and Cascade Ranges (foothills to tree line) and northwestern coastal range.	April-August (nesting)	Potential – suitable habitat present on-site.
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 750-2250 meters). Nest in broken-topped dead trees, old raptor nests, mistletoe brooms, or human-made platforms.	April-July	Low potential – marginally suitable habitat present on-site.
Mammals						
Townsend's big-eared bat *(Corynorhinus townsendii)*	-	-	SSC	Distribution is strongly correlated with the availability of caves and cave-like roosting habitat, including abandoned mines; habitat associations include coniferous forests, mixed mesophytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types (WBWG] 2017).	April-September	Absent - no suitable roosting habitat present on-site.
Fringed myotis *(Myotis thysanodes)*	-	-	-	Desert scrub, mesic coniferous forest, grassland, and sage-grass steppe habitats; roosts in crevices in buildings, underground mines, rocks, cliff faces, and bridges; hibernacula include caves, mines and buildings (WBWG 2017).	April-September	Absent - no suitable roosting habitat present on-site.

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

Common Name (*Scientific Name*)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA/ NPPA	Other			
Long-legged myotis *(Myotis volans)*	-	-	-	Abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark, and hollows within snags as summer day roosts; caves and mine tunnels as hibernacula (WBWG 2017).	April-September	Potential – suitable roosting habitat present on-site.
Sierra Nevada red fox (*Vulpes vulpes necator*)	FC	CT	-	Found in the Cascades in Siskiyou County, and from Lassen County south to Tulare County, rare in the Sierra Nevada. Sierra Nevada populations may be found in a variety of habitats, including alpine dwarf-shrub, wet meadow subalpine conifer, lodgepole pine, red fir, aspen, montane chaparral, montane riparian, mixed conifer, and ponderosa pine. Most sightings in Sierra Nevada area above 7,000 feet but range from 3,900 to 11,900 feet.	Any season	Low potential – marginally suitable foraging habitat present on-site. Not likely to den on-site due to lack of habitat (i.e. dense vegetation or rocky areas).

Status Codes:

FT	ESA listed, Threatened.
FC	Candidate for ESA listing as Threatened or Endangered.
FE	ESA listed, Endangered.
CT	CESA listed, Threatened.
CE	CESA listed, Endangered.
SSC	CDFW Species of special concern
CDFW WL	CDFW Watch List
1B	CRPR /Rare or Endangered in California and elsewhere.
2	CRPR /Rare or Endangered in California, 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)

Plants

In total, 19 special-status plant species were identified as having the potential to occur within the Project based on the literature review (Table 1). Upon further analysis and after the reconnaissance site visit, 14 species were determined to be absent from the Project due to the lack of suitable habitat, or because the Project Area is outside the species elevational range. The Project's eastern staging area, occurring at approximately 3,500 feet above mean sea level, was the only area considered to be potential habitat for

special-status plant species. Five special-status plant species were determined to have potential to occur within the eastern staging area: three-bracted onion (*Allium tribracteatum*), Pleasant Valley mariposa-lily (*Calochortus clavatus* var. *avius*), Red Hills soaproot (*Chlorogalum grandiflorum*), Sierra clarkia (*Clarkia virgata*), and Humboldt lily (*Lilium humboldtii* ssp. *humboldtii*).

Birds

Three special-status bird species were determined to have the potential to occur within the Project area: northern goshawk (*Accipiter gentilis*), sharp-shinned hawk (*Accipiter striatus*), and great gray owl (*Strix nebulosa*). These species have the potential to nest in trees within the eastern staging area and immediately outside of the Project. There are no documented CNDDB occurrences of northern goshawk or sharp-shinned hawk within five miles of the Project. There is one documented CNDDB occurrence of great gray owl within five miles the Project, with specific location details suppressed. Additionally, nesting birds protected by the Migratory Bird Treaty Act (MBTA) have the potential to nest in trees within and immediately outside of the Project Area.

Mammals

Four special-status mammal species were identified as having potential to occur within the Project Area based on the literature review (Table 1). Upon further analysis and after the reconnaissance visits, three species were considered to have potential to occur on-site: Townsend's big-eared bat (*Corynorhinus townsendii*), long-legged myotis (*Myotis volans*), and Sierra Nevada red fox (*Vulpes vulpes necator*). Townsend's big-eared bat and long-legged myotis have the potential to use trees within the Project Area as day roosts. Sierra Nevada red fox has potential to use the Project Area as a movement corridor, but does not have the potential to den within the Project Area.

Fish, Reptiles, and Amphibians

Six special-status fish, reptiles, and amphibians were identified as having the potential to occur within the Project Area based on the literature review. Upon further analysis and after the reconnaissance visits, these species were determined to be absent from the Project Area due to the lack of suitable aquatic habitat.

RECOMMENDATIONS

Special-Status Plants

Five special-status plant species (three-bracted onion, Pleasant Valley mariposa-lily, Red Hills soaproot, Sierra clarkia, and Humboldt lily) have potential to occur within the Project's eastern staging area. No special-status plant surveys have been conducted in the Project Area.

The following measures are recommended to minimize potential impacts to special-status plants:

- Perform a focused plant survey according to USFWS, CDFW, and CNPS protocols. The survey should be timed according to the blooming period for target species and known reference

populations, if available, and/or local herbaria should be visited prior to surveys to confirm the appropriate phenological state of the target species. Based on the blooming period for the five target species, the survey should be conducted in May or June.

- If special-status plant species are found during the survey within the Project Area and avoidance of the species is not possible, seed collection, transplantation, and/or other mitigation measures may be developed in consultation with appropriate resource agencies to reduce impacts to special-status plant populations.
- If no special-status plants are found within the Project Area, no further measures pertaining to special-status plants are necessary.

Special-Status Birds and MBTA Protected Birds

Suitable nesting and/or wintering and foraging habitat for three special-status bird species is present within the Project Area. These include northern goshawk, sharp-shinned hawk, and great gray owl. If present, the Project could result in direct take of birds or nests and could result in harassment to nesting individuals and may temporarily disrupt foraging activities.

In addition to the above-listed special-status birds, all native birds, including raptors, are protected under the California Fish and Game Code and the MBTA. As such, to ensure that there are no impacts to protected active nests, the following mitigation measures are recommended:

- If construction activities occur during the nesting season (February 1 through August 31), conduct a pre-construction nesting bird survey within the Project Area and a 300-foot buffer area surrounding the Project. Surveys should be conducted within 14 days of the commencement of construction activities.
- Establish appropriate no-work buffers in consultation with CDFW if active nests are found.

Special-Status Mammals

Suitable habitat for two special-status mammals (long-legged myotis, and Sierra Nevada red fox) is present within the Project Area. Sierra Nevada red fox may use the Project site for foraging and as a movement corridor. However, there is no suitable den habitat for Sierra Nevada red fox within the Project Area. No mitigation measures are recommended for Sierra Nevada red fox. There is potential for long-legged myotis and other bats to roost in trees within the Project Area. To limit potential impacts to long-legged myotis and other tree-roosting bats, the following mitigation measure is recommended:

- Conduct a pre-construction bat habitat assessment for all trees to be removed during the project. If any potential bat roosting habitat is identified during this survey, consult with CDFW to implement appropriate measures (e.g., avoidance, construction monitoring, and roost exclusion).

If you have any questions, please call me at (916) 782-9100.

Sincerely,

Clay DeLong
Staff Biologist

REFERENCES

California Department of Fish and Wildlife (CDFW). 2017. Rarefind 5. Online Version, commercial version. California Natural Diversity Database. The Resources Agency, Sacramento. Accessed November 2, 2017.

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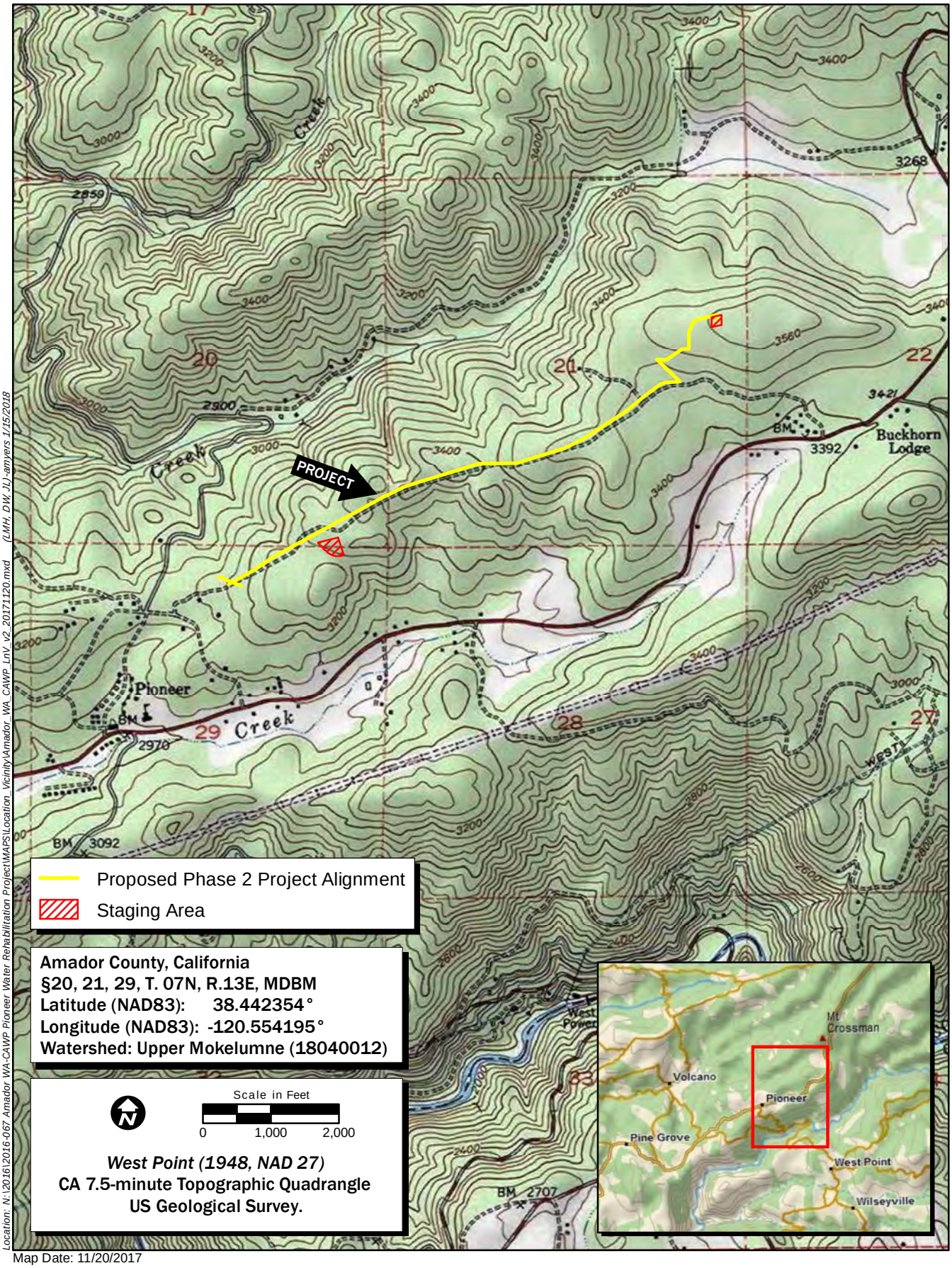
Western Bat Working Group (WBWG). 2017. Western Bat Species Accounts. Available on-line at: http://wbwg.org/western-bat-species/.

LIST OF ATTACHMENTS

ATTACHMENT A

Project Location and Vicinity



Location: N:\2016\2016-067 Amador WA-CAWP Pioneer Water Rehabilitation Project\MAPS\Location_Vicinity\Amador_WA_CAWP_LnV_v2_20171120.mxd (LMH, DW, JL) -amyers 1/15/2018

Map Date: 11/20/2017

DRAFT

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Project Location and Vicinity

2016-067 Amador WA-CAWP Pioneer Water Rehabilitation Project

ATTACHMENT B

Proposed Project Alignment

Proposed Project Alignment

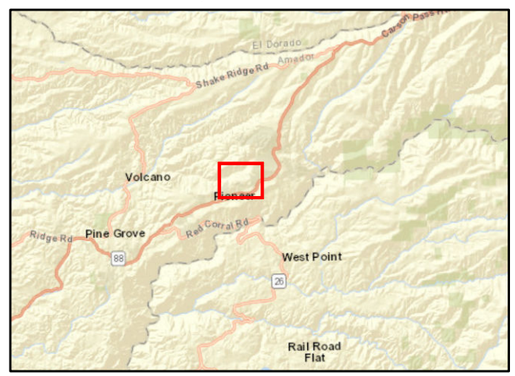
Map Features

- Phase 2 Covered in Previous ISMND
- Phase 2 Covered in Current ISMND
- Staging Area

Water Tank

- Tank A
- Tank B
- Tank C

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2016-067 Amador WA-CAWP Pioneer Water Rehabilitation Project

Scale in Feet
0 400 800

Photo Source: 2016, NAIP
Design Source: Amador Water Agency

Map Date: 1/15/2018

Location: N:\2016\2016-067 Amador WA-CAWP Pioneer Water Rehabilitation Project\MAPS\Facilities\v2\Amador_WA_CAWP_Site_Plan_Phase_2_v2.mxd (LMH,JL) JSwager 1/24/2018

ATTACHMENT C

Representative Site Photographs

Photo 1. Tank A and Tank B at northeastern end of Project alignment. View southeast. Photo taken November 2, 2017.

Photo 2. Project alignment within Elkhorn Court. View west. Photo taken November 2, 2017.

Photo 3. Eastern staging area adjacent to Tanks A and B. View west. Photo taken January 10, 2018.

Photo 4. Eastern staging area adjacent to Tanks A and B. View north. Photo taken January 10, 2018.

Photo 5. Project alignment at intersection of Oxbow Road and Prospect Place. View east. Photo taken November 2, 2017.

Photo 6. Project alignment within Buckhorn Ridge Road at eastern end of Project alignment. View west. Photo taken November 2, 2017.

Photo 7. Project alignment within Buckhorn Ridge Road at western end of Project alignment. View northeast. Photo taken November 2, 2017.

Photo 8. Project alignment within Buckhorn Ridge Road in central portion of Project alignment. View east. Photo taken November 2, 2017.

Photo 9. Western staging area within maintained baseball field. View east. Photo taken January 10, 2018.

Photo 10. Western staging area within maintained baseball field. View south. Photo taken January 10, 2018.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

May 16, 2018

Mr. Brandt Cook
Amador Water Agency
12800 Ridge Road
Sutter Creek, California 95685

RE: Amador Water Agency Pioneer Water Rehabilitation Project Phase 2 – Amador County, California – Memorandum for Special-Status Plant Survey for Staging Areas.

Dear Mr. Cook:

On behalf of the Amador Water Agency, ECORP Consulting, Inc. has conducted a special-status plant survey within the staging areas (Survey Area) for the proposed Pioneer Water Rehabilitation Project Phase 2 (Project) located in Amador County, California. The purpose of the assessment was to identify and map any potential special-status plant species within the Survey Area.

The Project is located in Amador County, approximately 50 miles southeast of the City of Sacramento on the western slope of the Sierra Nevada (Attachment A). There are two-staging areas that comprise the Survey Area. One is a maintained dirt playing field to the south of Buckhorn Ridge Road, west of Cedar Heights Drive. The other is a partially wooded parcel immediately to the west of Tanks A and B at the end of Elkhorn Court.

There were four target-species for this survey:

- Three-bracted onion (*Allium tribracteatum*)
- Pleasant Valley mariposa-lily (*Calochortus clavatus* var. *avius*)
- Red Hills soaproot (*Chlorogalum grandiflorum*)
- Humboldt lily (*Lilium humboldtii* ssp. *humboldtii*)

ECORP botanist Casey Peters conducted the special-status plant survey on May 15, 2018. Mr. Peters walked meandering transects throughout the Survey Area, and made a complete list of all plant species observed during the survey (Attachment B).

The staging area south of Buckhorn Ridge Road is completely unvegetated. No plant species were observed at that location. The staging area at the end of Elkhorn Court is composed of a relatively flat, open forest of mature madrone (*Arbutus menziesii*), incense cedar (*Calocedrus decurrens*), and Douglas fir (*Pseudotsuga menziesii*).

No special-status species were observed during the special-status plant survey.

2525 Warren Drive ● Rocklin, CA 95677 ● Tel: (916) 782-9100 ● Fax: (916) 782-9134 ● Web: www.ecorpconsulting.com

If you have any questions, please call me at (916) 782-9100.

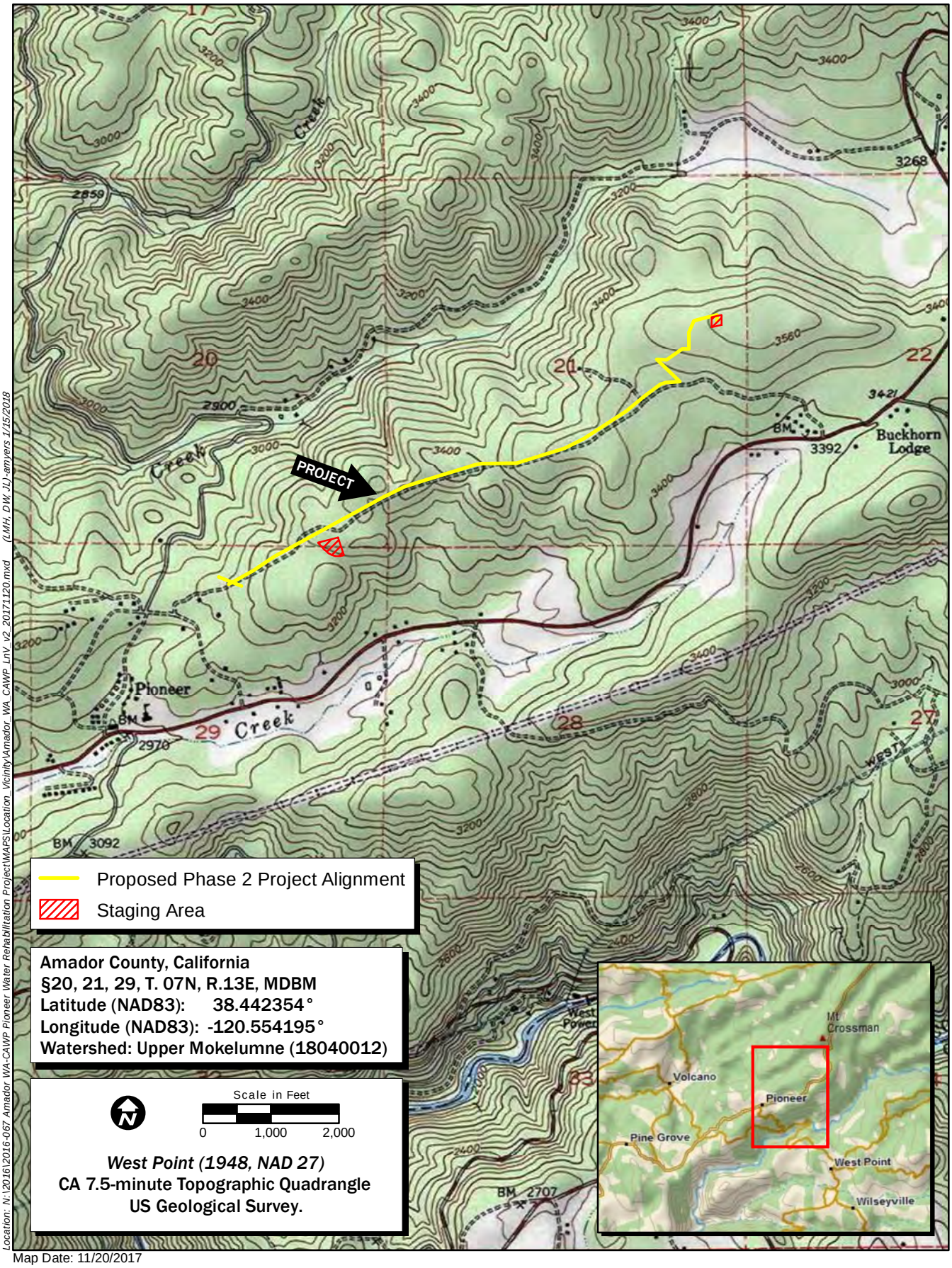
Sincerely,

Casey Peters
Associate Biologist

LIST OF ATTACHMENTS

ATTACHMENT A

Project Location and Vicinity



Location: N:\2016\2016-067 Amador WA-CAWP Pioneer Water Rehabilitation Project\MAPS\Location_Vicinity\Amador_WA_CAWP_LnV_v2_20171120.mxd (LMH, DW, JL)-amyers 1/15/2018

Map Date: 11/20/2017

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Project Location and Vicinity

2016-067 Amador WA-CAWP Pioneer Water Rehabilitation Project

ATTACHMENT B

Plant Species Observed on May 15, 2018

Amador Water Agency Pioneer Water Rehabilitation Project Phase 2

Plant Species Observed (May 15, 2018)

SCIENTIFIC NAME	COMMON NAME
APIACEAE	**CARROT FAMILY**
*Torilis arvensis**	Torilis (hedge parsley)
ASTERACEAE	**SUNFLOWER FAMILY**
*Hypochaeris glabra**	Smooth cat's-ear
Pseudognaphalium californicum	Pearly everlasting
BORAGINACEAE	**BORAGE FAMILY**
Plagiobothrys tenellus	Slender popcornflower
BRASSICACEAE	**MUSTARD FAMILY**
Cardamine hirsuta	Hairy bittercress
CAPRIFOLIACEAE	**HONEYSUCKEL FAMILY**
Symphoricarpos mollis	Creeping snowberry
CARYOPHYLLACEAE	**PINK FAMILY**
*Cerastium glomeratum**	Mouse-ear chickweed
CUPRESSACEAE	**CYPRESS FAMILY**
Calocedrus decurrens	Incense cedar
ERICACEAE	**HEATH FAMILY**
Arbutus menziesii	Pacific madrone
FABACEAE	**LEGUME FAMILY**
Acmispon parviflorus	Small-flowered lotus
FAGACEAE	**OAK FAMILY**
Quercus kelloggii	Black oak
Quercus wislizeni	Interior live oak
JUNCACEAE	**RUSH FAMILY**
Juncus tenuis	Poverty rush
Luzula comosa	Hairy woodrush
LILIACEAE	**LILY FAMILY**
Calochortus monophyllus	Yellow star tulip
MELANTHIACEAE	**FALSE-HELLEBORE FAMILY**
Toxicoscordion venenosum	Meadow deathcamas
MONTIACEAE	**MINER'S LETTUCE FAMILY**
Claytonia parviflora	Narrow leaved miner's lettuce

Amador Water Agency Pioneer Water Rehabilitation Project Phase 2

Plant Species Observed (May 15, 2018)

SCIENTIFIC NAME	COMMON NAME
PINACEAE	**PINE FAMILY**
Pseudotsuga menziesii	Douglas-fir
PLANTAGINACEAE	**PLANTAIN FAMILY**
Veronica peregrina	Purslane speedwell
POACEAE	**GRASS FAMILY**
*Festuca myuros**	Rat-tail vulpia
*Poa annua**	Annual bluegrass
POLEMONIACEAE	**PHLOX FAMILY**
Collomia heterophylla	Varied leaved collomia
Leptosiphon bicolor	True babystars
POLYGALACEAE	**MILKWORT FAMILY**
Polygala cornuta var. *cornuta*	Sierra milkwort
RUBIACEAE	**MADDER FAMILY**
*Galium parisiense**	Wall bedstraw
VIOLACEAE	**VIOLET FAMILY**
Viola purpurea	Mountain violet

APPENDIX C

Cultural Resources Assessment

This report contains ***confidential*** cultural resources site location information and is not included in this draft report.

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