

APPENDIX E

**Palermo Clean Water Consolidation Project
Construction Emissions**

Palermo Clean Water Consolidation Project

					Duration of Project = Approx. 1 year									
Activity	Equipment	HP Rated	# Units	# Active Days	O3 (tons)	CO (tons)	Nox (tons)	ROG (tons)	VOC (tons)	Pb (tons)	PM2.5 (tons)	PM10 (tons)	SO2 (tons)	
Excavation/ Trenching	Diesel Excavator	300	1	200		0.688	2.434	0.148	0.180		0.164	0.169	0.392	
	Diesel Bull Dozers	300	2	200		1.460	5.037	0.878	0.381		0.339	0.349	0.783	
Asphaltic Paving	Pavers	200	1	200			0.635	0.106			0.025	0.028		
					# Miles / Day	# Units	# Active Days							
General Construction	Pickup Truck	30	2	200		0.148	0.036		0.018	0.000	0.001	0.001		
	10000-19500 lb Delivery Truck	60	1	200		0.209	0.039		0.022	0.000	0.001	0.001		
	Diesel Tractors/Loaders/Backhoes	10	1	100		0.072	0.064	0.002	0.016		0.012	0.012	0.008	
Totals:						2.578	8.244	1.135	0.617		0.541	0.561	1.183	

APPENDIX F

**Biological Resources Assessment for the
Palermo Clean Water Consolidation Project**

BIOLOGICAL RESOURCE ASSESSMENT

Terrestrial and Botanical Resources

Palermo Clean Water Consolidation Project:

Palermo, California

November 2021



Prepared for:

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BIOLOGICAL RESOURCE ASSESSMENT
Palermo Clean Water Consolidation Project:
Palermo, California

INTRODUCTION

Purpose and Overview

The purpose of this biological assessment (BA) is to document endangered, threatened, sensitive and rare species and their habitats that may occur in the biological survey area (BSA) in the Town of Palermo (Project) in Butte County, California (**Figure 1 and 2**). The Project is located approximately 2.5-3 miles south of Oroville.

Golden Hills Consulting (GHC) conducted biological and botanical habitat assessments in the biological survey area (BSA) to evaluate site conditions and potential for biological and botanical species to occur. Other primary references consulted include species lists and information gathered using The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation System (IPaC), the California Department of Fish and Wildlife's (CDFW) Natural Diversity Database (CNDDDB), the California Native Plant Society's (CNPS) list of rare and endangered plants, and literature review. The results of the BA are the findings of habitat assessment and surveys, with recommendations for avoidance and minimization measures as necessary.

Project Location and Environmental Setting

The BSAs within those areas targeted for pipeline installation such as existing roads adjacent Right-of-Way. Palermo is located on the 1970 Palermo 7.5' USGS quadrangle topographic map. Approximate center of the town is located at Township 18 North, Range 4 West, in the northwest quarter of Section 8. Latitude is 39.437249 North, Longitude 121.548885 West. Areas to the north, south and west of Palermo are primarily used for agriculture, from cattle grazing to various orchards, such as oranges and olives. To the east lie the toe of the Sierra Nevada foothills. The terrain increases in elevation quickly to the east, where approximately half a mile west of Palermo, there are hills up to 500 feet amsl (average mean sea level) in elevation. In the Town itself, elevation ranges from a low of 150 feet amsl along the west side to 210 feet amsl along portions of the east side of the town.

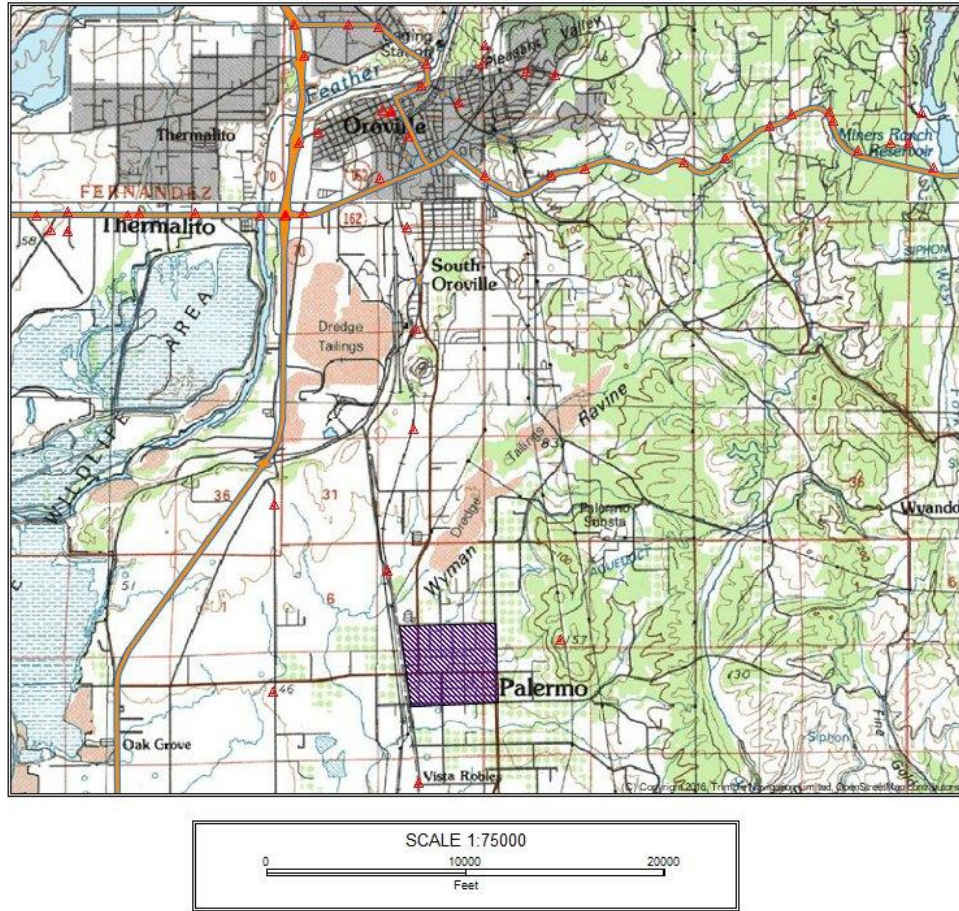


Figure 1. Regional Location

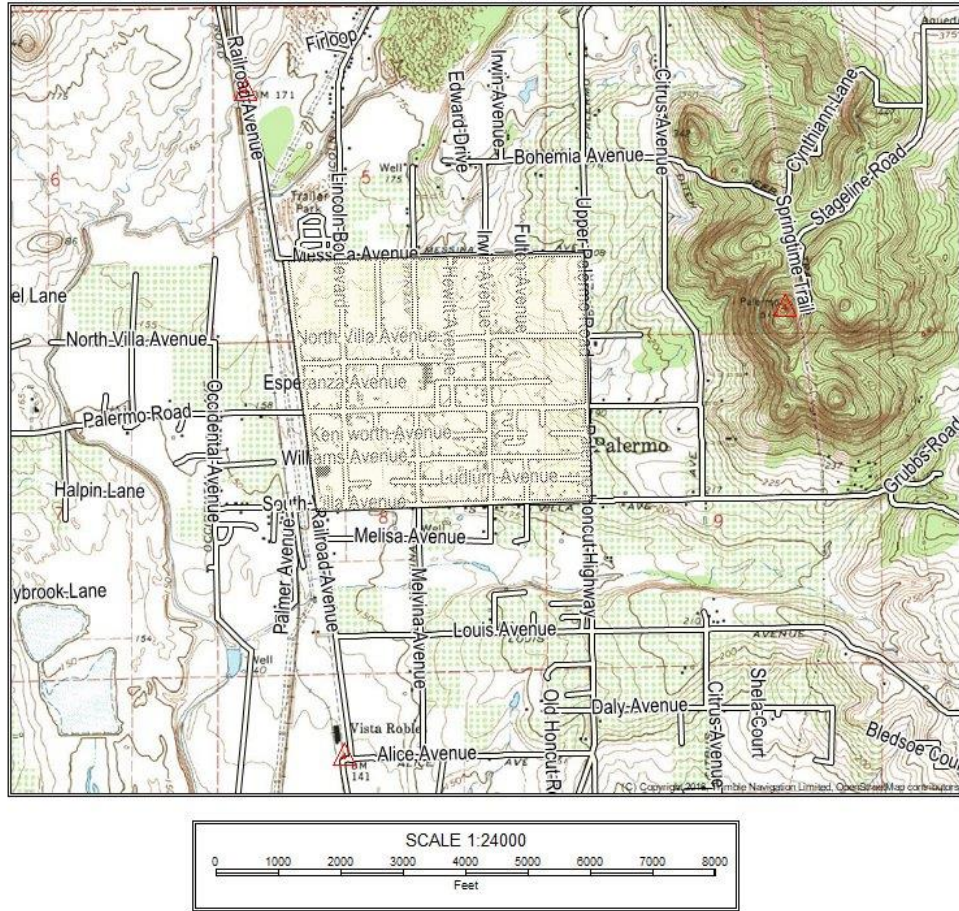


Figure 2. Palermo

Project Description

The Town of Palermo proposes to install new water service lines to end users (**Figure 3**). The current plan is to install these lines under existing road pavement, outside of the right-of-way. The BSA included the County/Town road easement.

Background

Most parcels in Palermo have individual water wells for their potable water supply, and on-site septic systems for wastewater treatment and disposal. Due to flooding, high groundwater levels and continued septic system failures, cross-contamination of existing wells and possibly the groundwater aquifer have occurred. Many of the wells are shallow and old, well beyond their 30-year useful life and may not comply with the Revised Total Coliform Rule as well as having high nitrate levels which are close to exceeding the maximum contaminant level.

The South Feather Water and Power Agency (SFWPA) and Butte County are collaborating to resolve these health and safety issues through the Palermo Clean Water Consolidation Project to provide a safe reliable water supply that meets Safe Drinking Water Act requirements. The SFWPA currently already supplies treated surface water to over 100 parcels within the Palermo Community. The project would connect existing SFWPA infrastructure and install new water mains, valves, fire hydrants and meters for those not adjacent to the existing SFWPA facilities. The service area is bounded by Messina Avenue to the north, South Villa Avenue to the south, the railroad to the west and Upper Palermo Road to the east.

METHODS

References Consulted

Based upon the extent of disturbance GHC obtained lists of special-status species that occur in the vicinity of the BSA. The CNDDDB Geographic Information System (GIS) database was also consulted and showed special-status species within a 3-mile radius of the BSA (**Figure 3**). Other primary sources of information regarding the occurrence of federally listed threatened, endangered, proposed, and candidate species and their habitats within the BSA used in the preparation of this BA are:

- The USFWS IPaC Official Species List for the Project area, , Consultation Code 08ESMF00-2021-SLI-2900 (**Appendix A; Species Lists**);
- The results of a species record search of the CDFW CNDDDB RareFind 5 for the 7.5 minute USGSPalermo quadrangle (**Appendix A; Species Lists**);
- The review of the CNPS Inventory of Rare and Endangered Vascular Plants of California for the 7.5 minute USGS Palermo quadrangle (**Appendix A; Species Lists**);
- Results from the habitat assessments conducted by GHC on October 6, 2021 (**Appendix B; Observed Species Lists**).

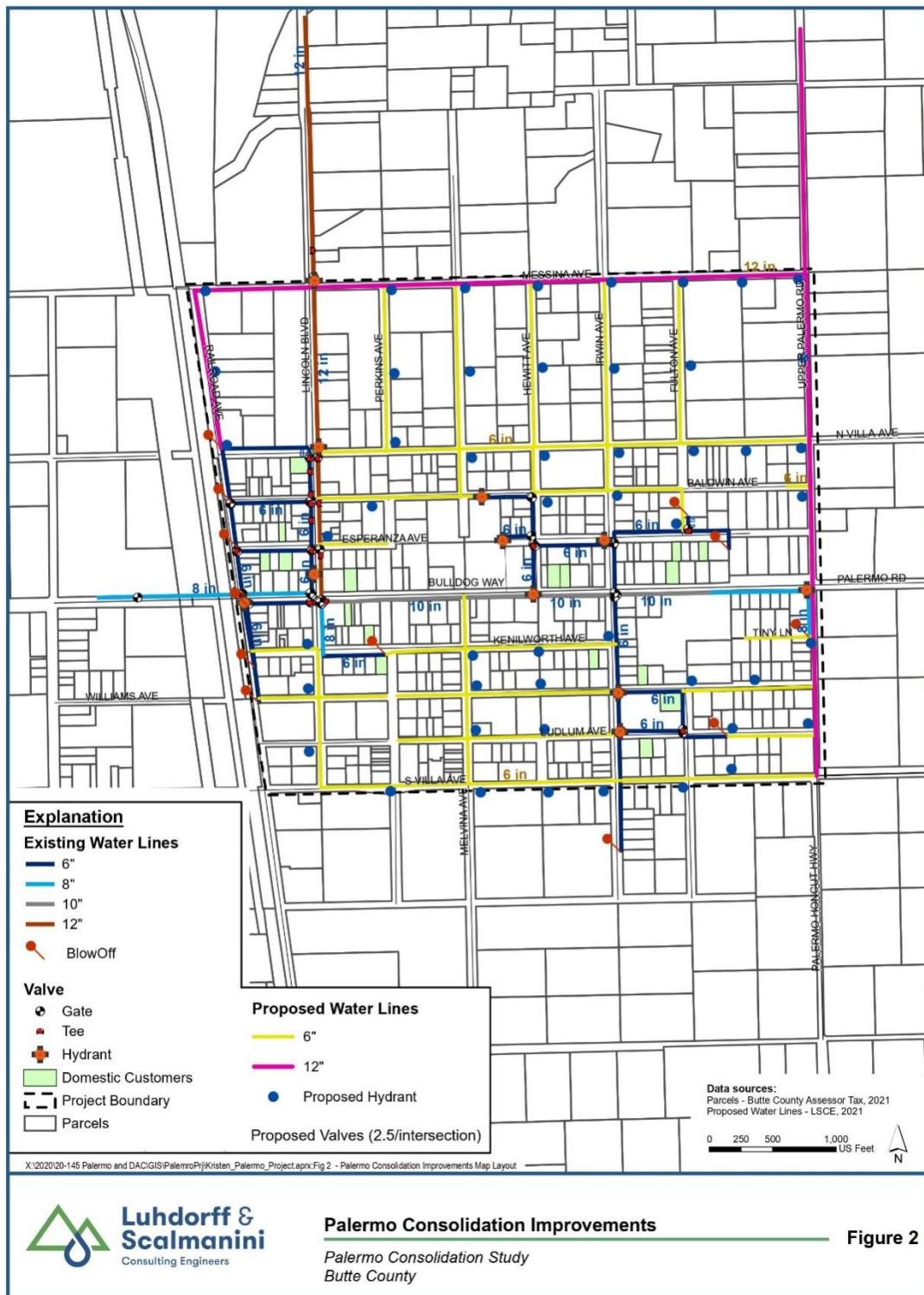


Figure 3. Palermo Consolidation Improvements

Special-Status Species

Special-status species that have potential to occur in the BSA are those that fall into one of the following categories:

- Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 California Code of Regulations 670.5) or the Federal Endangered Species Act (ESA, 50 Code of Federal Regulations 17.12);
- Listed as a Species of Special Concern (SSC) by CDFW or protected under the California Fish and Game Code (CFG) (e.g. Fully Protected species);
- Ranked by the CNPS as 1A, 1B, or 2; Protected under the Migratory Bird Treaty Act (MBTA);
- Protected under the Bald and Golden Eagle Protection Act; or
- Species that are otherwise protected under policies or ordinances at the local or regional level as required by the California Environmental Quality Act (CEQA §15380).

Critical Habitat

The ESA requires that critical habitat be designated for all species listed under the ESA. Critical habitat is designated for areas that provide essential habitat elements that enable species survival and which are occupied by the species during the species listing under the ESA. Areas outside of the species range of occupancy during the time of its listing can also be determined as critical habitat if the agency decides that the area is essential to the conservation of the species.

Sensitive Natural Communities

Sensitive Natural Communities (SNCs) are monitored by CDFW with the goal of preserving these areas of habitat that are rare or ecologically important. Many SNCs are designated as such because they represent a historical habitat assemblage.

Habitat Assessments

Habitat assessments were conducted by GHC on October 6, 2021. At that time, biological and botanical habitat assessment was conducted by field biologist/botanist Mary Bailey. Habitat assessments for botanical and wildlife species were conducted to determine the suitable habitat elements for special-status species within the BSA. The habitat assessments were conducted by driving the entire BSA, with frequent stops to observe or photograph, and recorded observed species and specific habitat types and elements. If habitat was observed for special-status species it was then evaluated for quality based on vegetation composition and structure, physical features (e.g. soils, elevation), microclimate, surrounding area, presence of predatory species and available resources (e.g. prey items, nesting substrates), and land use patterns. A list of species observed within the BSA is included in **Appendix B**.

RESULTS

Habitats

Barren

The current pipeline installation plan is to trench within the road pavement, reducing or eliminating significant impact to adjacent habitat. All roads involved in this project are asphalt and are barren of suitable habitat for floral or faunal species.

Barren habitat occurs as adjacent habitat at the main intersection of Lincoln Boulevard and Palermo Road due to commercial development requiring paved access.

Other habitats

These exist adjacent to the proposed pipeline such as ditches, residences, and right-of-ways (ROWs).

Ruderal

This habitat is within the road ROWs, consisting mainly of weedy, non-native species such as wild oats (*Avenabarbata*), field mustard (*Brassica rapa*), wild lettuce (*Lactucaserriola*), ripgut brome (*Bromusdiandrus*), bull mallow (*Malva nicaeensis*), Johnson grass (*Sorghumhalepense*), tree-of-heaven (*Ailanthus altissima*), and others. This habitat would not be impacted directly by the proposed project. Within the ROW, there are occasional small oaks (*Quercus* spp.), but no large oaks were seen.

Developed/Residential

Originally, the town of Palermo would have been annual grassland habitat, with a transition to oak savanna at the eastern edge of town. The town is well developed with small to medium parcel sizes, with larger parcels containing small orchards. Some residences are maintained to the edge of pavement where horticultural species such as mimosa (*Albiziajulibrissin*) are found. Common fauna species found utilizing this habitat type include western fence lizards (*Sceloporus occidentalis*), common garter snakes (*Thamnophis elegans*), California ground squirrels (*Otospermophilusbeecheyi*), jackrabbits (*Lepus californicus*), and a variety of avian species.

Wetland

Within the ROW ditches, fresh emergent wetland occurs where there is at a minimum, semi-perennial water flow. Species encountered include cattails (*Typha angustifolia*), common tule (*Schoenoplectusacutus* var. *occidentalis*), primrose-willow (*Ludwigiaeploidis* subsp. *Montevidensis*), dotted smartweed (*Persicaria punctata*), and water plantain (*Alismalanceolatum*). These plant species are all obligate hydrophytes. The wetlands are tightly limited to within relatively short lengths of certain roadside ditch channels and do not

extend beyond. They occur infrequently within the town, being seen in the mid-northern half of the town, or near the southwest portion of the town. Locations of these wetlands are shown on **Figure 4**.

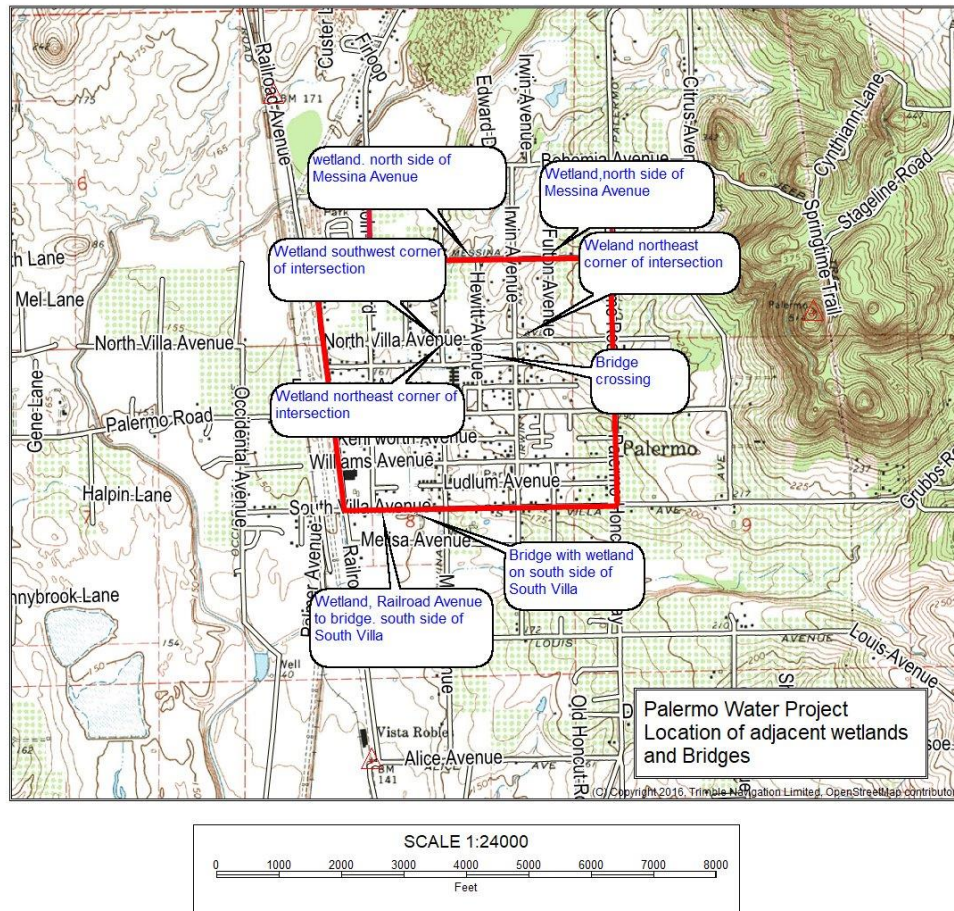


Figure 4. Ditch Wetland Locations

Critical Habitat

There is no designated critical habitat within the BSA.

Sensitive Natural Communities

No SNCs occur within the BSA.

Special-Status Species

A summary of special-status species assessed for potential occurrence within the BSA based on the USFWS IPaC and CNDDDB species lists and the CNPS list of rare and endangered plants within the USGS 7.5 minute quadrangles is presented in **Table 1**. Potential for occurrence was determined by reviewing database queries from federal and state agencies, performing surveys, and evaluating habitat characteristics.

Table 1. Special-status species and their potential to occur in the BSA of Palermo, Butte County, CA.

Common Name <i>(Scientific Name)</i>	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
CRITICAL HABITATS			
			There are no critical habitats within the BSA
PLANTS			
Ahart's dwarf rush <i>(Juncus leiospermus var. ahartii)</i>	_/_/1B.2	Vernal pools in valley/foothill grasslands. (BP: Mar - May)	None. There is no suitable habitat present within the BSA.
Mexican mosquito fern <i>(Azollamicrophylla)</i>	_/_/4.2	Marshes and swamps	None. There is no suitable habitat present within the BSA.
Bristly leptosiphon <i>(Leptosiphonacicularis)</i>		Chaparral, cismontane woodland	
Woolly meadowfoam <i>(Limnanthes floccosa ssp. floccosa)</i>	_/_/4.2	Valley and foothill grassland	
Slender Orcutt grass <i>(Orcuttia tenuis)</i>	FT/SE/1B.1	Vernal pools, typically deep. (BP: May – Sep[Oct])	None. There is no suitable habitat present within the BSA.
Brazilian watermeal <i>(Wolffia brasiliensis)</i>	_/_/2B.3	Marshes and swamps	None. There is no suitable habitat present within the BSA.
INVERTEBRATES			
Vernal pool fairy shrimp <i>(Branchinecta lynchi)</i>	FT/_/_	Vernal pools.	None. There are no vernal pools within the BSA.
Vernal pool tadpole shrimp	FE/_/_	Vernal pools.	None. There are no vernal pools

Common Name <i>(Scientific Name)</i>	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
<i>(Lepidurus packardii)</i>			within the BSA.
California linderiella <i>(Linderiella occidentalis)</i>	_/SSC/_	Vernal pools	None. There are no vernal pools within the BSA.
FISH			
Chinook salmon Central Valley spring-run <i>(Oncorhynchus tshawytscha)</i>	FT/_/_	Sacramento River and its tributaries.	None. There are no creeks or drainages of sufficient size with a hydrologic connection to the Feather River.
Steelhead Central Valley DPS <i>(Oncorhynchus mykiss)</i>	FT/SE/_	Sacramento River and its tributaries.	None. There are no creeks or drainages of sufficient size with a hydrologic connection to the Feather River.
Delta smelt <i>(Oncorhynchus mykiss)</i>	FT/SE/_	Found only from the San Pablo Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.	None. There are no creeks or drainages of sufficient size with a hydrologic connection to the Feather River.
HERPTILES			
California redlegged frog <i>(Rana draytonii)</i>	FT/SSC/_	Ponds in humid forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover.	None. California red-legged frogs have been extirpated from the Central Valley since the 1960s (USFWS 2002).
Foothill yellow-legged frog Feather River clade <i>(Rana boylei)</i>	_/ST/_	Partly shaded, shallow streams and riffles with rocky substrates in a variety of habitats, commonly found in canyons and narrow streams.	None. The BSA does not contain suitable aquatic habitat during the FYLF breeding period (April – July) and tadpole development period (3-4

Common Name <i>(Scientific Name)</i>	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
			months afterbreeding) (Zeiner et al. 1990).
Giant garter snake <i>(Thamnophis gigas)</i>	FT/ST/_	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	None. There is no suitable habitat present within the BSA.
Western pond turtle <i>(Emys marmorata)</i>	_/SSC/_	Perennial to intermittent bodies of water with deep pools, locations for haulout, and locations for oviposition.	None. There is no suitable habitat present within the BSA.
Western spadefoot <i>(Speoahammondii)</i>	_/SSC/_	Occurs primarily in grassland habitats. Vernal pools and seasonal drainages are typically used for breeding and egg-laying.	None. There is no suitable habitat present within the BSA.
BIRDS			
California black rail <i>(Laterallus jamaicensis coturniculus)</i>	_/ST, FP/_	Brackish and fresh emergent wetlands with dense vegetation (bulrushes and cattails).	None. There is no suitable habitat within or adjacent to the BSA.
Tricolored blackbird <i>(Agelaius tricolor)</i>	_/ST/_	Colonial nester in large freshwater marshes. Forages in open habitats such as farm fields, pastures, cattle pens, large lawns.	None. Although stands of cattails do exist adjacent to the project, these are too small and separated to be adequate habitat.
Yellow-billed cuckoo <i>(Coccyzus americanus)</i>	T/_/_	Riparian forests with cottonwood and	None. There is no suitable habitat

Common Name <i>(Scientific Name)</i>	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
		willows. Requires a dense understory for nesting	within or adjacent to the BSA.
INSECTS			
Monarch butterfly <i>(Danaus plexippus)</i>	Candidate/_/_	Larval host plants are members of the milkweed family (Asclepidaceae)	None. There is no suitable habitat within or adjacent to the BSA. No milkweed (<i>Asclepias spp.</i>) seen.
Valley elderberry longhorn beetle <i>(Desmocerus californicus dimorphus)</i>	T/_/_	Larval host plant is the elderberry.	None. There is no suitable habitat within or adjacent to the BSA. No elderberry bushes seen.

CODE DESIGNATIONS	
FE or FT = Federally listed as Endangered or Threatened FC = Federal Candidate Species SE or ST = State listed as Endangered or Threatened SC = State Candidate Species SR = State Rare Species SSC = State Species of Special Concern FP = State Fully Protected Species SNC = CDFW Sensitive Natural Community	CNPS California Rare Plant Rank (CRPR): CRPR 1B = Rare or Endangered in California or elsewhere CRPR 2 = Rare or Endangered in California, more common elsewhere CRPR 3 = More information is needed CRPR 4 = Plants with limited distribution 0.1 = Seriously Threatened 0.2 = Fairly Threatened 0.3 = Not very Threatened
<p>Potential for Occurrence: for plants it is considered the potential to occur during the survey period; for birds and bats it is considered the potential to breed, forage, roost, or over-winter in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential occurrence. The categories for the potential for occurrence include:</p> <p>None: The species or natural community is known not to occur, and has no potential to occur in the BSA based on sufficient surveys, the lack of suitable habitat, and/or the BSA is well outside of the known distribution of the species.</p>	

Endangered, Threatened and Rare Plants

No habitat for rare plants was encountered during the October 6, 2021 survey.

Endangered, Threatened Special Status Wildlife

No suitable habitat for wildlife was located during the October 6, 2021 survey.

Migratory Birds and Raptors

Nesting birds are protected under the MBTA (16 USC 703), the CFGC (§3503), and the California Migratory Bird Protection Act (CMBPA, AB 454). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13).

The CFGC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

The CMBPA amends the CFGC (§3513) to mirror the provisions of the MBTA and allow the State of California to enforce the prohibition of take or possession of any migratory nongame bird as designated in the federal MBTA, including incidental take. Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance have the potential to affect bird species protected by the MBTA and the CFGC.

CNDDDB occurrences

The majority of migratory birds and raptors protected under the MBTA and CFGC are not recorded on the CNDDDB because they are abundant and widespread.

Status of migratory birds and raptors occurring in the BSA

There is suitable nesting habitat for a variety of avian species adjacent to the BSA.

REGULATORY FRAMEWORK

The following describes federal, state, and local environmental laws and policies that may be relevant if the BSA were to be developed or modified.

Federal

Federal Endangered Species Act

The United States Congress passed the ESA in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Under the ESA, species may be listed as either “endangered” or “threatened.” Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except non-native species and pest insects, are

eligible for listing as endangered or threatened. The USFWS also maintains a list of “candidate” species. Candidate species are species for which there is enough information to warrant proposing them for listing, but that have not yet been proposed. “Proposed” species are those that have been proposed for listing, but have not yet been listed.

The ESA makes it unlawful to “take” a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

Migratory Bird Treaty Act

The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13).

State of California

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the California Environmental Quality Act (CEQA). The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, “species of special concern” receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Game Code (§3503.5)

The CFGC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

California Migratory Bird Protection Act

The CMBPA amends the CFGC (§3513) to mirror the provisions of the MBTA and allow the State of California to enforce the prohibition of take or possession of any migratory nongame bird as designated in the federal MBTA, including incidental take.

Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance have the potential to affect bird species protected by the MBTA and CFGC. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31). If vegetation removal or grounddisturbing

activities are conducted during the breeding season, then a qualified biologist must determine if there are any nests of bird species protected under the MBTA and CFGC present in the Project area prior to commencement of vegetation removal or ground-disturbing activities. If active nests are located or presumed present, then appropriate avoidance measures (e.g. spatial or temporal buffers) must be implemented.

Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS California Rare Plant Rank (CRPR) plants receive consideration under CEQA review. The CNPS CRPR categorizes plants as follows:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2A: Plants presumed extirpated or extinct in California, but not elsewhere;
- Rank 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and Game Code §1913 exempts from the 'take' prohibition "the removal of endangered or rare native plants from a canal, lateral channel, building site, or road, or other right of way."

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

CONCLUSIONS AND RECOMMENDATIONS

Endangered, Threatened, and Rare Plants

There are no special-status botanical species present within the BSA and no suitable habitat for special status botanical species was identified within the BSA; therefore, there will be no effects to botanical species and no avoidance and minimization measures are proposed.

Endangered, Threatened, and Special-status Wildlife

The following are the recommended minimization and mitigation measures to further reduce or eliminate Project-associated impacts to special-status wildlife species. These proposed measures may be amended or superseded by the Project-specific permits issued by the regulatory agencies.

Migratory Birds and Raptors

To avoid impact to migratory birds and raptors, the following avoidance and minimization measure is proposed:

If the Project is undertaken or continued within nesting season (March 15-July 31), a nesting bird survey by a qualified biologist should be done 48-72 hours prior to trenching and pipe installation.

Wetlands

Although no disturbance to wetland areas within the ditches is planned, care should be taken during activities so that fill or discharge into those wetland areas does not occur.

Appendix A

Species Lists:

Fish and Wildlife Service

California Natural Diversity Database

California Native Plant Society



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

September 29, 2021

Consultation Code: 08ESMF00-2021-SLI-2900

Event Code: 08ESMF00-2021-E-08468

Project Name: Palermo Consolidation Improvements

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2021-SLI-2900

Event Code: Some(08ESMF00-2021-E-08468)

Project Name: Palermo Consolidation Improvements

Project Type: WATER SUPPLY / DELIVERY

Project Description: Installation of new community water supply lines

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.436567350000004,-121.54564152214613,14z>



Counties: Butte County, California

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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

Birds

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

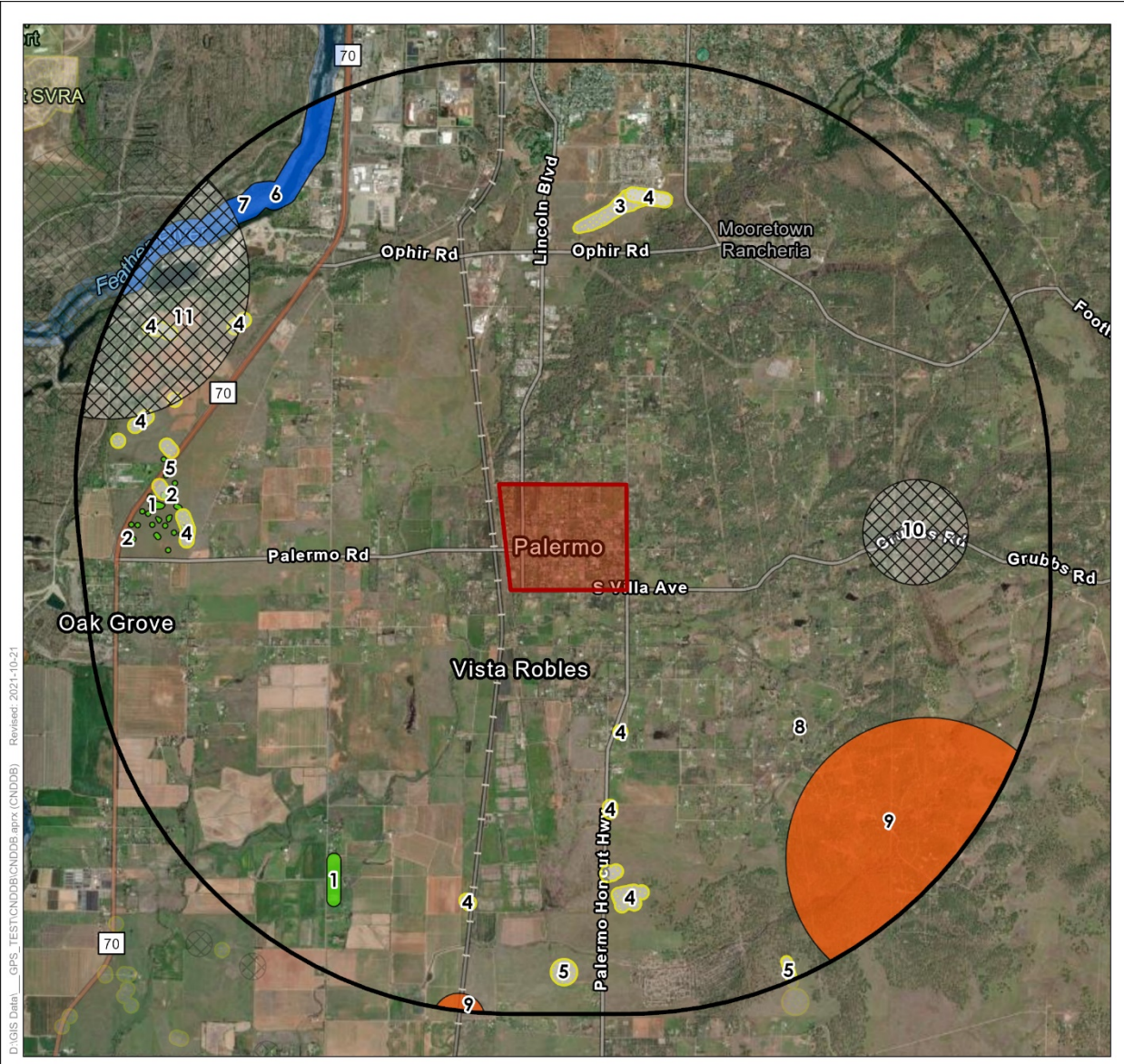
NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Slender Orcutt Grass <i>Orcuttia tenuis</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

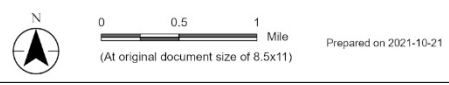


D:\GIS\Data\GPS_TEST\CNDDB\CNDDB.aprx (CNDDB) Revised: 2021-10-21

- Study Area
- 3-mile Buffer of the Study Area
- Taxonomic Group**
- Plants (1-2)
- Crustaceans (3-5)
- Fish (6-7)
- Reptiles (8)
- Amphibians (9)
- Birds (10-11)

Label	Common Name
1	Ahart's dwarf rush
2	slender Orcutt grass
3	California linderiella
4	vernal pool fairy shrimp
5	vernal pool tadpole shrimp
6	chinook salmon - Central Valley spring-run ESU
7	steelhead - Central Valley DPS
8	western pond turtle
9	western spadefoot
10	California black rail
11	tricolored blackbird

Notes
 1. Coordinate System: NAD 1983 (2011) StatePlane California II
 2. Data Sources: CNDDB Sept 2021
 3. Background: World Imagery; Earthstar Geographics
 Hybrid Reference Layer: Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA



CNPS list for Palermo quadrangle

Scientific Name	Common Name	CRPR	CESA	FESA	Blooming Period	Habitat
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	4.2	None	None	Mar- May(Jun)	Chaparral, Cismontane woodland, Valley and foothill grassland, Vernal pools
Juncus leiospermus var. ahartii	Ahart's dwarf rush	1B.2	None	None	Mar-May	Valley and foothill grassland
Orcuttia tenuis	slender Orcutt grass	1B.1	CE	FT	May- Sep(Oct)	Vernal pools
Azollamicrophylla	Mexican mosquito fern	4.2	None	None	Aug	Marshes and swamps
Leptosiphonacicularis	bristly leptosiphon	4.2	None	None	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland
Wolffia brasiliensis	Brazilian watermeal	2B.3	None	None	Apr-Dec	Marshes and swamps

Appendix B

Observed Species List

Scientific Name ¹	Common Name	Family	Nativity	Wetland Indicator Status (Arid West Region) ³
<i>Acmisponamericanus</i> var. <i>americanus</i>	Spanish clover	Fabaceae	Native	UPL
<i>Ailanthus altissima</i>	Tree-of-Heaven	Simaroubaceae	Naturalized	FACU
<i>Airacaryophyllea</i>	Common silver-hair grass	Poaceae	Naturalized	FACU
<i>Albiziajulibrissin</i>	Silk tree, mimosa	Fabaceae	Naturalized	
<i>Alismalanceolatum</i>	Lance-leaf water-plantain	Alismataceae	Naturalized	OBL
<i>Amaranthus retroflexus</i>	Red-root, redroot pigweed	Amaranthaceae	Naturalized	FACU
<i>Artemisia douglasiana</i>	Douglas' wormwood, mugwort	Asteraceae	Native	FAC
<i>Asclepiasfascicularis</i>	Narrow-leaf milkweed	Apocynaceae	Native	FAC
<i>Avenabarbata</i>	Slender wild oat	Poaceae	Naturalized	
<i>Bidensfrondosa</i>	Devil's-pitchfork, sticktight	Asteraceae	Native	FACW
<i>Brassica rapa</i>	Rape, turnip, field mustard	Brassicaceae	Naturalized	FACU
<i>Briza maxima</i>	Rattlesnake grass, large quaking grass	Poaceae	Naturalized	
<i>Bromusdiandrus</i>	Ripgut grass	Poaceae	Naturalized	
<i>Bromushordeaceus</i>	Soft brome, soft chess	Poaceae	Naturalized	FACU
<i>Catalpa bignonioides</i>	Southern catalpa	Bignoniaceae	Naturalized	UPL
<i>Centaurea solstitialis</i>	Yellow star-thistle	Asteraceae	Naturalized	
<i>Centromadiafitchii</i>	Fitch's false tarplant	Asteraceae	Native	FACU
<i>Cichorium intybus</i>	Chicory	Asteraceae	Naturalized	FACU
<i>Croton setigerus</i>	Turkey-mullein, dove weed	Euphorbiaceae	Native	
<i>Cynodondactylon</i>	Bermuda grass	Poaceae	Naturalized	FACU
<i>Cyperuseragrostis</i>	Tall flat sedge, umbrella sedge	Cyperaceae	Native	FACW
<i>Cyperusstrigosus</i>	Straw-color flat sedge, false nutsedge	Cyperaceae	Native	FACW
<i>Elymus caput-medusae</i>	Medusa-head grass	Poaceae	Naturalized	
<i>Erigeron bonariensis</i>	Asthmaweed, flax-leaved horseweed	Asteraceae	Naturalized	FACU
<i>Eriogonum nudum</i> var. <i>pubiflorum</i>	Fremont's wild buckwheat	Polygonaceae	Native	
<i>Eucalyptus camaldulensis</i>	River red gum, red gum	Myrtaceae	Naturalized	FAC
<i>Festuca perennis</i>	Perennial rye grass, Italian ryegrass	Poaceae	Naturalized	FAC
<i>Ficus carica</i>	Common fig, edible fig	Moraceae	Naturalized	FACU
<i>Foeniculum vulgare</i>	Fennel	Apiaceae	Naturalized	
Scientific Name¹	Common Name	Family	Nativity	Wetland Indicator Status (Arid West Region)³

<i>Glyceria ×occidentalis</i>	Western manna grass	Poaceae	Naturalized	
<i>Grindelia hirsutulavar.davyi</i> = <i>G. camporum</i>	Gum plant			
<i>Hordeummarinum</i> subsp. <i>gussoneanum</i>	Seaside barley, Mediterranean barley	Poaceae	Naturalized	FAC
<i>Hordeum murinum</i> subsp. <i>leporinum</i>	Wall barley, hare barley	Poaceae	Naturalized	FACU
<i>Hypochaerisradicata</i>	Hairy cat's-ear, rough cat's-ear	Asteraceae	Naturalized	FACU
<i>Juglans hindsii</i>	Northern California walnut, Northern California black walnut	Juglandaceae	Native	FAC
<i>Lactucaserriola</i>	Prickly wild lettuce	Asteraceae	Naturalized	FACU
<i>Leontodon saxatilis</i>	Lesser hawkbit, hairy hawkbit	Asteraceae	Naturalized	FACU
<i>Ludwigiaeploidessubsp.montevicensis</i>	Floating primrose-willow	Onagraceae	Naturalized	OBL
<i>Malva nicaeensis</i>	Bull mallow	Malvaceae	Naturalized	
<i>Mentha aquatica</i>	Water mint	Lamiaceae	Naturalized	FACW
<i>Muhlenbergiarigens</i>	Deer grass	Poaceae	Native	FAC
<i>Odontostomumhartwegii</i>	Hartweg'sodontotomum	Tecophilaeaceae	Native	
<i>Olea europaea</i>	European olive	Oleaceae	Naturalized	
<i>Paspalumdilatatum</i>	Golden crown grass, dallis grass	Poaceae	Naturalized	FAC
<i>Persicariapunctata</i>	Dotted smartweed	Polygonaceae	Native	OBL
<i>Pinus sabiniana</i>	Gray, ghost, or foothill pine	Pinaceae	Native	
<i>Plantago lanceolata</i>	English plantain	Plantaginaceae	Naturalized	FAC
<i>Polygonum aviculare</i>	Yard knotweed, knotgrass	Polygonaceae	Naturalized	FACW
<i>Populusfremonti</i> subsp. <i>fremontii</i>	Fremont cottonwood	Salicaceae	Native	FAC
<i>Prunus cerasifera</i>	Cherry plum	Rosaceae	Naturalized	
<i>Quercus douglasii</i>	Blue oak	Fagaceae	Native	
<i>Quercus lobata</i>	Valley oak, roble	Fagaceae	Native	FACU
<i>Quercus wislizenivar.wislizeni</i>	Interior live oak	Fagaceae	Native	
<i>Raphanusraphanistrum</i>	Jointed charlock	Brassicaceae	Naturalized	
<i>Rosa californica</i>	California rose	Rosaceae	Native	FAC
<i>Rubusarmeniacus</i>	Himalayan blackberry, Himalayan berry	Rosaceae	Naturalized	FACU
<i>Rumex crispus</i>	Curly dock	Polygonaceae	Naturalized	FAC
<i>Rumexpulcher</i>	Fiddle dock	Polygonaceae	Naturalized	FAC
<i>Rumexsalicifolius</i>	Willow dock	Polygonaceae	Native	FACW
<i>Schoenoplectusacutus</i> var. <i>occidentalis</i>	Hard-stem club-rush, common tule	Cyperaceae	Native	OBL
<i>Setariapumilasubsp.pumila</i>	Yellow bristle grass	Poaceae	Naturalized	FAC
<i>Sorghum halepense</i>	Johnson grass	Poaceae	Naturalized	FACU
<i>Torilis arvensis</i>	Tall sock-destroyer	Apiaceae	Naturalized	
<i>Tribulus terrestris</i>	Puncture vine	Zygophyllaceae	Naturalized	
<i>Trifolium dubium</i>	Suckling clover, little hop clover	Fabaceae	Naturalized	UPL
Scientific Name¹	Common Name	Family	Nativity	Wetland Indicator Status (Arid West)

				Region) ³
<i>Trifolium hirtum</i>	Rose clover	Fabaceae	Naturalized	
<i>Trifolium repens</i>	White clover	Fabaceae	Naturalized	FACU
<i>Typha angustifolia</i>	Narrow-leaf cat-tail	Typhaceae	Native or Naturalized	OBL
<i>Verbena bonariensis</i>	Purple-top vervain	Verbenaceae	Naturalized	FACW
<i>Viciavillosa</i>	Hairy vetch, winter vetch	Fabaceae	Naturalized	
<i>Vinca major</i>	Greater periwinkle	Apocynaceae	Naturalized	
<i>Vitis californica</i>	California grape, California wild grape	Vitaceae	Native	FACU

Wildlife observed during the survey, October 6, 2021, Palermo	
Scientific Name	Common Name
<i>Aphelocoma californica</i>	Scrub jay
<i>Cathartes aura</i>	Turkey vulture
<i>Melospiza melodia</i>	Song sparrow
<i>Mimus polyglottos</i>	Mockingbird
<i>Zenaida macroura</i>	Mourning dove

APPENDIX G

**Cultural Resource Assessment for the
Palermo Clean Water Consolidation Project**

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

A Phase 1 Archaeological Study
Palermo Clean Water Consolidation Project.
Negative Survey
I.C. File # D-21-229

Prepared by: Lori Harrington
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Prepared for:
Inland Ecosystems
Glenn Merron
(775) 786-3223

October 2021

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Summary of Findings

At the request of Inland Ecosystems, A Phase 1 Archaeological Study was prepared for an environmental document in support of Palermo Clean Water Consolidation Project., Palermo, Butte County, California.

The intent of this document is to assist the client in achieving compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act of 1966.

The scope of work consisted of:

1. Reviewing the records search from The Northeast Information Center (NEIC) at Chico State University, Chico, California.
2. Conducting an on-foot surface reconnaissance of the entire project area.
3. Preparing a report summarizing the results of the records search and field phases.
4. Sacred Lands Search and Native American Consultation.

The project is located within a portion of the northwest quarter of Section 5 of Township 18 North, Range 4 East section 5, of the USGS Palermo, California (1970), 7.5 Series Quad, starting at the intersection of Railway and Messina Avenues (see Figure 1).

A records search was performed by the Northeast Information Center (NEIC) at Chico State University, Chico, California on **October 6, 2021**. The results indicated that two previous surveys have been conducted within the project area (839 and 14341). These surveys were negative for resources and no resources have been located within the project area. There are 3 known resources within ¼ of the project area (04-004575, 51-000222, 51-000223) all of which are transmission lines. These resources will not be impacted by the current project.

A pedestrian survey, which entailed the inspection of all land surfaces that can reasonably be expected to contain cultural resource remains without major modification of the land surface, was performed on September 29th, 2021. The ground, was examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, baked clay items, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., metal, glass, ceramics).

Photographs of the current project area, potential features, and items of interest were taken with a digital camera. Locational data was recorded with a handheld Garmin GPS eTrex Venture global positioning system (GPS) unit. In addition, the surrounding neighborhood was reviewed by car to check on the general topography.

The project area consisted of a planned neighborhood and rural farmlands. The intensive pedestrian survey consisted of 3 meter wide transects in an east/west and north/south direction. Ground visibility varied from 100 to 0% visibility due to the heavily built environment.

The results of the pedestrian survey were negative for cultural content. There was no surface evidence of historic or prehistoric sites, features, artifacts or isolates.

Any improvements within the project area will have no adverse impacts on known cultural resources. No additional hindrances affected the results of this survey, and no conditions are placed on the project based on the results of this study.

Should unanticipated cultural resource be encountered during land modification activities, work must cease, and a qualified archaeologist contacted immediately to determine appropriate measures to mitigate any adverse impacts to the discovered resources. If human remains are discovered during construction-related activities notification of the Butte County Coroner is required. If the Butte County Coroner determines that the discovered remains are those of Native American ancestry, then the Native American Heritage Commission must be notified by telephone within 24 hours. Sections 5097.94 and 5097.98 of

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

the Public Resources Code describe the procedures to be followed after the notification of the Native American Heritage Commission.

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

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Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Purpose and Scope of the Project:

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8. Sacred Lands Search and Native American Consultation.

Location and Project Description:

The project is located within a portion of the northwest quarter of Section 5 of Township 18 North, Range 4 East section 5, of the USGS Palermo, California (1970), 7.5 Series Quad, starting at the intersection of Railway and Messina Avenues (see Figure 1).

The Project Area is rural in nature consisting of small homesteads, houses, and farms. The area is highly disturbed by previous road building, housing and utility installation. The current project intends to consolidate the water system of the community of Palermo (groundwater) with the South Feather Water and Power agency (surface water). The project consists of constructing new 6-inch and 12-inch water mains, gate valves, fire hydrants, water services, water meters, water meter boxes, and abandoning existing domestic wells (see Figure 2). The project will connect the residents who are currently on domestic groundwater wells to the South Feather Water and Power agency through the water system improvements project. The project estimates that approximately 40,000 lineal feet (7.6 lineal miles) of new pipes utilized. The pipe will be laid in the existing road right-of-way in previously disturbed soils.

Laws, Ordinances, Regulations, and Standards

Compliance

This cultural resource's analysis is designed to provide compliance with the statutes and regulations of the federal and state governments.

This project is subject to the requirements of the California Environmental Quality Act (CEQA), as amended. CEQA requires consideration of the potential effects of proposed projects on cultural and archaeological resources (State of California Office of Planning and Research, 1992). Guidance for compliance with CEQA is found in various Public Resource Code sections. The California Register of Historical Resources, modeled after the National Register of Historic Places (NRHP), provides a mechanism and criteria for determining the significance of cultural resources. Information for CEQA compliance can be gathered during compliance with Section 106 of the National Historic Preservation Act, described below.

The National Historic Preservation Act of 1966, Section 106 (16 U.S. Code 470), requires federal agencies to consider the effects of their actions, including approval, permitting, and technical assistance on properties that are eligible for, or included in, the NRHP. Historical sites, objects, districts, and historic structures, and cultural landscapes that are eligible for listing on the NRHP are referred to as "historic properties." Section 106 also requires the federal agency to afford the Advisory Council on Historic

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Preservation an opportunity to comment on the agency’s efforts to consider historic properties. The implementing regulations for Section 106, found at 36 CFR 800, describe a process of inventory, evaluation, and consultation that satisfies the federal agency’s requirements. The criteria used for determining the eligibility of cultural resources are found at 36 CFR 60.4.

Standards and Guidance

Federal and State governments offer guidance for the conduct of historic preservation activities. The Secretary of the Interior’s *Standards and Guidelines for Archaeology and Historic Preservation* (1983) establishes standards for the gathering and treatment of data related to cultural resources. Guidance is also offered for compliance with Section 106 through the Advisory Council on Historic Preservation, and Section 110 Guidelines are available through the office of the Secretary of the Interior.

Environment

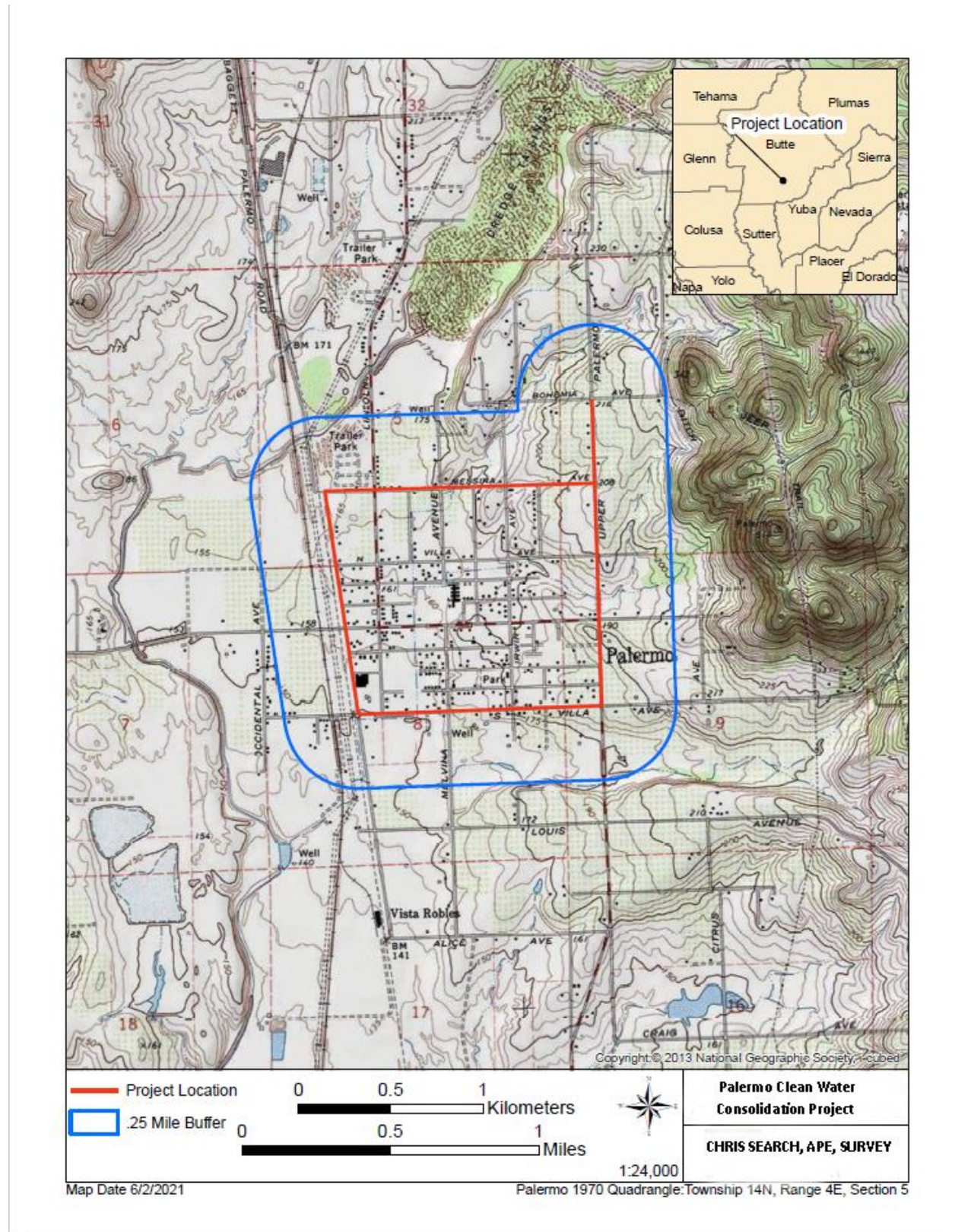
Climate, Vegetation Patterns and Faunal Composition

The project area is located in Oroville which lies within the Sacramento Valley between the Cascade Range and Sierra Nevada Mountain Range to the east and the Coast Range to the west. The climate is characterized by hot, dry summers and mild, wet winters. Chico falls within a climate region with much of the winter precipitation falling as rain instead of snow. Current winter temperatures have highs around 12 degrees Celsius (54 degrees Fahrenheit), and current summer temperatures have highs around 36 degrees Celsius (97 degrees Fahrenheit). When California initially was occupied, the climate was moister and cooler than today’s Mediterranean climate (Major 1988).

Current land uses in the project vicinity include livestock grazing, agricultural croplands, orchards and homesteads. Historically, the vicinity was characterized by vegetation communities that included freshwater marshland in low-lying areas, riparian scrub or forests along drainages, and grasslands in upland areas. Foothills and mountains along the northern portion of the Sacramento Valley also included chaparral, oak woodlands, and mixed coniferous forest. With this mosaic of ecological communities, the area would have provided a very productive environment for its prehistoric occupants, one well suited to a hunting–gathering economy with a variety of water birds, small and large mammals, fish, reptiles, amphibians, and edible plant species.

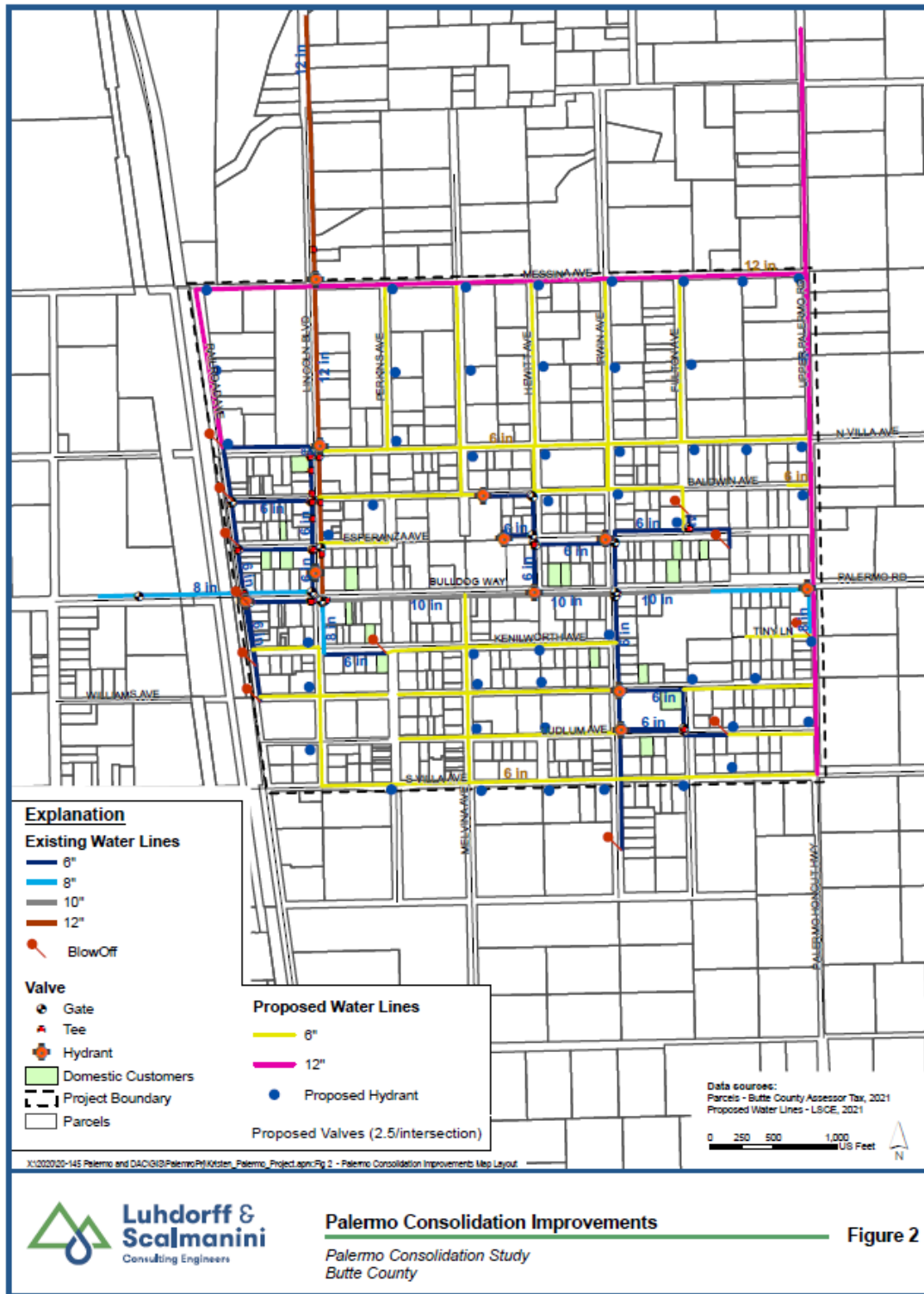
Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Figure 1: Project Location, APE and Survey Map



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Figure 2: Proposed improvements Map



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Ethnography:

The project is located within an area that was historically occupied by the Native American social group called the Konkow (also known as Northwestern Maidu) (Kroeber 1925; Riddell 1978). Konkow is a branch of the Maidu language family and constitutes one of the family's four major languages (along with Maidu proper, Konkow, and Nisenan [Southern Maidu]) (Mithun 2001:455) spoken by peoples of the middle Sacramento River Valley and adjacent Sierra Nevada Mountain foothills. The Maidu language family is part of the Penutian linguistic stock that includes the majority of central Californian tribes (Kroeber 1925:347; Shipley 1978:83).

The Konkow inhabited the lower reaches of the Feather River area west of Richbar, extending southwestward past Honcut Creek and westward nearly to the Sutter Buttes, and including a portion of the Sacramento River drainage extending from about Butte City in the south to Vina in the north. Konkow lands continued east into the Sierra Nevada Mountain foothills between Chico and Oroville and the two river drainages (Riddell 1978:370–372). The Konkow shared their southern border with the Patwin, their southeastern border with the Valley Nisenan, and the northeastern border with the Maidu. Their northern neighbor was the Yana, and their northwestern neighbor was the Nomlaki. Konkow villages along the project segment include Mícupda, 'éskeni, and Utapi south of Chico; Wabusi, Botok, and Taichida just north of the Yuba River; and Hincho at the Yuba River (Riddell 1978:370–371).

Political organization of the Konkow was limited to a settlement pattern of village communities (Kroeber 1925:397–398; Riddell 1978:373). A central village housed a circular, semisubterranean ceremonial assembly structure and the home of the community spokesman. A community was composed of three to five villages, and the villages apparently were self-sufficient. Kroeber (1925:397) estimated village population at less than 200. Houses were either semisubterranean or conical bark structures.

The locations of Konkow settlements depended primarily on elevation, exposure, and proximity to water and other natural resources (Dixon 1905:175; Riddell 1978:371, 373). Permanent villages were usually on ridges above major watercourses. Ridge-crest flats or midslope terraces were generally the preferred village settings. The villages were inhabited mainly in the winter months, since spring, summer, and fall were the prime seasons for hunting and gathering resources in nearby foothills and higher elevations. The Konkow erected brush shelters close to their hunting and gathering sites (Riddell 1978:376).

The fundamental economy of the Konkow was one of subsistence hunting, fishing, and collecting plant foods in an area where abundant natural resources varied seasonally (Riddell 1978:373–374). Acorns were a dietary staple and were collected from oak groves at lower elevations. Oak varieties in the area included black oak (*Quercus kelloggii*), canyon or golden oak (*Q. chrysolepis*), and interior live oak (*Q. wislizenii*). The Konkow gathered nuts from digger pine (*Pinus sabiniana*) and ate them raw or ground into flour. Other vegetal resources included hazelnuts, buckeye nuts, wild nutmeg, grass seeds, berries, and underground bulbs and roots, including camas, cattail, and tule roots. The Konkow also ate salmon, eel, birds, waterfowl, grasshoppers, other insects, and large and small mammals. Deer and elk were among the large animals hunted.

To gather and collect food resources, the Konkow used a wide variety of tools, implements, and enclosures. These included (1) bows and arrows, traps, nets, slings, snares, clubs, and blinds for hunting land mammals and birds, and (2) salmon gigs, traps, and nets for catching fish. During communal hunts, deer were driven over cliffs or shot by concealed hunters. Woven tools—seed beaters, burden baskets, and carrying nets—and sharpened digging sticks were used to collect plant resources. Unlike the neighboring Maidu and Nisenan, Konkow did not use watercraft since the swift river waters within their territory were not navigable. They traded with neighboring groups for salmon and pine nuts (Riddell 1978:373–380).

The Konkow processed food resources with a variety of tools, including portable stone mortars, bedrock mortars and pestles, anvils, woven strainers and winnowers, leaching baskets and bowls, storage baskets, woven parching trays, wooden mortars, and knives. Baskets were made using a simple twining technique.

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The Konkow also traded with neighboring groups for various resources and implements, including shell beads, obsidian, and abalone shell used for ornaments.

Religious beliefs included practice of the Kuksu cult, primarily a ceremonial and dance organization. The leader of the cult was a powerful shaman. Log drums, rattles, flutes, and whistles accompanied the ceremonial dances. Mortuary practices included flexed burials, generally facing west, that were accompanied by grave offerings. The goods and property of the deceased were burned during an annual mourning ceremony (Riddell 1978:381–384).

Before construction of the extensive modern levee and dam system that turned the Sacramento Valley into an inland sea, the Sutter Buttes, approximately three miles west of the Chico to Wheatland segment, was an island refuge for indigenous Californians (California State Parks 2005). The Maidu Indians (including the Northwest Maidu, or Konkow) called the Buttes Histum Yani, which translates as “Middle Mountains of the Valley” or “Spirit Mountain.” An important part of their religious tenets, the Maidu believed that the spirits of their dead rested in the Buttes before the journey to the afterlife.

Prior to the discovery of gold in 1848 at Sutter’s Mill near Coloma on the American River, Konkow lifeways were little affected by exploration into their territory by Spanish explorers and American trappers. The great epidemic that swept the Sacramento Valley in 1833, however, followed by thousands of gold seekers, combined to decimate the Konkow. The results were devastating and included the loss of land and territory (including traditional hunting and gathering locales), violence, malnutrition, and starvation. Local survivors were hired by the miners and later worked as laborers on Euro-American ranches and farms.

In 1850, the Konkow signed a treaty that gave them only a portion of their traditional lands. Some of the people then were moved to a reservation at Nome Lackee in 1855. In 1863, the Konkow were marched forcibly to the Round Valley Reservation, with few provisions or water over the two-week, hot, dry trek. By 1910, a reduced Konkow population was estimated at 450 individuals, down from more than 3,000 prior to contact (Kroeber 1925; Riddell 1978:385–386). Today, there are more than 2,500 Maidu people, including the Maidu of Plumas and Lassen Counties, the Konkow of Butte and Yuba Counties, and the Nisenan of El Dorado, Nevada, Placer, Sacramento, and Yuba Counties; these people live primarily on the rancherias of Auburn, Berry Creek, Chico, Enterprise, Greenville, Mooretown, and Susanville, as well as on the Round Valley Reservation (White 2005). Berry Creek, Chico, Enterprise, and Mooretown Rancherias, with a combined population of 2,080, are within Konkow traditional territory (CIAP 2003:64, 92, 119).

Prehistory:

Little was known of the archaeology of the Sacramento Valley until the 1950s, when intensive fieldwork was conducted in association with federal and state water projects. As a result of this fieldwork, a sequence of cultural patterns was defined for the area.

Occupation in the Sacramento Valley during the Prehistoric Period is estimated to have occurred as early as 12,000 years ago, but only a few archaeological sites have been identified that predate 5,000 years ago. It is possible that Holocene alluvial deposits buried many prehistoric sites in this area. For example, Moratto (1984:214) has estimated that as much as 10 meters of sediment accumulated along the lower stretch of the Sacramento River drainage system during the last 5,000–6,000 years.

Prehistoric material culture in central California (including the Sacramento Valley) subsequent to the Paleoindian Period has been categorized according to “horizons” or “patterns” that define broad technological, economic, social, and ideological elements over long periods of time and large areas. The taxonomic system historically used for central California is a tripartite classification scheme with Early, Middle, and Late Horizons. This Central California Taxonomic System (CCTS) was the result of efforts of a number of researchers (e.g., Beardsley 1954; Heizer 1949) and was developed further after the advent of radiocarbon dating (Fredrickson 1973, 1974; Heizer 1958; Ragir 1972).

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Today, a series of generalized periods associated with regionally based “patterns” typically are used as part of the CCTS for the Sacramento Delta area, San Francisco Bay area, and North Coast ranges (Bennyhoff and Fredrickson 1969; Fredrickson 1973, 1974). Smaller units of patterns are referred to as “aspects” and “phases,” which emphasize more local features. Revisions of the widely accepted CCTS (Bennyhoff 1994; Fredrickson 1994a, b) are found in a recent volume edited by Hughes (1994).

Fredrickson (1973, 1974) defined several regionally based patterns, three of which are specific to Central Valley prehistory and the current project area. Referred to as the Windmill Pattern, Berkeley Pattern, and Augustine Pattern, each represents a general pattern of resource exploitation, as identified between 2500 B.C. and the beginning of Euro-American contact in the early 1800s. The Windmill Pattern was first identified at the Windmill site (CA-SAC-107) near the Cosumnes River in Sacramento County; the Berkeley Pattern initially identified in the San Francisco Bay area; and the Augustine Pattern at the Augustine site (CA-SAC-127) in the Sacramento–San Joaquin Delta. These patterns are present within the following periods: Middle Archaic Period/Windmill Pattern (formerly Early Horizon), Upper Archaic Period/Berkeley Pattern (formerly Middle Horizon), and Emergent Period/Augustine Pattern (formerly Late Horizon).

Windmill Pattern (2500–500 B.C.)

Clearly documented evidence for human occupation in the general area is found at sites characteristic of the Windmill Pattern during the Middle Archaic Period. These sites date to as early as 4,500 years ago and as late as 2,500 years ago (2500–500 B.C.). Such sites often contain manos and metates (grinding stones), as well as many mortar fragments, indicating that acorns and/or various seeds formed an important part of the diet (Moratto 1984:201).

In addition to plant foods, the subsistence system included many other food resources, such as deer, elk, pronghorn, rabbits, and waterfowl. Numerous faunal remains have been documented at Windmill Pattern sites, along with large quantities of projectile points. Also, the presence of angling hooks and baked clay artifacts possibly used as net or line sinkers, along with the remains of sturgeon, salmon, and smaller fishes, indicate that fishing was an additional source of food (Fredrickson 1973; Heizer 1949; Ragir 1972). Items made of baked clay included net sinkers, pipes, and discoids, as well as cooking “stones.” Ground and polished charmstones, impressions of twined basketry, shell beads, and bone tools, also have been found at Windmill Pattern sites. Some items, such as shell beads, obsidian tools, and quartz crystals, were obtained by trade.

The archaeological record during the Windmill period indicates people practiced a mixed procurement strategy of both game and wild plants, with the addition of acorns and/or seeds. The mixed exploitation of a wide range of natural resources ties into a seasonal foraging strategy. Populations likely occupied the lower elevations of the Sacramento Valley in the winter months and shifted to higher elevations during the summer (Moratto 1984:206). Mortuary practices included burials, accompanied by grave goods, in cemeteries that were separate from the habitation sites.

Berkeley Pattern (500 B.C.–A.D. 500)

Over a 1,000-year period, the Windmill Pattern began to shift to the more specialized adaptive Berkeley Pattern during the Upper Archaic Period. A shift to a greater reliance on acorns as a dietary staple is interpreted during the Berkeley Pattern from the increase in mortars and pestles, along with a decrease in manos and metates. Mortars and pestles are better suited to crushing and grinding acorns, while manos and metates were used primarily for grinding wild grass grains and seeds (Moratto 1984:209–210).

As demonstrated by the artifact assemblage, hunting remained an important aspect of food procurement during the Berkeley Pattern (Fredrickson 1973:125–126). The archaeological record, which consists of numerous large shell midden/mounds, also demonstrates that the majority of Berkeley Pattern sites located near, or in the vicinity of, water (both fresh and salt) made intensive use of aquatic resources. The artifact assemblage also includes shell beads and ornaments, as well as numerous types of bone tools.

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Interment continues to dominate mortuary practices, but a few cremations are also found at Berkeley Pattern sites.

Artifact assemblages and radiocarbon dating of sites from this period suggest this subsistence pattern may have developed in the San Francisco Bay region and later spread to surrounding coastal locales and into central California. Moratto (1984:207–211) suggests that pattern is related to the expansion of Eastern Miwok populations from the San Francisco Bay area to the Sacramento Valley and Sierra foothills.

Augustine Pattern (A.D. 500–Historic Contact)

The Augustine Pattern is evidenced by a number of changes in subsistence, foraging, and land use patterns that begin to reflect the use pattern known from historic period Native American groups in the area. A substantial increase in the intensity of subsistence exploitation, including fishing, hunting, and gathering (particularly the acorn), evidenced in the archaeological record correlates directly with population growth (Moratto 1984:211–214).

Tools and cooking implements included shaped mortars and pestles, hopper mortars, bone awls used for producing coiled baskets, and the bow and arrow. Pottery vessels, known as Cosumnes Brownware, are found in some parts of the Central Valley, and most likely developed during this period from the prior baked clay industry.

During this period, an increase in sedentism led to the development of social stratification, accompanied by a shift to elaborate ceremonial and social organization. Exchange networks, with the use of clamshell disk beads as currency, also developed during the Augustine Pattern. Mortuary practices during this period included flexed burials and pre-interment burning of offerings in a grave pit, as well as cremation of high-status individuals (Fredrickson 1973:127–129; Moratto 1984:211). Additional items of material culture included flanged tubular pipes, harpoons, and small Gunther barbed series projectile points. The Augustine Pattern may represent the southward expansion of Wintu populations (Moratto 1984:211–214).

Historic:

Post-contact history for the state of California generally is divided into three specific periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present) (Grunsky 1989; Schuyler 1978). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the Spanish Period in California begins in 1769 with a settlement at San Diego and the first (Mission San Diego de Alcalá) of 21 missions established between 1769 and 1823. The Mexican Period begins with independence from Spain and is marked by an extensive era of land grants, most of which were in the interior of the state, and by exploration by American fur trappers west of the Sierra Nevada Mountains.

The signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, is the start of the American Period when California and several other western states became a territory of the United States (Grunsky 1989; Schuyler 1978). The discovery of gold in 1848 at Sutter's Mill near Sacramento and the resulting Gold Rush era influenced the history of the state and the nation. The rush of tens of thousands of people to the gold fields also had a devastating impact on the lives of indigenous Californians, with the introduction and concentration of diseases, the loss of land and territory (including traditional hunting and gathering locales), violence, malnutrition, and starvation (Castillo 1978:107–113; Cook 1978:98). Thousands of settlers and immigrants continued to pour into the state, particularly after the completion of the transcontinental railroad in 1869.

Spanish Period (1769–1822)

The first Spanish settlement in California was established in 1769 by Gaspar de Portolá in San Diego. With Friar Junípera Serra, Portolá also founded the first (Mission San Diego de Alcalá) of 21 missions that would be built by the Spanish and the Franciscan Order between 1769 and 1823. Portolá continued

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north and reached San Francisco Bay on October 31, 1769. Later Spanish expeditions, Pedro Fages in 1772 and Juan Bautista De Anza in 1776, explored the land east of San Francisco Bay (Grunsky 1989:2–3). Seeking sites for a mission (Fages) or a presidio and mission (De Anza), these explorers noted the vast plains that lay to the east of the Bay area.

Spanish Lieutenant Gabriel Moraga led the first expedition into the Sacramento Valley in 1808. Traveling northward along the Sacramento River, this expedition was seeking sites for new missions and also searching for runaway Indian neophytes from the coastal missions. Moraga’s expedition explored parts of the American, Calaveras, Cosumnes, Feather, Mokelumne, and Stanislaus Rivers to the north, and also traveled south as far as the Merced River. The final Spanish expedition into the California interior was led by Luis Arguello in 1817. Before returning to the coast, he traveled northward up the Sacramento River to the mouth of the Feather River, passing by the future site of the City of Sacramento (Beck and Haase 1974:18, 20; Grunsky 1989:3–4).

The final and northernmost Spanish mission (San Francisco Solano de Sonoma) was founded in 1823 by Padre Jose Altimira in the Sonoma Valley. This site, today’s town of Sonoma, was chosen by the Spanish in their effort to deter movement by the Russians into the interior lands north of San Francisco. By 1812, the Russians had already established a settlement at Fort Ross, on the coast approximately 70 miles from San Francisco.

Mexican Period (1822–1848)

Extensive land grants to Mexican citizens in California (Californios) were established in the interior during the Mexican Period, in part to increase the population away from the more settled coastal areas where the Spanish had concentrated their colonization efforts. At the same time, the influence of the California missions waned in the late 1820s through the early 1830s. This decline resulted from a combination of outside events and pressures, including increasing hostilities between missionaries and local civilians who demanded mission lands, decimation of the Native American population by introduced diseases, and the influence of private traders in the hide and tallow industry.

Following adoption of the Secularization Act of 1833, the Mexican government privatized most Franciscan lands, including holdings of their California missions. By 1836, this sweeping process effectively reduced the California missions to parish churches and released their vast landholdings. Although earlier secularization schemes had called for redistribution of lands to Native American neophytes who were responsible for construction of the mission empire, the vast mission lands and livestock holdings were instead redistributed by the Mexican government through several hundred land grants to private, non–Native American ranchers (Langum 1987:15–18). The private Mexican citizens who received the land and their holdings subsequently released their neophyte “workers” to fend for themselves.

With the opening by Mexico of California to Americans, fur trappers (also known as “mountain men”) started exploring the area west of the Sierra Nevada Range. Jedediah Smith was the first trapper to enter California. His small party trapped and explored along the Sierra Nevada Range in 1826, and entered the Sacramento Valley in 1827. They traveled along American and Cosumnes rivers, and camped near the Rosemont section of today’s Sacramento and near Wilton. Maps of the Sacramento Valley were created and circulated in the 1830s as an outcome of the explorations by Smith and other trappers (Grunsky 1989:9–11).

Another outcome of exploration of the Sacramento Valley by American trappers or settlement by the local Mexican population was the introduction of diseases, from which large numbers of the indigenous population died between 1830 and 1833. Records indicate that whole tribes along the American, Merced, Tuolumne, and Yuba rivers were exterminated (Cook 1955). Native Americans had no immunity from

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introduced foreign diseases that accompanied exploration and settlement by foreign groups. A second epidemic further decimated the indigenous population the Sacramento Valley in 1837.

Beginning in 1833, a number of land grants were issued in the Sacramento region. John Rogers Cooper, a British sea captain who married into an established Californio family, received the first grant (Grunsky 1989:14). The two largest land grants in the Sacramento Valley were awarded to John Augustus Sutter. He founded a trading and agricultural empire, called New Helvetia, in 1839. Sutter's Fort was established as the headquarters of this enterprise. Sutter's Fort, a National Historical Landmark, was situated near the divergence of the Sacramento and American Rivers within the boundaries of today's City of Sacramento.

American Period (1848–Present)

In 1848 California became a territory of the United States under the Treaty of Guadalupe Hidalgo, and the discovery of gold on January 14th by John Marshall near Coloma on the American River was followed by a vast influx of immigrants. This discovery in El Dorado County at Sutter's Mill—now a California Historical Landmark within Marshall Gold Discovery State Historic Park—was soon acknowledged worldwide. Within a year, nearly 90,000 people had traveled to the gold fields by land or sea, drawn by the tales of easy pickings and large nuggets. The bustling Gold Rush boomtown of Sacramento was established on a portion of Sutter's Mexican land grant. In 1850, California became the 31st state, largely as a result of the Gold Rush. The City of Sacramento was incorporated the same year, and became the state capital in 1854.

The Gold Rush resulted in a vast population increase, with the population of the state exceeding 300,000 by 1853. It also resulted in an economic boon, particularly for the new port city of Sacramento, as well as San Francisco and Stockton. After Sutter began a steamer service, Sacramento began its history as a river transportation hub and landward destination for freight and riverboat passengers traveling up the Sacramento River from San Francisco. With its central location to the foothill mining district, Sacramento had 12 stage lines by 1853, and was the westernmost point of the Pony Express, which operated between 1860 and 1861 (Beck and Haase 1974:51, 53, 68). This thriving city survived several early devastating fires and floods; it was flooded so many times that its buildings were raised 12 feet. The first California railroad, the Sacramento Valley Railroad, began operations in 1856 and ran 23 miles from Sacramento east to Folsom.

After the completion of the transcontinental railroad in 1869, thousands of immigrants and settlers poured into the state. California was rapidly becoming a national leader in the production of agricultural products. Today's economy of both the Sacramento and San Joaquin Valleys is largely based on agriculture. The fertile soils of the vast Central Valley combined with the construction of irrigation canals promoted this burgeoning agro-business during the second half of the nineteenth century. Products include fruits, nuts, vegetables, grapes and wine from the vineyards introduced early in the Spanish and Mexican periods, hay, cotton, rice, and barley, as well as livestock (cattle and sheep).

The dominant industry in the Sacramento area became agriculture and livestock (sheep, beef, and dairy cattle) production. Rice, hay, vegetables, fruits, and nuts were the primary agricultural products and in turn, these promoted the growth of food-processing plants in Sacramento and nearby Yolo County. By the 1940s, Sacramento County was chosen for the location of several military installations (Mather and McClellan Air Force bases), not far from downtown Sacramento. By the 1950s, some of the leading aerospace industries in the state of California had also located in this region.

Butte County

The earliest accounts by non-native people in Butte County are from employees of the Hudson's Bay Company, who hunted and trapped the area in the 1830s (Garth 1978:243) Butte County is one of California's original 27 counties, founded in February 1850. The county seat settled at Oroville in 1856, after initially being established at Hamilton and then Bidwell's Bar. The county, like many others in this area, was the site of extensive gold mining activity, especially along the Feather River in the southeastern

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part of the county (Marschner 2001:210). The town of Chico is the site of extensive agricultural farmlands and the location of California State University at Chico.

Local History

European settlement of the Oroville area began when gold was discovered in 1849. By 1856 Oroville had grown into an incorporated city of more than 4,000 people making it the fifth largest town in California (McGie, 1982). During the 1850's, Oroville developed into a typical Gold Rush boomtown, complete with a main street surrounded by miners' cabins and tents. By the end of the 1850, with the easily extracted placer deposits were largely exhausted, Oroville economy shifted towards agriculture.

During the late 19th century wheat, citrus and olive production became important as miners settled down with their families to farm. Wheat became the predominant agricultural commodity grown in the Oroville area especially during the 1860s when the Civil War disrupted wheat supplies in the eastern states. With the completion of a ferry crossing in 1852, a gristmill in 1858, and a railroad line from Marysville to Oroville in 1864, Oroville became a significant trading point for grain growers in the area.

During the 1890s, with the development of river dredging, mining again became an important industry for Oroville. Gold dredging along the Feather River transformed Oroville into the "mother dredging field of the state" (Mansfield, 1918:328). From 1898 to 1916, Butte County was one of the most important gold-producing counties in California (McGie 1982). By 1916, the placer deposits started to deplete and by 1930, dredging companies no longer found it possible to continue operations and moved from the Oroville area.

Palermo

The town was named after Palermo, Sicily due to its excellent climate for growing olives. The first post office was established in 1888. The area was home to a country club, two railroad stations, gold mining, a brick yard, library, general mercantile store, school and even a semi-pro baseball team. The rich clay soil attracted the planting of olive and orange orchards and a thriving zucca melon industry. Mining magnate George Hearst purchased 700 acres in 1888, and then subdivided. (Durham, 1998:289).

Background Research

Record Search:

A records search was performed by the Northeast Information Center (NEIC) at Chico State University, Chico, California on **October 6, 2021**. The results indicated that two previous surveys have been conducted within the project area (839 and 14341). These surveys were negative for resources and no resources have been located within the project area. There are 3 known resources within ¼ of the project area (04-004575, 51-000222, 51-000223) all of which are transmission lines. These resources will not be impacted by the current project.

Native American Consultation

In conjunction with the records search for the present project, the Native American Heritage Commission (NAHC) was contacted regarding Sacred Land Listings. The NAHC indicated that there are no Sacred Land listings for the project area or adjacent lands (response dated June 9, 2021 copy attached). The contact list from the Native American Heritage Commission included the following individuals and groups, all of whom were contacted and requested to supply any information they might have concerning prehistoric sites or traditional use areas within the project area (see attached letter Appendix B):

To date, one response has been received from Creig Marcus, Tribal Administrator for the Estome Yumeka Tribe of the Enterprise Rancheria who stated "*...Thank you for the notification. After a thorough examination of the project and discussions with our cultural site monitor, we have determined that this project is in the aboriginal territory of the Estom Yumeka Maidu Tribe. Our records search failed to*

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locate any known cultural sites within the project boundaries. However, the Tribe retains the right to consult should any post review discoveries be made.” (See Appendix B for additional information).

Field Reconnaissance Methodology:

A pedestrian survey, which entails the inspection of all land surfaces that can reasonably be expected to contain cultural resource remains without major modification of the land surface, was performed on September 29, 2021.

Crew:

The crew consisted of Principal Investigator, **Lori Harrington** who has a MA in Anthropology from California State University Hayward (CSEB); 20 years of professional experience in California archaeology; certification by the Register of Professional Archaeologists [RPA], and Meets NPS Standards & Guidelines for Archaeology.

Methodology:

The ground, was examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, baked clay items, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., metal, glass, ceramics).

Photographs of the current project area, potential features, and items of interest were taken with a digital camera. Locational data was recorded with a handheld Garmin GPS eTrex Venture global positioning system (GPS) unit. In addition, the surrounding neighborhood was reviewed by car to check on the general topography.

The project area consisted of planned neighborhood and rural farmlands. The intensive pedestrian survey consisted of 3 meter wide transects in an east/west and north/south direction. Ground visibility varied from 100 to 0% visibility due to the heavily built environment.

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Photo 1: Start of project area Railway and Messina Ave.



Photo 2: General neighbor looking north



Photo 3: General vegetation adjacent to the project area.



Photo 4: Average Ranch style home adjacent to the project area

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Photo 5: New home development adjacent to the project area.



Photo 6: Typical small farming operations adjacent to the project area.

Results:

The pedestrian survey was negative for cultural content. There was no surface evidence of historic or prehistoric sites, features, artifacts or isolates.

Potential for Subsurface Archaeological Deposits

The project area has undergone extensive disruption due to grading and construction activities. The potential for subsurface deposits being encountered at a depth of 48 inches or less is very unlikely. Cultural sensitivity for this project area is considered *low*.

Recommendations:

Any improvements within the project area will have no adverse impacts on known cultural resources. No additional hindrances affected the results of this survey, and no conditions are placed on the project based on the results of this study. Should unanticipated cultural resource be encountered during land modification activities, work must cease, and a qualified archaeologist contacted immediately to determine appropriate measures to mitigate any adverse impacts to the discovered resources. If human remains are discovered during construction-related activities notification of the Butte County Coroner is required. If the Butte County Coroner determines that the discovered remains are those of Native American ancestry, then the Native American Heritage Commission must be notified by telephone within 24 hours. Sections 5097.94 and 5097.98 of the Public Resources Code describe the procedures to be followed after the notification of the Native American Heritage Commission.

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1978 Maidu and Konkow. In California, edited by Robert F. Heizer, pp. 370–386. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

2002 The Status of San Joaquin Valley Archaeology. In Essays in California Archaeology: A Memorial to Franklin Fenenga, edited by William J. Wallace and Francis A. Riddell, pp. 55-61. University of California Archaeological Research Facility, Contribution Number 60. Berkeley.

Riddell, Francis A., and William H. Olsen

1969 An Early Man Site in the San Joaquin Valley, California. American Antiquity 34(2): 121–130.

White, Phillip M.

2005 California Indians and Their Reservations: An Online Dictionary. Electronic document, <http://infodome.sdsu.edu/research/guides/calindians/calinddictqs.shtml#s>, accessed July 8, 2006.

Wilson, N., and A. Towne

1978 Nisenan. In Handbook of the North American Indians, Volume 8, California, R.F. Heizer, editor. Smithsonian Institution, Washington D.C.

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Wilson, Norman L., and Arlean H. Towne

1978 Nisenan. In California, edited by Robert F. Heizer, pp. 387-397. Handbook of North American

Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Appendix A (Record Search)

Confidential Information

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Northeast Center of the
California Historical Resources
Information System

BUTTE
GLENN
LASSEN
MODOC
PLUMAS
SHASTA

SIERRA
SISKIYOU
SUTTER
TEHAMA
TRINITY

1074 East Avenue, Suite F
Chico CA 95973
Phone (530) 898-6256
neinfocntr@csuchico.edu

October 6, 2021

Cultural Research Associates
295 E. 8th Street
Chico, CA 95928
Attn: Lori Harrington

IC File # D21-229
Priority Records Search

RE: Palermo Ground Water
T18N, R4E, Section 35 MDBM
USGS Palermo 7.5' (1970) & Gridley 15' (1952) quadrangle maps
427 acres (Butte County)

Dear Ms. Harrington,

In response to your request, a records search for the project cited above was conducted by examining the official maps and records for cultural resources and reports in Butte County. Please note, the search includes the requested ¼-mile radius surrounding the project area.

RESULTS:

Resources within project area:	There are no resources located in the project area.
Resources within ¼-mile radius:	04-004575, 51-000222, 51-000223
Reports within project area:	839, 14341
Reports within ¼-mile radius:	There are no reports located in the ¼-mile vicinity.

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

As indicated on your data request form, the locations of resources and reports are provided in the following format: Custom Maps GIS Data

<u>Resource Database Printout (list):</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Resource Database Printout (details):</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Resource Digital Database Records:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Report Database Printout (list):</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Report Database Printout (details):</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Report Digital Database Records:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Other Reports: *</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Resource Record Copies:</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Report Copies:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Built Environment Resources Directory:</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Archaeological Determinations of Eligibility:</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>CA Inventory of Historic Resources (1976):</u>	<input type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input checked="" type="checkbox"/> nothing listed
<u>Caltrans Bridge Survey:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Ethnographic Information:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Historical Literature:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Historical Maps:</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Local Inventories:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>GLO and/or Rancho Plat Maps:</u>	<input checked="" type="checkbox"/> enclosed	<input type="checkbox"/> not requested	<input type="checkbox"/> nothing listed
<u>Shipwreck Inventory:</u>	<input type="checkbox"/> enclosed	<input checked="" type="checkbox"/> not requested	<input type="checkbox"/> nothing listed

Notes: *These are classified as studies that are missing maps or do not have a field work component.

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if it is for public distribution.

The provision of California Historical Resources Information System (CHRIS) Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation (OHP), or the State Historical Resources Commission.

Due to processing delays and other factors, it is possible that not all of the historical resource reports and resource records that have been submitted to the OHP are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

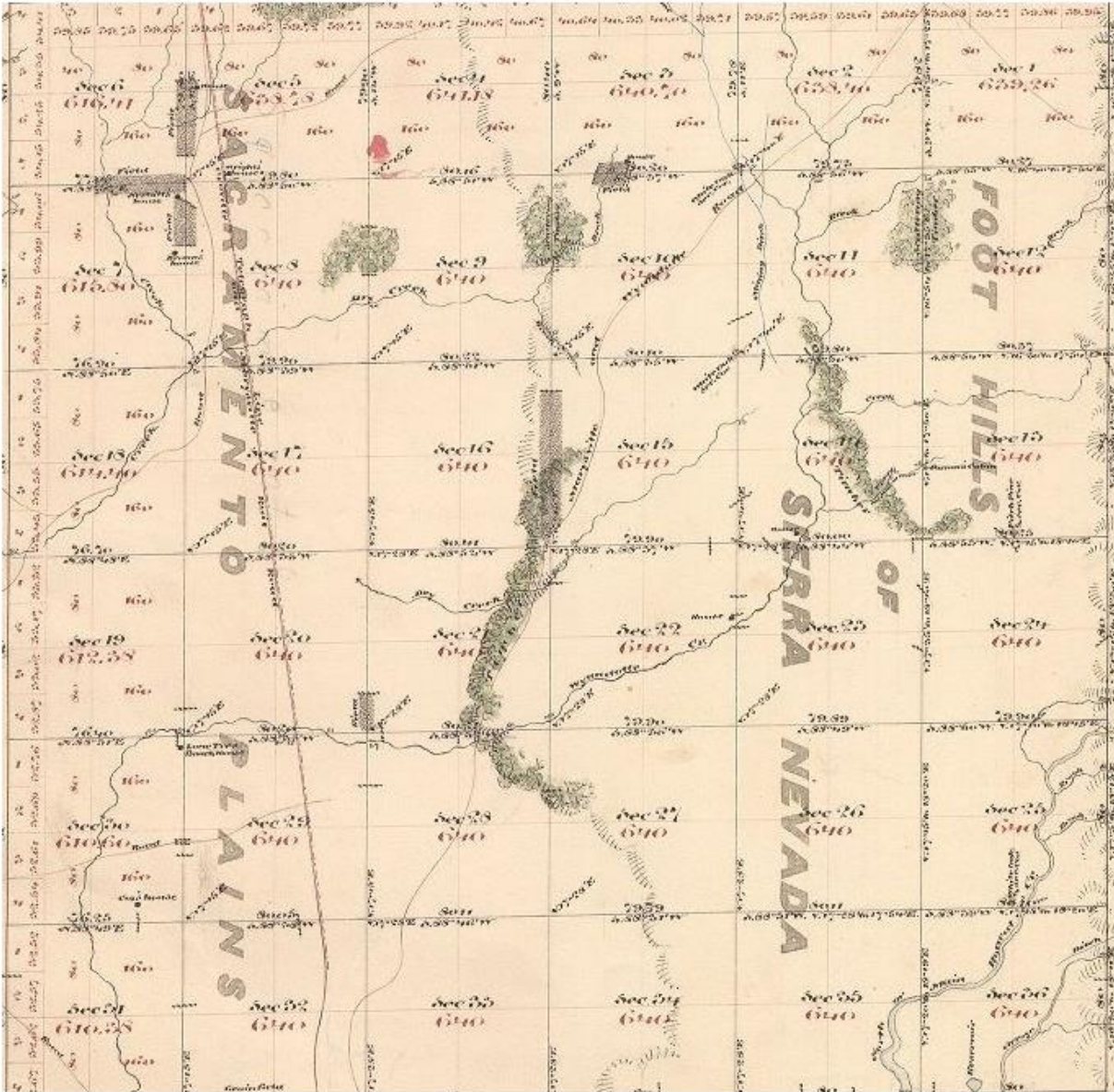
An invoice will follow from Chico State Enterprises for billing purposes. Thank you for your concern in preserving California's cultural heritage, and please feel free to contact us if you have any questions or need any further information.

Sincerely,

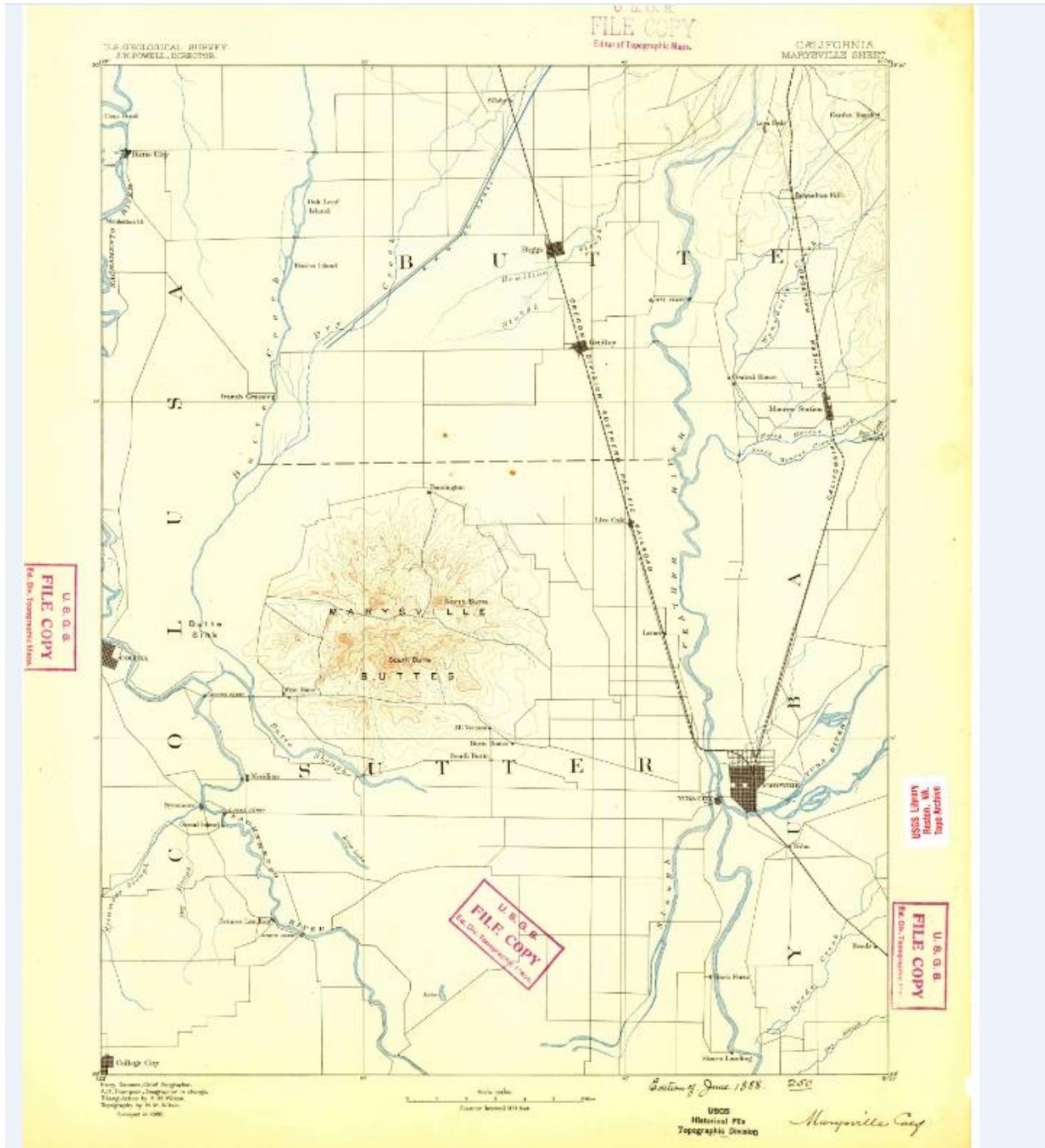
Ashlyn Weaver

Ashlyn Weaver
Assistant Coordinator
Northeast Information Center
(530) 898-6256

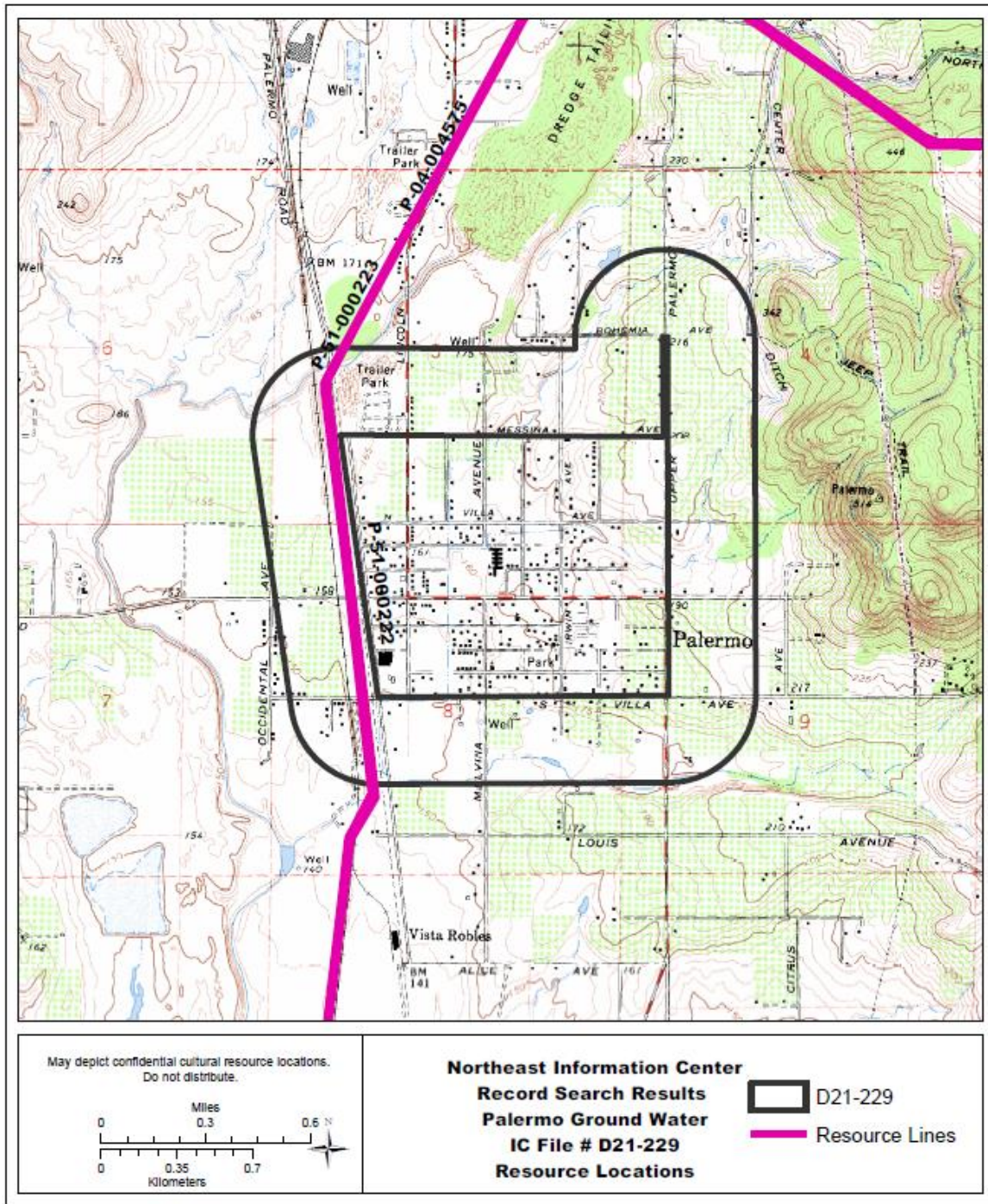
Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

State of California - The Resources Agency DEPARTMENT OF PARKS AND RECREATION PRIMARY RECORD	Primary # 04-004575 HRI # _____ Trinomial _____ NRHP Status Code _____
Other Listings _____ Review Code _____	Reviewer _____ Date _____

Page 1 of 39 *Resource Name or #: (Assigned by recorder) Caribou-Valona Transmission Line (FS 05115000006)

P1. Other Identifier: Caribou-Palermo 115 kV, Paradise-Table Mountain 115 kV, Palermo-Wyandotte 115kV, Palermo-Pease 115 kV, Pease-Rio Oso 115 kV, Rio Oso-West Sacramento 115 kV, Brighton-Davis 115 kV, Brighton-Davis 115 kV (idle), Vaca-Suisun-Jamison 115 kV, Ignacio-Mare Island No.1 115 kV, and Oleum-G No.1 & No.2 115 kV

*P2. Location: Not for Publication Unrestricted *a. County Plumas, Butte, Yuba, Sutter, Sacramento, Yolo, Solano, Napa, Marin, Sonoma, Contra Costa

*b. USGS 7.5' Quad Caribou (1979); Belden (1991); Storrie (1979); Pulga (1957); Berry Creek (1994); Cherokee (1994); Oroville (1970); Palermo (1970); Honcut (1952); Yuba City (1952); Sutter (1952); Paradise East (1994); Hamlin Canyon (1951); Shippee (1948); Olivehurst (1952); Nicolaus (1952); Sheridan (1953); Verona (1967); Pleasant Grove (1967); Rio Linda (1967); Sacramento East (1967); Sacramento West (1967); Florin (1968); Clarksburg (1967); Saxon (1952); Davis (1954); Liberty Island (1978); Dozier (1952); Birds Landing (1953); Denverton (1953); Fairfield South (1949); Cordelia (1959); Benicia (1959); Mare Island (1949); Cuttings Wharf (1951); Sears Point (1959); Petaluma Point (1954); Novato (1953); Allendale (1953); Fairfield North (1951); Richmond (1959).

c. Address/City/Zip: N/A

d. UTM: Caribou Powerhouse Zone 10, 657871 mE/ 4438907 mN; El Cerrito G Substation Zone 10, 561245 mE/ 4196743 mN

e. Other Locational Data:

*P3a. Description: The Caribou-Valona Transmission Line extends for 186 miles between Caribou Powerhouse at its north end and the Oleum G Substation at its south end. The line consists of a mix of single circuit and double circuit lattice and tubular steel towers. The Caribou-Valona Transmission Line has been renamed and segmented and is now represented by eleven transmission lines including: Caribou-Palermo 115 kV, Paradise-Table Mountain 115 kV, Palermo-Wyandotte 115kV, Palermo-Pease 115 kV, Pease-Rio Oso 115 kV, Rio Oso to West Sacramento 115 kV, Brighton to Davis 115 kV, Brighton to Davis 115 kV (idle), Davis to Vaca-Suisun-Jamison 115 kV, Ignacio-Mare Island No.1 115 kV, and Oleum-G No.1 & No.2 115 kV transmission lines. See attached records for additional information.

P5a. Photograph or Drawing



*P3b. Resource Attributes: HP11 – Engineering Feature

*P4. Resources Present: Building Structure Object Site District Element of District Other

*P5b. Description of Photo: Caribou-Valona Tower, Tower 10/85. Photographed April 20, 2018.

*P6. Date Constructed/Age and Source: Historic Prehistoric Both: 1921, Great Western Power Company

*P7. Owner and Address: Pacific Gas & Electric Company, 77 Beale Street, San Francisco, CA 94105

*P8. Recorded by: Stephanie Cimino, PG&E, 245 Market Street, San Francisco, CA 94105 (with updates by Polly Allen, Cardno August 2018)

*P9. Date Recorded: April 2017

*P10. Survey Type:

Intensive

*P11. Report Citation: Cimino, Stephanie and Nettles, Wendy, updated by Allen, Polly, National Register of Historic Places Inventory and Evaluation, of Eleven Transmission Lines Associated with the Historical Alignment of the Caribou-Valona Transmission Corridor, April 2017 (updated August 2018).

*Attachments: NONE Location Map Continuation Sheet Building, Structure, and Object Record Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record Artifact Record Photograph Record Other (List):

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

P51-000222

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION PRIMARY RECORD		Primary # 51-000222 HRI # Trinomial CA-SUT-2224 NRHP Status Code
Other Listings Review Code	Reviewer	Date

Page 1 of 18 *Resource Name or #: Palermo-East Nicolaus Transmission Line

P1. Other Identifier:

*P2. Location: Not for Publication Unrestricted *a. County: Butte, Yuba, Sutter

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: Palermo, Honcut, Yuba City, Olivehurst, Nicolaus Date: T ; R ; ¼ of ¼ of Sec ; M.D. B.M.

c. Address: City: Zip:

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: The Palermo-East Nicolaus Transmission line stretches from the Pacific Gas and Electric Company (PG&E) Palermo Substation, northwest of Palermo, Butte County, in a predominantly southerly direction (much of it paralleling the Western Pacific Railroad alignment) to Trowbridge, where it branches in a southwesterly direction to the PG&E East Nicolaus Substation in Sutter County.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) The double-circuit Palermo-East Nicolaus Transmission Line is supported by steel lattice towers. It extends approximately 38 miles on a predominately north-south alignment between PG&E's Palermo and East Nicolaus Substations. The line carries PG&E's Palermo-Nicolaus-Rio Oso 115kV and Palermo-Bogue-Rio Oso 115kV circuits. The tower alignment of this double-circuit line parallels the single-circuit Palermo-Rio Oso No. 2 transmission line from Palermo south to Trowbridge.

*P3b. Resource Attributes: (List attributes and codes) HP9 Public Utility

*P4. Resources Present: Building Structure Object Site District Element of District Other (isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #): View of parallel transmission lines and tower alignments near Woodruff Road, Palermo-East Nicolaus double-circuit line and towers on left, camera facing south, July 23, 2008

*P6. Date Constructed/Age and Sources: Historic Prehistoric Both 1908

*P7. Owner and Address: Pacific Gas and Electric 5555 Florin Perkins Road Room 137 Sacramento, CA 95826

*P8. Recorded by: (Name, affiliation, and address) Mark Bowen/Tim Yates ICF Jones & Stokes 630 K Street, Suite 400 Sacramento, CA 95814

*P9. Date Recorded: July 23, 2008

*P10. Survey Type: (Describe) Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Cultural Resources Inventory Report for the Proposed Palermo-East Nicolaus 115 kV Transmission Line Reconducturing Project, Butte, Sutter, and Yuba Counties, California.

*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record Artifact Record Photograph Record Other (List):

P51-000223

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION PRIMARY RECORD		Primary # <u>51-000223</u> HRI # Trinomial <u>CA-SUT-223H</u> NRHP Status Code
Other Listings Review Code	Reviewer	Date

Page 1 of 18 *Resource Name or #: Palermo-Rio Oso No. 2 Transmission Line

P1. Other Identifier: Caribou Transmission Line / Caribou-Golden Gate Transmission Line

*P2. Location: Not for Publication Unrestricted *a. County: Butte, Yuba, Sutter
 and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: Palermo, Honcut, Yuba City, Olivehurst, Nicolaus Date: T ; R ; ¼ of
 ¼ of Sec ; M.D. B.M.

c. Address: City: Zip:

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: This transmission line stretches from the Pacific Gas and Electric Company (PG&E) Palermo Substation, northwest of Palermo, Butte County, in a predominantly southerly direction (much of it paralleling the Western Pacific Railroad alignment). The tower alignment of this single-circuit line parallels the double-circuit Palermo-East Nicolaus line from Palermo south to Trowbridge, in Sutter County.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) The Palermo-Rio Oso No. 2 Transmission line is a single-circuit 115kV transmission line supported by steel lattice towers. It extends 38 miles on a predominately north-south alignment.

*P3b. Resource Attributes: (List attributes and codes) HP9 Public Utility

*P4. Resources Present: Building Structure Object Site District Element of District Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #): Transmission lines and tower alignment in the Rio Oso area, Palermo-Rio Oso No. 2 line on left (southwest), camera facing northeast, July 23, 2008

*P6. Date Constructed/Age and Sources: Historic Prehistoric Both
 1919

*P7. Owner and Address: Pacific Gas and Electric Company
 5555 Florin Perkins Road
 Room 137
 Sacramento, CA 95826

*P8. Recorded by: (Name, affiliation, and address) Mark Bowen/Tim Yates
 ICF Jones & Stokes
 630 K Street, Suite 400
 Sacramento, CA 95814

*P9. Date Recorded: July 23, 2008

*P10. Survey Type: (Describe)

Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Cultural Resources Inventory Report for the Proposed Palermo-East Nicolaus 115 kV Transmission Line Reconducting Project, Butte, Sutter, and Yuba Counties, California.

*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure, and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other (List):

DPR 523A (1/95)

*Required information

Appendix B (Native American Consultation)

Confidential Information

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION

915 Capitol Mall, RM 364

Sacramento, CA 95814

(916) 653-4082

(916) 657-5390 – Fax

nahc@pacbell.net

Information Below is Required for a Sacred Lands File Search

Project: Palermo Clean Water Consolidation Project.

Address: Railroad Ave at Messina Ave to Railroad Ave and S. Villa Ave

County: Butte

USGS Quadrangle: Palermo

Township 18N, Range 4E Section(s) 5

Company/Firm/Agency: Cultural Research Assoc

Contact Person: Lori Harrington

Street Address: 295 E. 8th Street

City: Chico Zip:95928

Phone: 530 521-8046

Fax: 530 566-1657

Email: cra_lori@sbcglobal.net

Project Description:

Approximately 7.5 linear miles of ground water pipe replacement.

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



STATE OF CALIFORNIA

Govin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

June 9, 2021

Lori Harrington, M.A. RPA
Cultural Research Assoc.

Via Email to: : cra_lori@sbcglobal.net

Re: Palermo Ground Water Project, Butte County

Dear Ms. Harrington:

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

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

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: rob.wood@nahc.ca.gov.

Sincerely,

Rob Wood
Associate Environmental Planner

Attachment

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Meri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
William Mungary
Paiute/White Mountain
Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Native American Heritage Commission
Native American Contact List
Butte County
6/9/2021

**Berry Creek Rancheria of Maidu
Indians**

Francis Steele, Chairperson
5 Tyme Way Maidu
Oroville, CA, 95966
Phone: (530) 534 - 3859
Fax: (530) 534-1151
fsteele@berrycreekrancheria.com

Tsi Akim Maidu

Grayson Coney, Cultural Director
P.O. Box 510 Maidu
Browns Valley, CA, 95918
Phone: (530) 383 - 7234
tsi-akim-maidu@att.net

**Estom Yumeka Maidu Tribe of
the Enterprise Rancheria**

Glenda Nelson, Chairperson
2133 Monte Vista Avenue Maidu
Oroville, CA, 95966
Phone: (530) 532 - 9214
Fax: (530) 532-1768
info@enterpriserancheria.org

**Greenville Rancheria of Maidu
Indians**

Kyle Self, Chairperson
P.O. Box 279 Maidu
Greenville, CA, 95947
Phone: (530) 284 - 7990
Fax: (530) 284-6612
kself@greenvillerrancheria.com

KonKow Valley Band of Maidu

Jessica Lopez, Chairperson
8998 Fruitridge Road KonKow
Sacramento, CA, 95803 Maidu
Phone: (530) 777 - 8094
jessica@konkowmaidu.org

**Mooretown Rancheria of Maidu
Indians**

Benjamin Clark, Chairperson
#1 Alverda Drive KonKow
Oroville, CA, 95966 Maidu
Phone: (530) 533 - 3625
Fax: (530) 533-3680
frontdesk@mooretown.org

**Mooretown Rancheria of Maidu
Indians**

Guy Taylor,
#1 Alverda Drive KonKow
Oroville, CA, 95966 Maidu
Phone: (530) 533 - 3625

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Palermo Ground Water Project, Butte County.

**CULTURAL RESEARCH
ASSOC.**

295 E. 8th Street
Chico, CA 95928
Phone Number 521-8046
Fax: 530 566.1657

Francis Steele
Berry Creek Rancheria of Maidu Indians
5 Tyme Way
Oroville, Ca 95966

Subject: Palermo Clean Water Consolidation Project.

Date: October 1, 2021

The purpose of this letter is to apprise you of a proposed project development in Chico, CA (see enclosed map.)

Proposed Project – Installation/ upgrade of groundwater piper, hydrants etc. into existing previously disturbed road right-of-way.

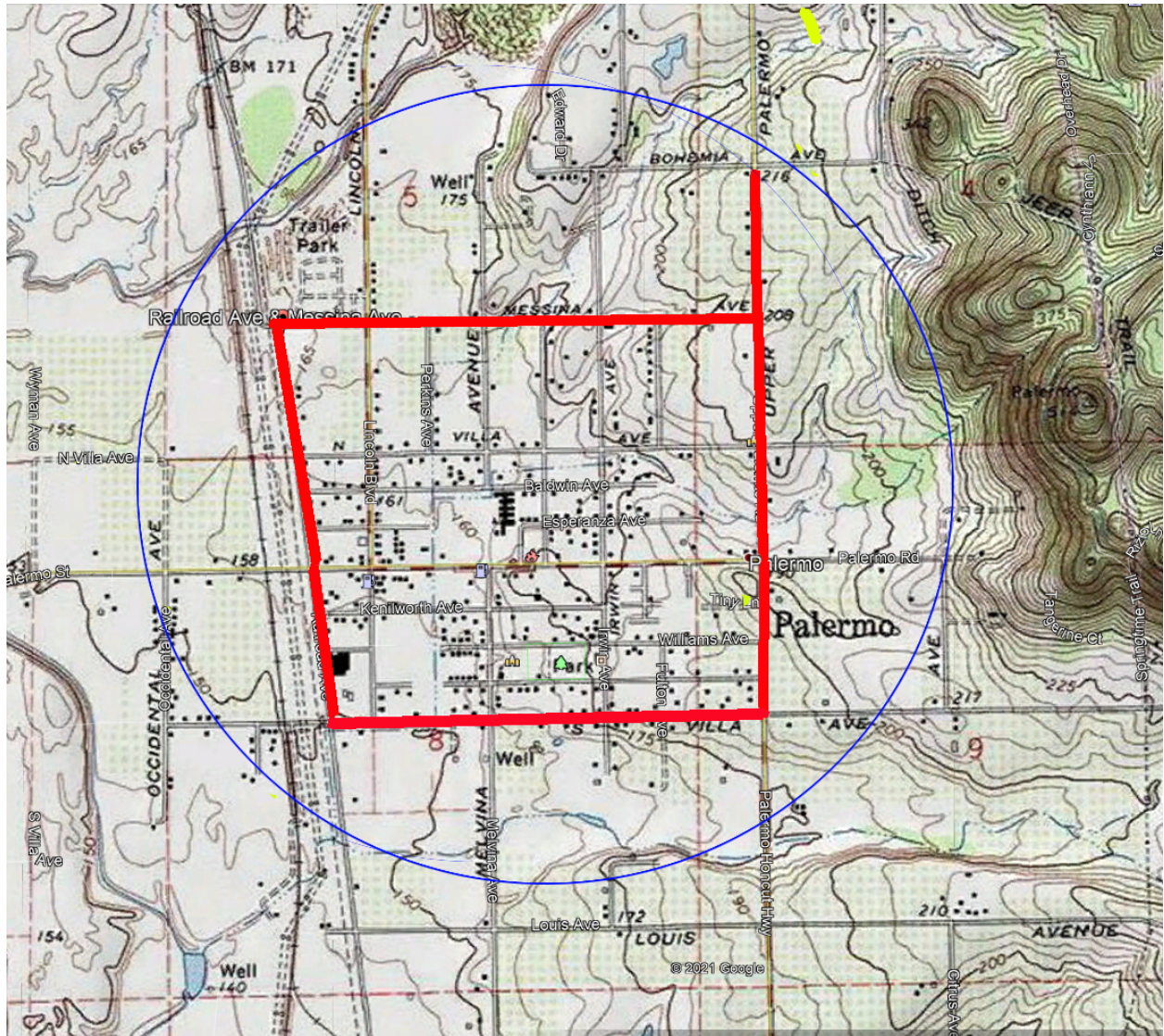
On behalf of the project, the subcontractor Cultural Research Assoc. has contacted the Native American Heritage Commission (NAHC) to obtain a list of groups or individuals that may have specific knowledge of cultural resources or other concerns within the defined project areas. A search of the sacred lands file indicated that there are no known Native American cultural resources within or adjacent to the project area. The project area has been highly disturbed due to grading. The record search for the project was negative and nothing has been recorded in the general project vicinity. The field survey was also negative for historic and prehistoric resources.

Your name was supplied to us by the NAHC because you may have knowledge of specific cultural resources within the defined project areas, or know of other individuals or groups who may have specific knowledge. Please contact me at (530) 521-8046, or email at: cra_lori@sbcglobal.net regarding specific concerns in the project area. For your convenience, I can also be reached via fax (530) 566-1657 or email at: cra_lori@sbcglobal.net.

If you do not reply by October 10, 2021, noon, it will be assumed that you have no comments regarding the current project area outlined on the enclosed map.

Sincerely, Lori Harrington

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

**CULTURAL RESEARCH
ASSOC.**

295 E. 8th Street
Chico, CA 95928
Phone Number 521-8046
Fax: 530 566.1657

Glenda Nelson
Estome Yumeka Maidu Tribe of the Enterprise Rancheria
2133 Monte Vista Ave
Oroville, Ca 95966

Subject: Palermo Clean Water Consolidation Project.

Date: October 1, 2021

The purpose of this letter is to apprise you of a proposed project development in Chico, CA (see enclosed map.)

Proposed Project – Installation/ upgrade of groundwater piper, hydrants etc. into existing previously disturbed road right-of-way.

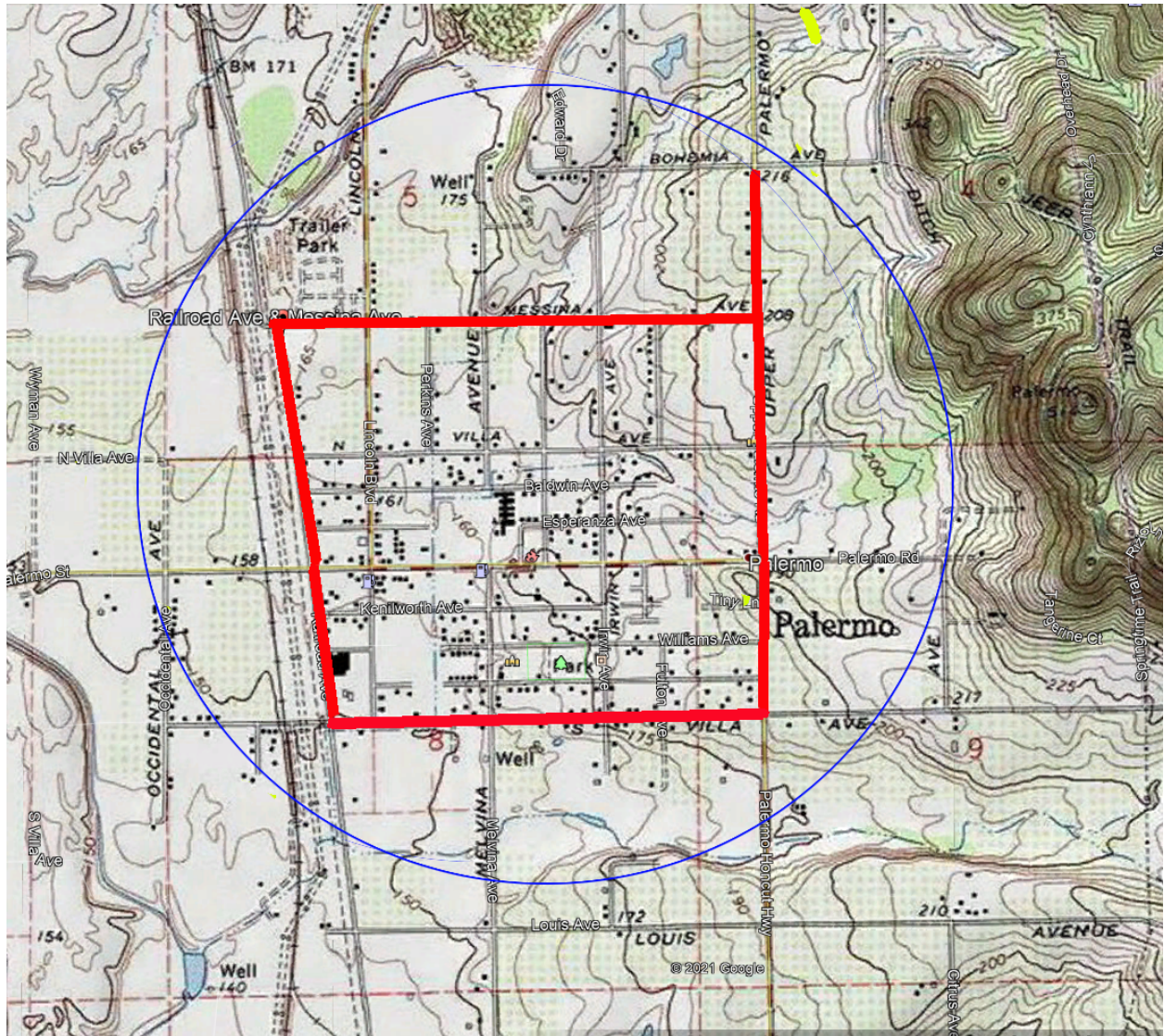
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Sincerely, Lori Harrington

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

**CULTURAL RESEARCH
ASSOC.**

295 E. 8th Street
Chico, CA 95928
Phone Number 521-8046
Fax: 530 566.1657

Kyle Self
Greenville Rancheria of Maidu
P.O. Box 279
Greenville, Ca 95947

Subject: Palermo Clean Water Consolidation Project.

Date: October 1, 2021

The purpose of this letter is to apprise you of a proposed project development in Chico, CA (see enclosed map.)

Proposed Project – Installation/ upgrade of groundwater piper, hydrants etc. into existing previously disturbed road right-of-way.

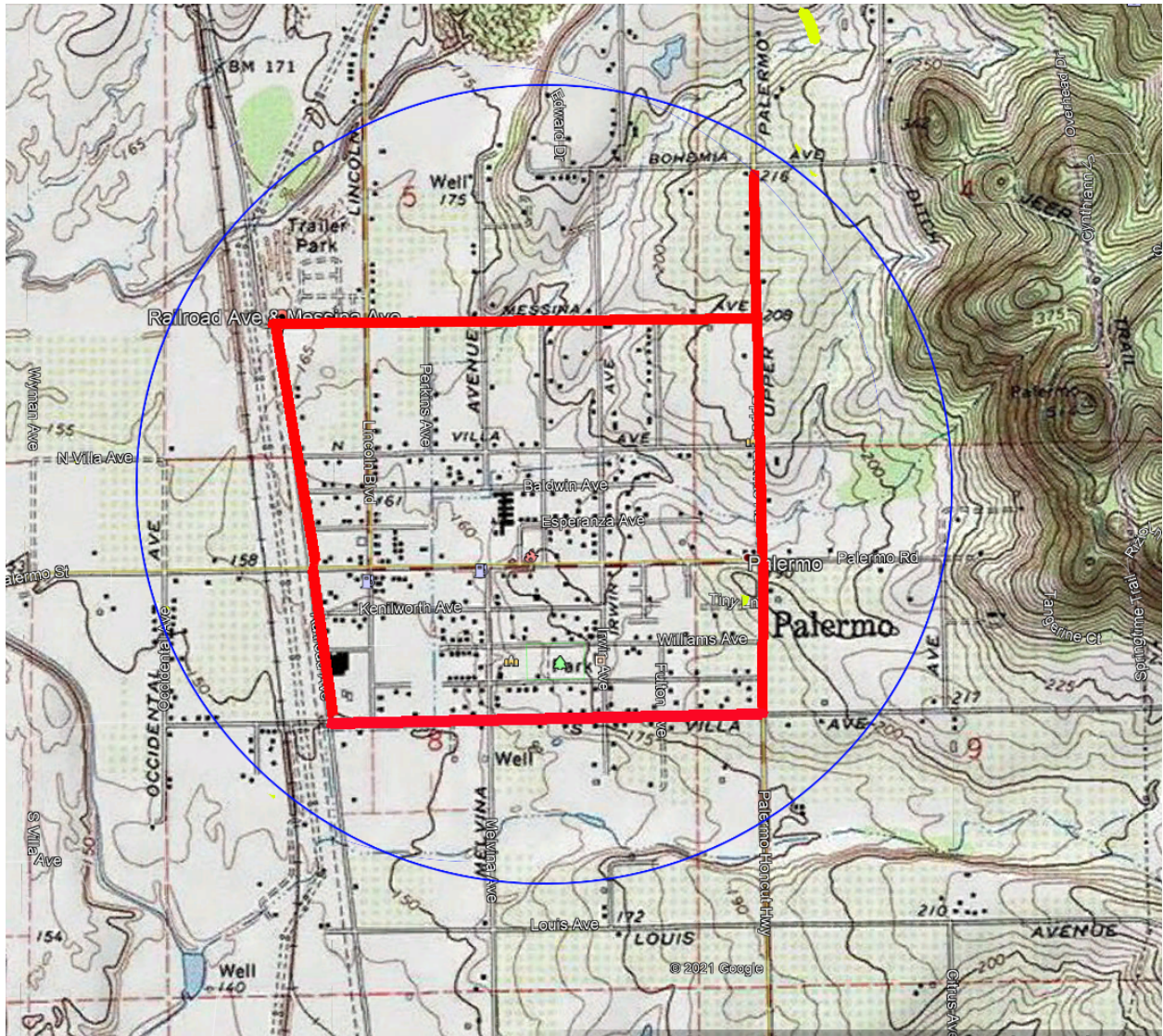
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Your name was supplied to us by the NAHC because you may have knowledge of specific cultural resources within the defined project areas, or know of other individuals or groups who may have specific knowledge. Please contact me at (530) 521-8046, or email at: cra_lori@sbcglobal.net regarding specific concerns in the project area

If you do not reply by October 10, 2021, noon, it will be assumed that you have no comments regarding the current project area outlined on the enclosed map.

Sincerely, Lori Harrington

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

**CULTURAL RESEARCH
ASSOC.**

295 E. 8th Street
Chico, CA 95928
Phone Number 521-8046
Fax: 530 566.1657

Konkow Valey Band of Maidu
Jessica Lopez
8998 Fruitridge Road
Sacramento, CA 95803

Subject: Palermo Clean Water Consolidation Project.

Date: October 1, 2021

The purpose of this letter is to apprise you of a proposed project development in Chico, CA (see enclosed map.)

Proposed Project – Installation/ upgrade of groundwater piper, hydrants etc. into existing previously disturbed road right-of-way.

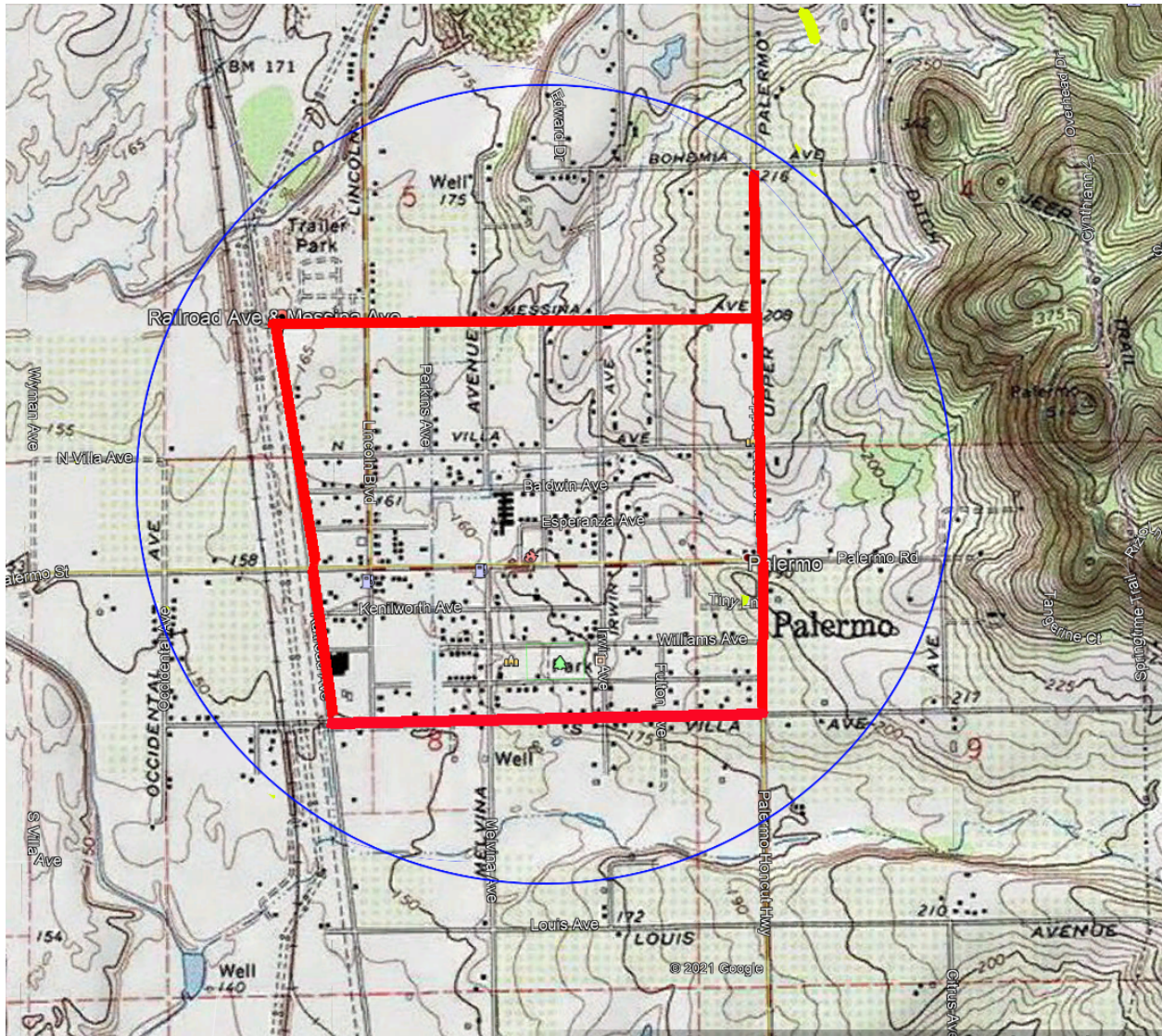
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Sincerely, Lori Harrington

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Benjamin Clark / Guy Taylor
Mooretown Rancheria of Maidu Indians
#1 Alverda Drive
Oroville, CA 95966

Subject: Palermo Clean Water Consolidation Project.

Date: October 1, 2021

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Proposed Project – Installation/ upgrade of groundwater piper, hydrants etc. into existing previously disturbed road right-of-way.

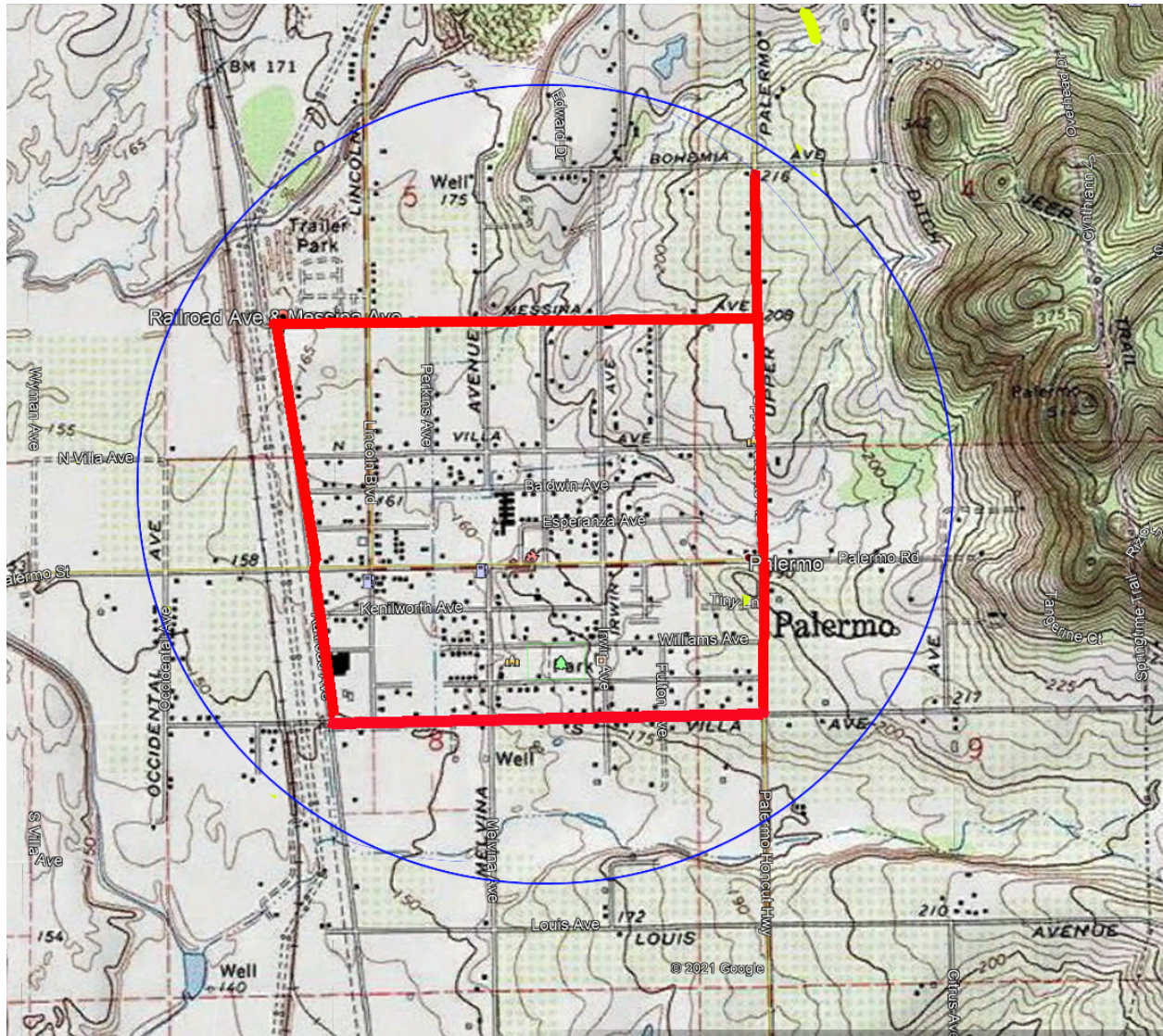
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Sincerely, Lori Harrington

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Tsi Akim Maidu
Grayson Coney
P.O. Box 510
Browns Valley, CA 95918

Subject: Palermo Clean Water Consolidation Project.

Date: October 1, 2021

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Proposed Project – Installation/ upgrade of groundwater piper, hydrants etc. into existing previously disturbed road right-of-way.

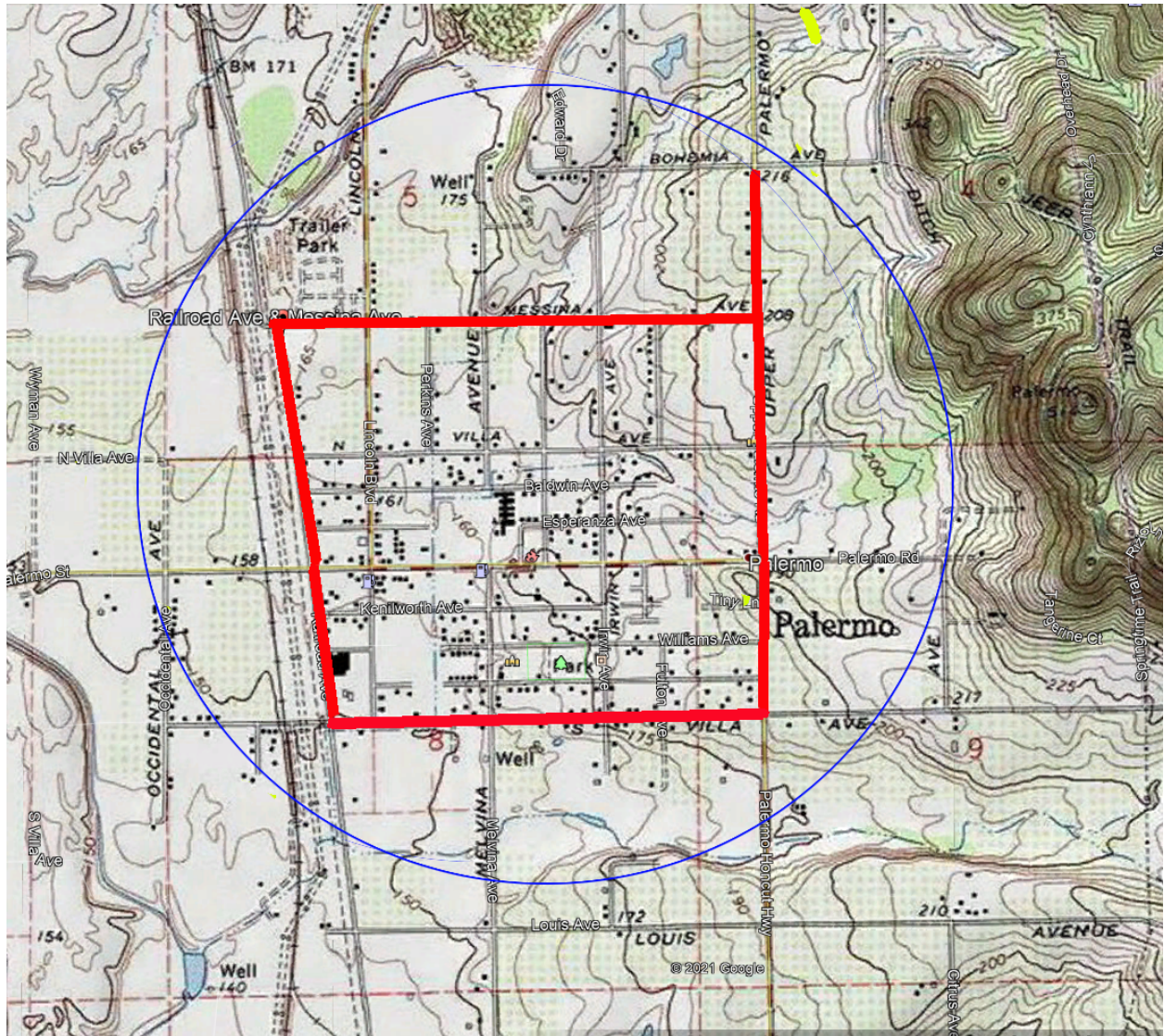
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Sincerely, Lori Harrington

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.



Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Native American Call list

	Sent Letter	Responded	Concerns	Called
Berry Creek Rancheria of Maidu Indians Francis Steele	10/01/2021 via email	No	N/A	10/6/2021 Left message to call with concern,
Estome Yumeka Maidu Tribe of the Enterprise Rancheria Glenda Nelson	10/01/2021 via email	Yes	None Good afternoon, Thank you for the notification. After a thorough examination of the project and discussions with our cultural site monitor, we have determined that this project is in the aboriginal territory of the Estom Yumeka Maidu Tribe. Our records search failed to locate any known cultural sites within the project boundaries. However, the Tribe retains the right to consult should any post review discoveries be made. Thanks, Creig Marcus Tribal Administrator	
Greenville Rancheria of Maidu Indians Kyle Self	10/01/2021 via email	No	N/A	10/6/2021 Left message to call with concern,
Konkow Valley Band of Maidu Jessica Lopez	10/01/2021 via email	No	N/A	10/6/2021 Left message to call with concern,

Archaeological Phase 1 Study – Palermo Clean Water Consolidation Project.

Mooretown Rancheria of Maidu Indians Benjamin Clark Guy Taylor	10/01/2021 via email. Invalid email. Sent letter	No	N/A	10/6/2021 Left message to call with concern,
Tsi Akim Maidu Grayson Coney	10/01/2021 via email	No	N/A	10/6/2021 Left message to call with concern,

APPENDIX H

CEQA Mitigation Monitoring and Reporting Program (MMRP)

PALERMO CLEAN WATER CONSOLIDATION PROJECT

December 2021

APPENDIX H

CEQA Mitigation Monitoring and Reporting Program (MMRP)

PALERMO CLEAN WATER CONSOLIDATION PROJECT

December 2021

MITIGATION MONITORING AND REPORTING PROGRAM

The California Environmental Quality Act (CEQA) Initial Study/Mitigated Negative Declaration (IS/MND) prepared for this project documents the impacts and mitigation measures that would reduce, avoid, or otherwise minimize these impacts. This Mitigation Monitoring and Reporting Program (MMRP) will ensure that each mitigation measure, adopted as a condition of project approval, is implemented. This MMRP complies with CEQA Guidelines Section 15074(d) that specifies the lead agency shall adopt a program for reporting on the changes that it has either required in the project or made a condition of approval to mitigate or avoid significant environmental effects.

ROLES AND RESPONSIBILITIES

Butte County, Department of Water and Resource Conservation will adopt this MMRP in order to mitigate environmental effects. This MMRP reflects all measures identified during the CEQA review process.

LIST OF MITIGATION MEASURES AND DATE OF COMPLETION

15.3 AIR QUALITY

a-c): The following mitigation measures to reduce impacts to air quality shall be incorporated into the project by the project applicant or contractors during project activities to minimize particulate matter and other pollutants to the atmosphere and include:

- All construction equipment shall be maintained in proper tune according to the manufacturer's specifications. Equipment shall be checked by a certified mechanic and determined to be running in proper condition before the start of work.
- All mobile and stationary Toxic Air Contaminants (TACs) sources shall comply with applicable Airborne Toxic Control Measures (ATCMs) promulgated by the California Air Resources Board (CARB) throughout the life of the project.
- Dust control measures shall be implemented during project construction. Use of water trucks or sprinkler systems shall be used in sufficient quantities to prevent airborne dust from leaving the project sites.
- All stockpiled material will be sufficiently covered when not in use to prevent sediment and other potential pollutants from leaving the project sites.
- Streets shall be swept at the end of each working day if visible soil, sand or other construction related debris is present.
- Construction activities will be conducted so that no track-out from the project sites is visible on any paved roadway.
- All trucks hauling dirt, sand, soil, or other loose material transported to and from the project sites shall be securely covered to avoid spilling.
- All roadways, driveways, sidewalks, etc. shall be repaved immediately after pipeline, services lines and meter boxes installation is complete.

- County and SFWPA field inspectors shall ensure compliance with Butte County Air Pollution Control District regulations.
- Signs shall be placed along construction areas with contact information to report air quality violations to Butte County Air Quality Management District at (530) 332-9400.

Mitigation Monitoring: South Feather Water and Power Agency

Timing Process: Prior to and during construction

Verification of Compliance (Initials, Date, Remarks):

15.4 BIOLOGICAL RESOURCES

a;d) - The following mitigation measures shall be incorporated into the project to avoid impacts to raptors, migratory birds and other special-status species.

- The proposed project is planned for construction over consecutive years during the raptor and migratory bird nesting seasons (March 15 – July 31). To mitigate potential impacts a qualified biologist will conduct multiple surveys over the course of the project and no earlier than two weeks prior to construction along planned roadways and visually assessing for active nests within 500 ft (150 m) of the project area, which is a CDFW recommended boundary. If an active nest is located the survey biologist will immediately consult with Butte County Department of Water and Resource Conservation and CDFW to avoid and/or minimize potential impacts such as establishing buffers. Other special-status species with a potential to occur in the project areas would be considered during the pre-construction survey.

b-c) - The following mitigation measure shall be incorporated into the project to avoid impacts to roadside ditches.

- Contractor shall have sediment control measures including silt fencing and wattles around all roadside ditches to avoid sediment entering these water features.
- Contractor shall ensure that all spoil piles are stabilized and covered with heavy-duty plastic sheeting when not in use or during any precipitation event.
- All soils disturbed during construction will be stabilized immediately following construction.
- Water that may be needed to flush and pressure test the pipelines will be properly discharged according to applicable waste discharge requirements. No water will be discharged to any perennial or ephemeral surface waters.
- All equipment will be inspected for leaks prior to and during construction operations.
- The contractor will have on-site, at all times, a Spill Containment Kit for immediate deployment in case of a sudden and unexpected spill of pollutants.

- All temporary and permanent BMPs implemented for this project will be properly maintained by the contractor to ensure their effectiveness.
- The contractor will conduct inspections of the site on a daily basis and more frequently prior to and after storm events. Equipment, materials, and workers will be available for immediate repairs and rapid response to emergencies if needed.

Mitigation Monitoring: South Feather Water and Power Agency

Timing Process: Prior to and during construction

Verification of Compliance (Initials, Date, Remarks):

15.5 CULTURAL RESOURCES

a-d): The following mitigation measures shall be incorporated into the project to avoid impacts to Cultural Resources.

- Should unanticipated cultural resource be encountered during project activities, work must cease, and a qualified archaeologist contacted immediately to determine appropriate measures to mitigate any adverse impacts to the discovered resources. If human remains are discovered during construction-related activities notification of the Butte County Coroner is required. If the Butte County Coroner determines that the discovered remains are those of Native American ancestry, then the Native American Heritage Commission must be notified by telephone within 24 hours. Sections 5097.94 and 5097.98 of the Public Resources Code describe the procedures to be followed after the notification of the Native American Heritage Commission.

Mitigation Monitoring - South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.7 GREENHOUSE GAS EMISSIONS

a): The following mitigation measures shall be incorporated into the project to reduce impacts from Greenhouse Gas Emissions.

- All mitigation measures outlined in section **15.3 AIR QUALITY** shall be implemented throughout the course of construction activities to minimize Greenhouse Gas Emissions.

Mitigation Monitoring - South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.9 HAZARDS AND HAZARDOUS MATERIALS

(a;c) - The following mitigation measures shall be incorporated into the project to avoid impacts from hazards and hazardous materials.

- Fueling and application of lubricants and fluids will be performed in a designated area with appropriate BMPs.
- All construction equipment shall be maintained in proper tune according to the manufacturer's specifications.
- Fluids, oils, lubricants, and trash will be disposed according to County guidelines in order to prevent any potentially hazardous materials impact.

Mitigation Monitoring - South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.10 HYRDOLOGY AND WATER QUALITY

a;e): The following mitigation measures outlined below shall be incorporated into the project to minimize impacts to hydrology and water quality.

1. Retain soil and sediment on the construction site

- Construction activities shall have erosion and sediment control measures including silt fencing and wattles as needed around the project perimeter for the duration of construction to avoid runoff especially during and after storm events.
- Contractor shall ensure that all spoil piles are stabilized and covered with heavy-duty plastic sheeting when not in use or during any precipitation event.
- In order to reduce the potential to release fugitive dust associated with project activities, dust control measures will be carried out as needed including sweeping and watering.
- All soils disturbed during construction will be stabilized immediately following construction.

2. Non-Storm Water Management

- Water that may be needed to flush and pressure test the pipelines will be properly discharged according to applicable waste discharge requirements. No water will be discharged to any perennial or ephemeral surface waters.

3. Spill Prevention and Control

- All equipment will be inspected for leaks prior to and during construction operations.
- The contractor will have on-site, at all times, a Spill Containment Kit for immediate deployment in the case of a sudden and unexpected spill of pollutants.

4. Maintenance, Inspection and Repair

- The contractor will conduct inspections of the site on a daily basis and more frequently prior to and after storm events. Equipment, materials, and workers will be available for immediate repairs and rapid response to emergencies if needed.

Mitigation Monitoring - South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.13 NOISE

a-b): The following mitigation measures outlined below shall be incorporated into the project to minimize construction related noise impacts.

- All internal combustion engine driven equipment with intake and exhaust mufflers should be in good condition and appropriate for the equipment.
- Stationary noise-generating equipment shall be located as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Project activities will be limited to daytime hours between 7:00 a.m. and 7:00 p.m. on weekdays and Saturdays between 8:00 a.m. and 6:00 p.m.
- Unnecessary motorized idling of equipment will be avoided.
- Signs shall be placed along construction areas with contact information to report noise violations to Butte County Development Services/Code Enforcement at (530) 538-7601.

Mitigation Monitoring – South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.18 TRIBAL CULTURAL RESOURCES

a) The following mitigation measures outlined below shall be incorporated into the project to minimize construction related impacts to tribal cultural resources.

- In the unlikely event resources are discovered during ground disturbing activities, compliance with mitigation measures outlined in Section 15.5 CULTURAL RESOURCES, which provides instructions in the event a material of potential cultural significance is uncovered, would reduce potential impacts to a less than significant level.

Mitigation Monitoring – South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):