GLENN-COLUSA IRRIGATION DISTRICT

LURLINE CHECK AND SIPHON STRUCTURE REPLACEMENT

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

COLUSA COUNTY
JUNE 2024

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Glenn-Colusa Irrigation District
Willows, CA

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TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

AAM ..... Annual Average Median
AB ..... Assembly Bill
APN ..... Assessor's Parcel Number
BMP ..... Best Management Practices
BUOW ..... Burrowing Owl
Cal FIRE ..... California Department of Forestry and Fire
CalEEMod ..... California Emissions Estimator Modeling (software)
CARB ..... California Air Resources Board
CCAA ..... California Clean Air Act
CCAPCD ..... Colusa County Air Pollution Control District
CDFW ..... California Fish and Wildlife
CEQA ..... California Environmental Quality Act
cfs ..... cubic feet per second
CGAGSA ..... Colusa Groundwater Authority Groundwater Sustainability Agency
CH_4 ..... Methane
CHRIS ..... California Historical Resources Information System
CNDDB ..... California Natural Diversity Database
CNPS ..... California Native Plant Society
CO ..... Carbone Monoxide
CO_2 ..... Carbon Dioxide
County ..... Colusa County
dB ..... decibels
dBA ..... A-weighted decibels
District ..... Glenn-Colusa Irrigation District
DOC ..... Department of Conservation
DTSC ..... Department of Toxic Substances Control
ECOS ..... (USFWS) Environmental Conservation Online System
EIR ..... Environmental Impact Report
EO ..... Executive Order
FEMA ..... Federal Emergency Management Agency
FMMP ..... Farmland Mapping and Monitoring Program

FPPA ..... Farmland Protection and Policy Act
FRAQMD ..... Feather River Air Quality Management District
GCID ..... Glenn-Colusa Irrigation District
GHG ..... Greenhouse Gas
GSA ..... Groundwater Sustainability Agency
GSP ..... Groundwater Sustainability Plan
GWP ..... Global Warming Potential
HDPE ..... high-density polyethylene
I-5 ..... Interstate 5
IC ..... Information Center
IPaC ..... U.S. Fish and Wildlife Service's Information for Planning and Consulting
IS ..... Initial Study
IS/MND ..... Initial Study/Mitigated Negative Declaration
km ..... kilometers
MBTA ..... Migratory Bird Act
MND ..... Mitigated Negative Declaration
$MTCO_2e$ ..... Metric Tons of Carbon Dioxide Equivalent
NAHC ..... Native American Heritage Commission
NCIC ..... Northwest California Information Center
ND ..... Negative Declaration
NEPA ..... National Environmental Policy Act
NMFS ..... National Marines Fisheries Service
NO_2 ..... Nitrogen Dioxide
NOx ..... Nitrogen Oxides
NPT ..... Northwestern Pond Turtles
O_3 ..... Ozone
OHP ..... California Office of Historic Preservation
Pb ..... Lead
PCAQCD ..... Placer County Air Quality Control District
PG&E ..... Pacific Gas & Electric Company
PM_{10} ..... particulate matter 10 microns in size
$PM_{2.5}$ ..... particulate matter 2.5 microns in size
ppb ..... parts per billion

ppm ..... parts per million
PRC ..... Public Resources Code
Project ..... Lurline Check and Siphon Structure Replacement Project
ROG ..... Reactive Organic Gases
RWQCB ..... Regional Water Quality Control Board
SGMA ..... Sustainable Groundwater Management Act
SLF ..... Sacred Lands File
SO_2 ..... Sulfur Dioxide
SOWA ..... Safe Drinking Water Act
SR ..... State Route
SRA ..... State Responsibility Area
SSA ..... Sole Source Aquifer
SVAB ..... Sacramento Valley Air Basin
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
USACE ..... United States Army Corps of Engineers
USEPA ..... United States Environmental Protection Agency
USFWS ..... United States Fish and Wildlife Service
USGS ..... United States Geological Survey
UST ..... underground storage tank
°F ..... Fahrenheit
µg/m3 ..... micrograms per cubic meter

1 INTRODUCTION

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of Glenn-Colusa Irrigation District (GCID or District) to address the potential environmental effects of the Lurline Check and Siphon Structure Replacement (proposed Project or Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21000 et seq. The District is the CEQA lead agency for this Project.

The site and the Project are described in detail in 2 Project Description.

1.1 REGULATORY INFORMATION

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*)-- also known as the CEQA Guidelines--Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is no substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, an ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

a. *The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or*
b. *The IS identified potentially significant effects, but:*
    1. *Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and*
    2. *There is no substantial evidence, in light of the whole record before the agency, that the proposed Project as revised may have a significant effect on the environment.*

1.2 DOCUMENT FORMAT

This IS/MND contains six chapters. 1 Introduction, provides an overview of the proposed Project and the CEQA process. 2 Project Description, provides a detailed description of proposed Project components and objectives. 3 Determination, the Lead Agency's determination based upon this initial evaluation. 4 Environmental Impact Analysis presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 5 References details the documents and reports this document relies upon to provide its analysis.

The CalEEMod Output Files, Biological Evaluation Report, and Cultural Resources Memo are provided as Appendix A, Appendix B, and Appendix C, respectively, at the end of this document.

2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

2.1.1 PROJECT TITLE

Lurline Check and Siphon Structure Replacement Project

2.1.2 LEAD AGENCY NAME AND ADDRESS

Glenn-Colusa Irrigation District
344 E Laurel Street,
Willows, CA 95988

2.1.3 CONTACT PERSON AND PHONE NUMBER

2.1.3.1 LEAD AGENCY CONTACT

Jeff Sutton
General Manager
(530) 934-8881

CEQA Consultant
Provost & Pritchard Consulting Group
Briza Sholars, Senior Environmental Planner/Project Manager
(559) 449-2700

2.1.4 PROJECT LOCATION

The proposed Project is located in Colusa County, California, approximately 60 miles northwest of Sacramento and 90 miles south of Redding (see Figure 2-1 and Figure 2-2). The proposed Project is comprised of two separate sites: the 2.4-acre Lurline Check site and the 5.2-acre borrow site, located approximately north of the Lurline Check. The Lurline Check site (Check site) is located on Assessor's Parcel Number (APN) 014-280-009. The proposed borrow area is located on APNs 011-270-087 and 011-270-062. The Area of Potential Effect (APE) for the Project is approximately 7.6 acres in size, which includes the Check site, borrow area, and all construction staging, and access areas needed for construction equipment.

2.1.5 GENERAL PLAN DESIGNATION AND ZONING

Project Area	General Plan Designation	Zoning District
ONSITE	Agricultural General	E-A (Exclusive Agriculture)
ADJACENT LANDS	Agricultural General	E-A (Exclusive Agriculture)

The zoning and land use maps for the Project site and its immediate surroundings can be found at Figure 2-6 and Figure 2-7, respectively.

2.1.6 DESCRIPTION OF PROJECT

2.1.6.1 DISTRICT BACKGROUND

Glenn-Colusa Irrigation District (GCID or District) provides water to landowners and water users within its District while striving to responsibly manage water resources. GCID has a long history of serving

farmers and the agricultural community, and the District remains focused on improving its delivery system, maintaining responsible policies, and staying devoted to environmental and economic viability.

GCID is based in Willows, the county seat of Glenn County, approximately 90 miles north of Sacramento along Interstate 5 (I-5). The District operates and maintains an existing main pump station near Hamilton City, the District's only diversion from the Sacramento River. GCID's 65-mile long Main Canal (Glenn-Colusa Canal) conveys water into a complex system of nearly 1,000 miles of canals, laterals, and drains, much of which was constructed in the early 1900s

GCID's boundaries span approximately 175,000 acres, 140,000 of which are farmland. The District serves more than 1,000 landowners and 200 tenant water users, as well as 1,200 acres of private habitat land and 21,000 acres of protected federal wildlife refuges. Additionally, winter water supplied by GCID to thousands of acres of planted rice land within its service area provides valuable habitat for migrating waterfowl during the winter months.

2.1.6.2 PROJECT PURPOSE

The existing check and siphon structure is situated along the Glenn-Colusa Canal where it intersects with the Lurline Creek (Creek). Constructed in the early to mid-1900s, the aging Lurline Check, siphon, and bridge structures (Lurline Check) are in poor condition as the reinforced concrete has degraded to the point that cracks are common and reinforcing steel is now visible. This has led to concerns of structural failure for a key piece of infrastructure for the largest irrigation district in the Sacramento Valley. Due to the age and condition of the existing Lurline Check, the District is proposing to replace it with a newly constructed check structure and siphon within the same disturbed footprint. Given that the Lurline Check serves as critical infrastructure for delivering water into the District, GCID aims to be proactive and replace it before a major problem occurs, as well as to modernize the early twentieth century water conveyance infrastructure.

The existing Lurline Check is located immediately upstream of GCID's Canal siphon undercrossing of Lurline Creek (Canal Mile Post 49.95), approximately 1.2 miles downstream of the Abel Check. The Lurline Check and siphon were constructed as one structure and provide several essential functions to Canal operations, including: maintaining the upstream water level for gravity farm deliveries through District turnouts and lateral headgates, conveying Glenn-Colusa Canal flows across (below) Lurline Creek, and providing a canal safety spill into the Creek.

2.1.6.3 PROJECT DESCRIPTION

The District is proposing the construction of a check structure and siphon to replace the existing check structure and siphon, as well as their associated facilities, in their approximate current location along the Glenn-Colusa Canal. The new structure would include box culverts or precast concrete pipes constructed to convey 100% of the Glenn-Colusa Canal's design flow rate at this location (630 cubic feet per second (cfs)). The initial phase would involve clearing and grubbing any vegetation present within the Project work area. The next phase would see the demolition and removal of the existing check, siphon, and outlet structures, as well as the two existing reinforced concrete maintenance bridges and overflow spill. The existing overflow spill is no longer used at the site, so a replacement overflow spill is not included in the proposed structure. Prior to commencing the demolition and removal, a bypass would be constructed for Lurline Creek. While the Canal would be dry during construction, the proposed construction window occurs during the Creek's peak flows. A temporary bypass channel would be built to divert flows around the work site and back into Lurline Creek so as to not impact the creek's water flow. The bypass would be an earthen channel with a High Density Polyethelene (HDPE) lining and design maximum flow rate of 850 cfs. Water

control measures including temporary coffer dams, dewatering pumps, etc., may be installed to dewater groundwater and nuisance surface water from within the main canal from the project area for construction activities.

Construction of the new, concrete structure would occur after the bypass is operational and demolition is complete. The siphon would be built by excavating an open trench for the pipe or box culverts to be installed. Subsequent to installation, the trench would be backfilled and potentially concrete capped in order to protect it from scour and channel maintenance activities. Additionally, a low-water vehicle crossing would be constructed along the east canal bank through Lurline Creek, which would replace the two existing vehicle bridges. The low-water crossing would include a vehicle drive surface elevated above the stream bed elevation with culvert pipes cast into the structure to convey typical stormwater runoff. The District's Lateral 49-2 headgate, which delivers water from the Canal to Lurline Creek, would also be replaced. The proposed Lateral 49-2 headgate would include the installation of a 42-inch reinforced concrete pipe with a precast concrete outlet structure located in the side slope of Lurline Creek adjacent to the low-water crossing. Once these construction steps are completed, Lurline Creek would be returned to its original alignment with the Canal flows to run below the creek. The new Lurline Check structure is anticipated to include wingwalls, gate bay walls, concrete lining at the structure inlet, poured-in-place concrete siphon inlet headwall, embedded hydraulic gate and stoplog guides, metal catwalks and handrails, underground electrical service and controls improvements, Lateral 49-2 headgate and pipe, photovoltaic lighting operated via a light switch, and SCADA integration (including a new 60-foot-tall SCADA antenna to replace the existing antenna) to the District's network.

Earthwork cut and fill volumes are expected to balance after construction. However, if fill material were needed for the proposed Project, fill material would be imported from the designated borrow area or a District-designated stockpile. The borrow area is located along the left bank of the Canal approximately five miles north of the Project site. This area was also included in the proposed Project area surveyed for potential biological resources. The Project site is approximately 7.6 acres including the structure footprint, construction staging, access, and borrow area. The borrow area, accounting for 5.2 of the 7.6 acres, would be located north of the structure construction along the bank of the Glenn-Colusa Canal.

The proposed Project includes standard practices to avoid or minimize cultural resources impacts and would be required to follow all applicable federal, State, and local requirements set for archaeologic resource recovery. In the unlikely event that an archaeological resource is uncovered during the construction of this proposed Project, all construction activities would cease, and a qualified archaeologist would be contacted to assess the uncovered resource. Additionally, in accordance with Health and Safety Code Section 7050.5 and Public Resource Code Section 5097.98, if human remains were uncovered, construction activities would cease, and the Colusa County Coroner would be contacted.

2.1.6.4 CONSTRUCTION

There is an existing, District-maintained gravel road, Canal Road, that runs along the Glenn-Colusa Canal and would be used for access to the Project site. Construction would take place over the course of approximately six months, from October 2025 to April 2026. This period coincides with an existing pump station electrical improvement project that requires a longer than normal shutdown period.

2.1.6.5 EQUIPMENT

Construction equipment would likely include, but not be limited to, the following:

- *Excavators,*
- *Backhoes,*

- *Graders,*
- *Skid steers,*
- *Loaders,*
- *Crane*
- *Hauling trucks,*
- *Concrete pump truck,*
- *Water trucks supplying water for dust control and conditioning soil for compaction, and*
- *Water pumps and hoses.*

Post-construction activities would include system testing, commissioning, and site clean-up. Construction would require temporary staging and storage of materials and equipment; staging areas would be located onsite.

2.1.6.6 OPERATION AND MAINTENANCE

Operation and maintenance of the Lurline Check would be performed by existing District staff once the proposed Project is constructed, and it would be consistent with the existing operations and maintenance for the current check structure.

2.1.7 SITE AND SURROUNDING LAND USES AND SETTING

Table 2-1: Existing Uses, General Plan Designation, & Zone Districts of Surrounding Properties

Direction from Project Site	Existing Use	General Plan Designation	Zone District
NORTH	Agriculture	Agricultural General	E-A (Exclusive Agriculture)
EAST	Agriculture	Agricultural General	E-A (Exclusive Agriculture)
SOUTH	Agriculture	Agricultural General	E-A (Exclusive Agriculture)
WEST	Agriculture	Agricultural General	E-A (Exclusive Agriculture)

2.1.8 OTHER PUBLIC AGENCIES WHOSE APPROVAL MAY BE REQUIRED

Ministerial approvals and permits that may be required:

- California Department of Fish and Wildlife – Lake and Streambed Alteration Agreement
- State Water Resources Control Board – NPDES Construction General Permit; CWA section 401 water quality certification
- San Joaquin Valley Air Pollution Control District – Rules and Regulations (Regulation VIII, Rule 9510, Rule 4641)

2.1.9 CONSULTATION WITH CALIFORNIA NATIVE AMERICAN TRIBES

Public Resources Code Section 21080.3.1, *et seq. (codification of AB 52, 2013-14)*) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

The District has received a written request from the Cachil Dehe Band of Wintun Indians on October 1, 2019, for notice of proposed projects, and the District provided notice of the proposed Project in accordance with Public Resources Code Section 21080.3.1. The Cachil Dehe Band of Wintun Indians requested that all notices be sent via certified U.S. Mail with return receipt. Following receipt of the information, within the 30-day period proscribed by Public Resources Code Section 21080.3.1, the Colusa Indian Community Council (the governing body for the Cachil Dehe Band of Wintun Indians) may request consultation to mitigate any potential project impacts to tribal cultural resources.

2.1.10 "CEQA–PLUS" ASSESSMENT

The District may be applying for financial assistance to implement the proposed Project through State or federal funding in the future.

In addition to meeting the requirements of CEQA, and because financial assistance could come from the Federal government (United States Environmental Protection Agency (USEPA), for instance), the Project could be subject to "federal cross-cutting authority" requirements of other federal laws and Executive Orders that apply in federal financial assistance programs. (This process is frequently referred to as "CEQA-Plus"). Therefore, the District may also complete certain studies and analyses to satisfy various federal environmental requirements.

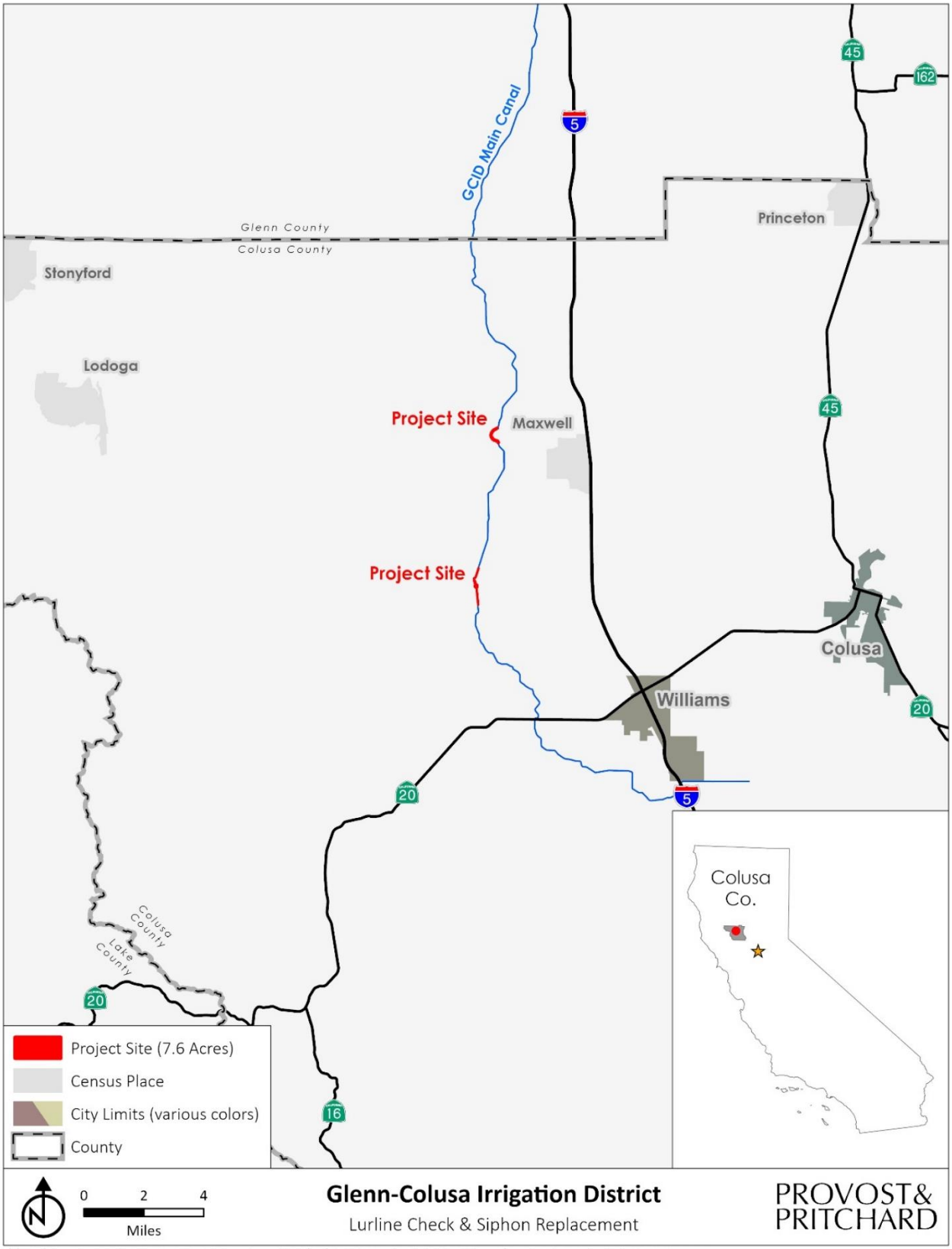

Figure 2-1: Regional Vicinity Map

Figure 2-2: Topographical Quadrangle Structure Construction Site Map

Figure 2-3: Topographical Quadrangle Borrow Area Map

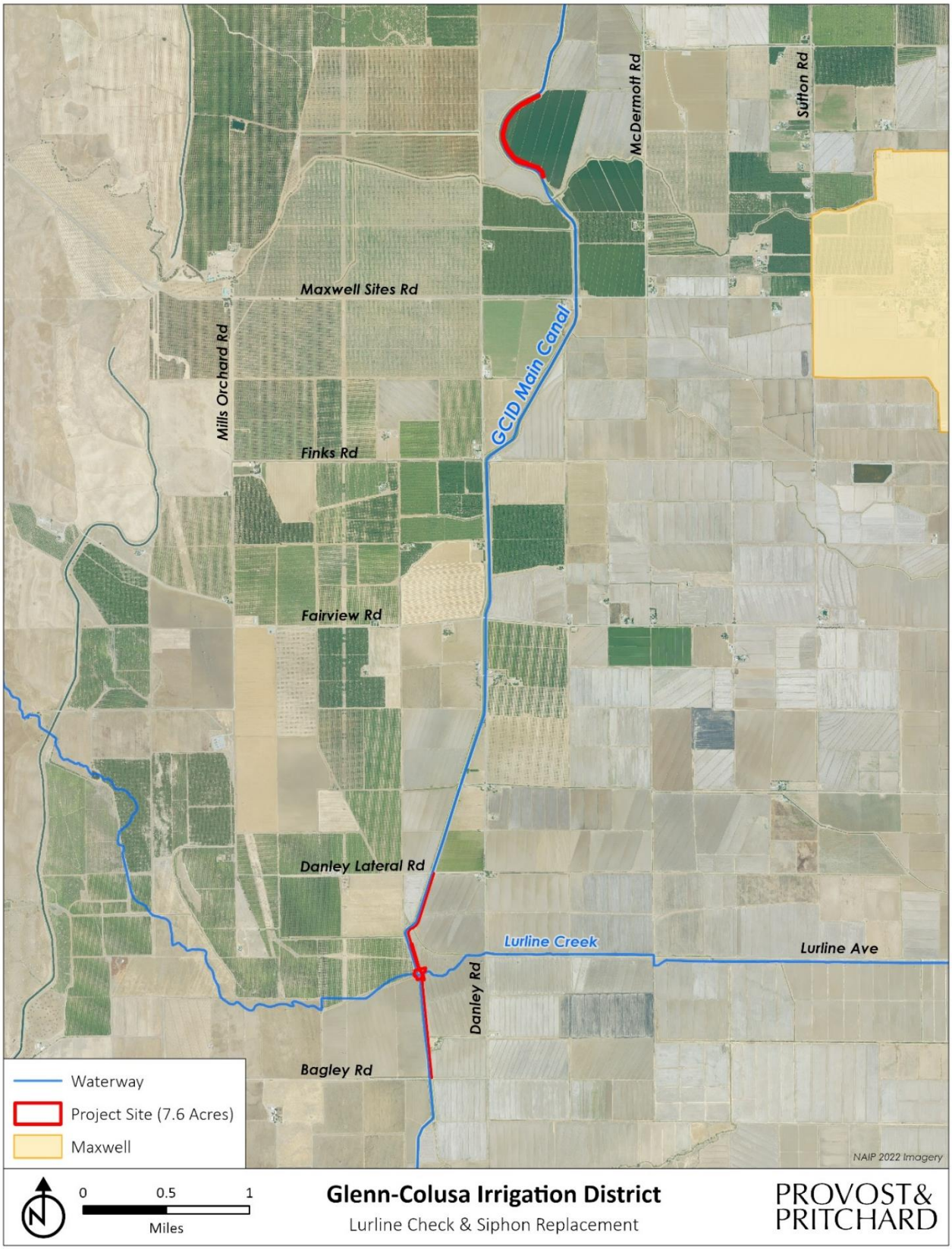

Figure 2-4: Aerial Overview Map

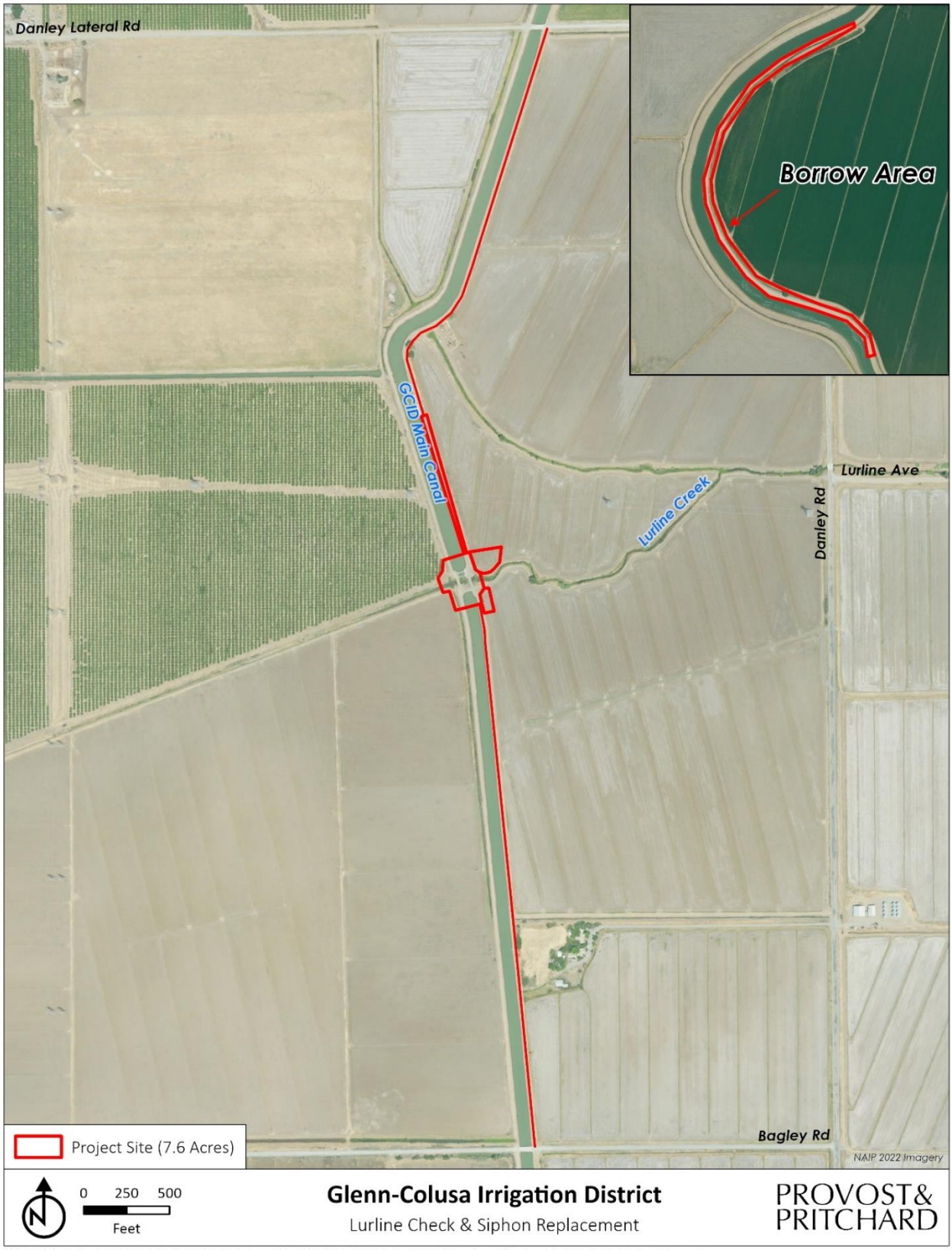

Figure 2-5: Aerial Map

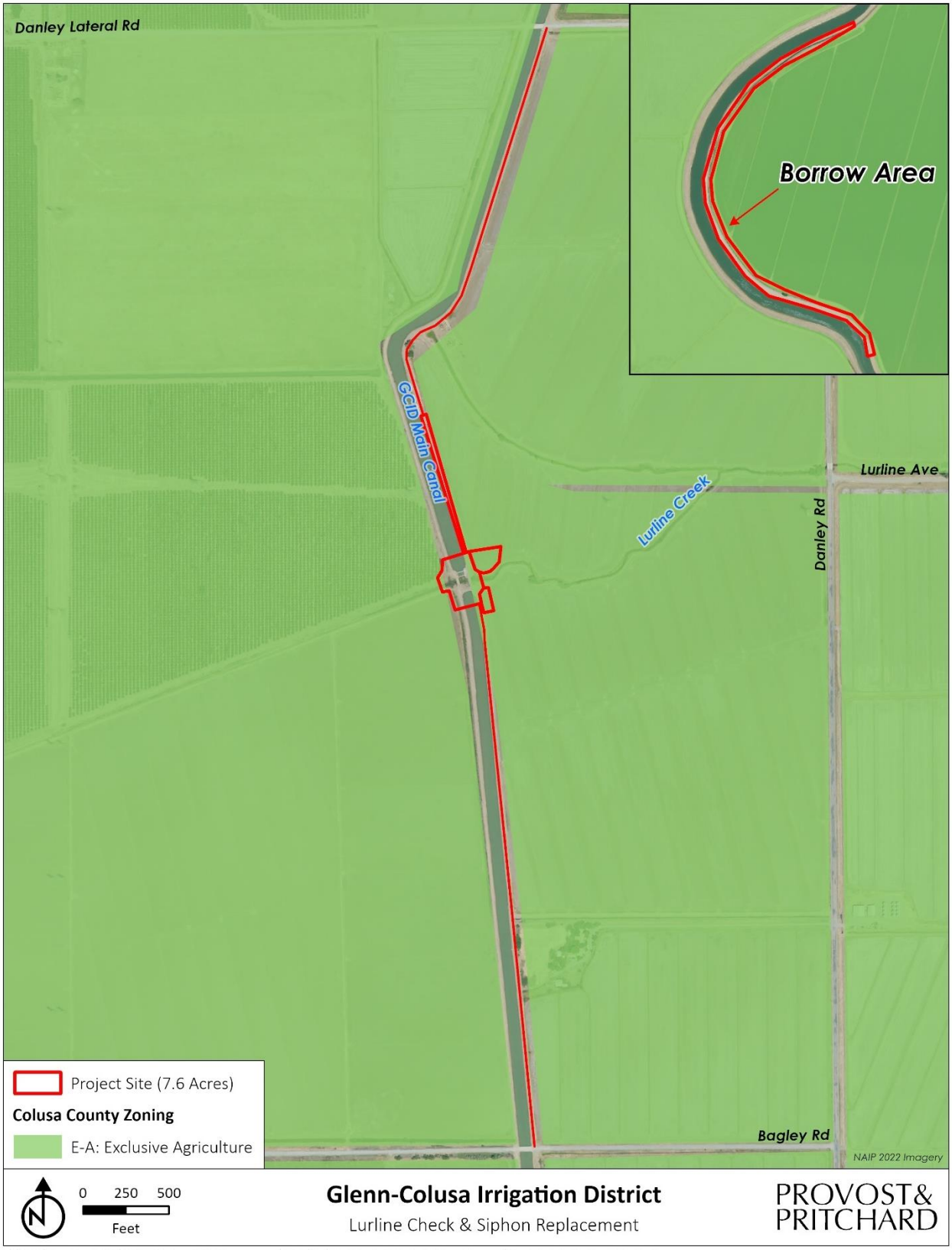

Figure 2-6: Zoning Map

Figure 2-7: General Plan Land Use Map

3 DETERMINATION

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the proposed Project. Environmental factors that are checked below would have potentially significant impacts resulting from the proposed Project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

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

The analyses of environmental impacts in Chapter 4 Impact Analysis result in an impact statement, which shall have the following meanings.

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

Less than Significant with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

3.2 DETERMINATION

On the basis of this initial evaluation (to be completed by the Lead Agency):

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

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

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

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

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

Gregory A Krzys

Signature

11 June 2024

Date

Greg Krzys, Assistant General Manager

Name/Position

4 ENVIRONMENTAL IMPACT ANALYSIS

4.1 AESTHETICS

Table 4-1: Aesthetics Impacts

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

4.1.1 BASELINE CONDITIONS

The Project site is located in central Colusa County. Lands in the proposed Project's vicinity consist of relatively flat, irrigated and non-irrigated farmland and agricultural infrastructure. Scenic features in the area mainly include the vast expanse of agricultural uses. In the County, a portion of State Route (SR) 16 has been officially designated by Caltrans as a "State Scenic Highway," however that section is over 15 miles southwest of the proposed Project.[1] Rural roadways, local water distribution canals, and other infrastructure typical of rural agricultural areas in the Sacramento Valley are also in the Project area.

4.1.2 IMPACT ANALYSIS

a) Have substantial adverse effect on a scenic vista?

No Impact. The primary scenic feature in the area is the vast expanse of agricultural uses, but there are also distant views of the Mendocino National Forest to the west. The proposed Project would not obstruct the viewshed of a scenic vista during construction or implementation. The Lurline Check would be constructed at approximately the same level as the existing check structure, resulting in no potential views being newly obstructed due to the proposed Project. There would be no impact.

[1] (California Department of Transportation 2018)

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. There are no identified scenic resources, such as trees, rock outcroppings, or historic buildings, within the Project site or general vicinity. There would not be any components of the proposed Project that would cause obstruction to the general public view of natural features, nor would the proposed Project have an adverse effect on a scenic view. SR 16, located in southwest Colusa County, is the only Officially Designated State Scenic Highway in the County and is not located near the Project site.[2] The proposed Project activities would be taking place approximately 15 miles northeast of the highway segment and, as such, do not have the potential to cause any adverse effects. Moreover, the Project site is not visible from the segment. There would be no impact.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

No Impact. The Project site currently contains Lurline Creek, the Glenn-Colusa Canal, and agricultural lands. The site and surrounding lands are zoned for agriculture and are located in rural Colusa County. The new Lurline Check would replace the existing structure and would not substantially degrade the existing visual character of the area. There would be no impact.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. The lands surrounding the Project site are devoted to agriculture uses. While the proposed Project would include additional artificial lighting (photovoltaic), it would be turned on via a light switch. As such, it would not turn on automatically nor due to motion and would only be used if emergency nighttime maintenance were to be necessary. Vehicular traffic to the site after construction would be for as-needed maintenance trips; operations would be monitored remotely through the SCADA system unless physical maintenance were required. Therefore, the proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area or be inconsistent with existing conditions. There would be no impact.

4.1.3 FEDERAL CROSS-CUTTING TOPIC

4.1.3.1 WILD, SCENIC, AND RECREATIONAL RIVERS ACT

The National Wild and Scenic Rivers Act was established in 1968, to maintain the natural beauty, biology, and wildness of federally designated "wild," "scenic," or "recreational" rivers that may be threatened by construction of dams, diversions, and canals. The act seeks to preserve these designated rivers in their free-flowing condition and to protect their immediate environments for the benefit and enjoyment of present and future generations. California has approximately 189,454-miles of river, of which approximately 1,999-miles are designated as wild & scenic—1% of the state's river miles.[3] There are no "wild" or "scenic" rivers within or proximate to the Project site.

[2] Ibid
[3] (National Wild and Scenic Rivers System 2022)

4.2 AGRICULTURE AND FORESTRY RESOURCES

Table 4-2: Agriculture and Forest Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

4.2.1 BASELINE CONDITIONS

The proposed Project would be located in Colusa County, a county characterized by extensive and productive agricultural operations. From the most recently available Colusa County Crop and Livestock Report, the gross value of the County's agricultural production in 2022 was $433,189,000, and the top three crops in the County were almonds, rice, and walnuts.[4] The County's agriculture industry experienced unprecedented lows in terms of crop production for multiple commodities in 2022. The drought conditions throughout California led to some of the lowest water allocations ever seen in the County. As a result, many growers were forced to fallow fields while others pulled orchards.

4.2.2 APPLICABLE REGULATIONS

Farmland Mapping and Monitoring Program (FMMP): The FMMP produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The DOC's 2012 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical

[4] (Colusa County 2022)

data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, summarized below:[5]

- PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include non- irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.
- URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
- WATER (W): Perennial water bodies with an extent of at least 40 acres.

The State of California DOC 2012 FMMP for the County designates the Project site as Unique Farmland (the Glenn-Colusa Canal) and Prime Farmland surrounding the Glenn-Colusa Canal, as shown in Figure 4-1.

Williamson Act: The Williamson Act, also known as the California Land Conservation Act of 1965, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

The DOC assists all levels of government and landowners in the interpretation of the Williamson Act related government code. The DOC also researches, publishes, and disseminates information regarding the policies, purposes, procedures, and administration of the Williamson Act according to government code. Participating counties and cities are required to establish their own rules and regulations regarding implementation of the Act within their jurisdiction. These rules include, but are not limited to, enrollment guidelines, acreage minimums, enforcement procedures, allowable uses, and compatible uses. The proposed Project would not include any parcels currently under Williamson Act.

[5] (California Department of Conservation 2016). Accessed October 25, 2022.

4.2.3 IMPACT ANALYSIS

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The Project site is on land designated as Prime Farmland and Unique Farmland. The Project would replace an existing agricultural irrigation structure and would not convert farmland to non-agricultural use. By incorporating the new Lurline Check, water levels and velocity would be more consistent for the Glenn-Colusa Canal and ensure more consistent water deliveries would be made to downstream farmers. The proposed Project would ultimately benefit water resources that may be used for agricultural lands in the vicinity and thereby prevent the lands from being fallowed due to inadequate or costly recovery of declining water supply. There would be no impact from conversion of farmland to non-agricultural use.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The California Government Code Section 53091(e) states, "[z]oning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water", and therefore cannot conflict with zoning for agricultural uses. There are no parcels currently under Williamson Act contract within the proposed Project. The proposed Project's purpose is to replace an existing facility used for the transmission of water, and thereby enhance the conveyance of surface water into the District's boundaries to sustain agriculture. The replacement check structure and siphon would address the structural concerns of the existing infrastructure and improve the District's water conveyance infrastructure, inherently promoting the agricultural zoning. There would be no impact.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

d) Result in the loss of forest land or conversion of forest land to non-forest use?

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

c-e) No Impact. The Project site is designated as Agriculture as per the Colusa County General Plan and zoned EA (Exclusive Agriculture) under the Colusa County Zoning Ordinance. The proposed Project would not convert the land from its existing agricultural designation to any other land use. Additionally, there are no lands zoned for forest or timberland use on the Project site or the surrounding area.[6] There would be no impact.

4.2.4 FEDERAL CROSS-CUTTING TOPIC

4.2.4.1 FARMLAND PROTECTION ACT

The Farmland Protection and Policy Act (FPPA) was enacted in 1981 to minimize the loss of prime farmland and unique farmlands because of federal actions that converted these lands to nonagricultural uses. The

[6] (United States Forest Service n.d.)

act assures that federal programs are compatible with state and local governments and private programs and policies to protect farmland.

The proposed Project is located on lands that are classified as "Prime Farmland" and “Unique Farmland”. As defined by the FPPA, prime farmland is farmland that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and also is available for these uses. A unique farmland is land other than prime farmland that is used for production of specific, high-value food and fiber crops; it has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops. The proposed Project would replace an existing check structure and siphon and would not convert Prime Farmland or Unique Farmland to nonagricultural uses. Therefore, the proposed Project would not conflict with the Farmland Protection and Policy Act or adversely affect Prime or Unique Farmland.

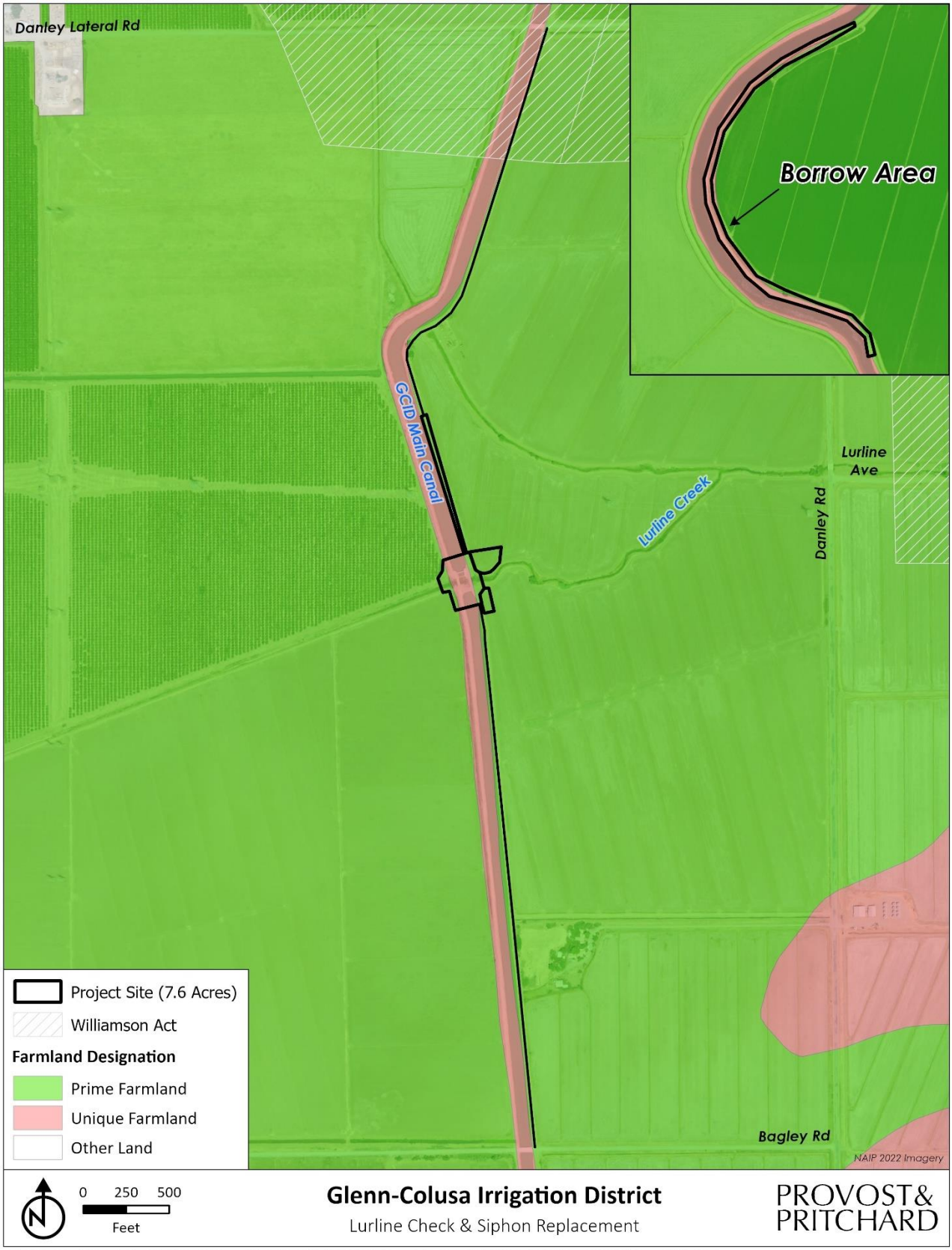

Figure 4-1: Farmland Designation Map

4.3 AIR QUALITY

Table 4-3: Air Quality Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

4.3.1 BASELINE CONDITIONS

The Project site is located within the boundaries of the Colusa County Air Pollution Control District (CCAPCD) and the Sacramento Valley Air Basin (SVAB). The SVAB is bounded by the Sierra Nevada Mountain Range to the east, the Cascade Mountain Range to the north, and the Northern Coastal Mountain Range to the west. Due to a lack of strong wind and the natural confinement of the mountain ranges surrounding the SVAB, the region experiences air stagnation which can create poor air quality conditions within the SVAB.

4.3.1.1 REGULATORY ATTAINMENT DESIGNATIONS

Under the California Clean Air Act (CCAA), the California Air Resources Board (CARB) is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The United States Environmental Protection Agency (USEPA) designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The USEPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, USEPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

According to the USEPA Colusa County was not in non-attainment for any pollutant concentrations.[7]

Table 4-4: Summary of Ambient Air Quality Standards and Attainment Designation

Pollutant	Averaging Time	California Standards		National Standards*	
		Concentration	Attainment Status	Primary	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	Attainment	–	No Federal Standard
	8-hour	0.070 ppm	Attainment	0.075 ppm	Attainment
Particulate Matter (PM_{10})	AAM (Annual Average Median)	20 µg/m3	Attainment		Attainment
	24-hour	50 µg/m3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m3	Attainment	12 µg/m3	Attainment
	24-hour	No Standard		35 µg/m3	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour				
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m3	
Sulfates (SO_4)	24-hour	25 µg/m^3	Attainment	24-hour	No Federal Standards
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified	1-hour	
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment	24-hour	
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometers-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified	8-hour	

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard 2023.*
****Secondary Standard*
Source: CARB 2015

[7] (United States Environmental Protection Agency 2023)

4.3.1.1.1 CONSTRUCTION-GENERATED EMISSIONS

Emissions associated with the proposed Project were calculated using CalEEMod Air Quality Model, Version 2020.4.0. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and the default parameters contained in the model. Localized air quality impacts associated with the proposed Project would be minor. Modeling assumptions and output files are included in Appendix A.

4.3.1.1.2 THRESHOLDS OF SIGNIFICANCE

The CCAPCD does not have set thresholds governing the generation of air quality emissions for both construction and operational activities. As a result, the thresholds of the Feather River Air Quality Management District (FRAQMD) have been utilized as the applicable thresholds for this Project. The FRAQMD abuts the boundaries of the CCAPCD to the east and is located within the SVAB, making the air quality conditions between the two districts similar in nature. The air quality emissions thresholds of the FRAQMD air contained in Table 4-5 below.

Table 4-5: Project-Level Air Quality CEQA Thresholds of Significance[8]

Pollutant	Significance Threshold	
	Construction Emissions	Operational Emissions
ROG	25 lbs/day x 88 days (2,200 lbs); 4.5 tons/year	25 lbs/day
NO_X	25 lbs/day x 88 days (2,200 lbs); 4.5 tons/year	25 lbs/day
CO	-	-
SO_X	-	-
PM_{10}	80 lbs/day	80 lbs/day
$PM_{2.5}$	-	-

4.3.2 IMPACT ANALYSIS

4.3.2.1 PROJECT RELATED EMISSIONS

Estimated construction-generated emissions are summarized in Table 4-6 and Table 4-7. Operational emissions of the proposed Project would be considered negligible due to the type of improvements proposed. Additionally, the Project proposes the replacement of existing infrastructure. The new infrastructure would result in emissions that would be similar to or less than existing emissions. Negligible amounts of operational emissions would result from pumping and conveyance related activities utilizing gates, valves, and other related infrastructure. Water conveyance infrastructure does not require continuous generation of emissions and emissions would result when infrastructure constructed by the Project is used to convey water. As a result, Project operational emissions would be low, with no potential to exceed any applicable threshold governing the generation of criteria air pollutant emissions.

Table 4-6: Unmitigated Short-Term Construction Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons per Year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Annual Project Construction Emissions	0.0462	0.3484	0.4224	8.2000e-004	0.0307	0.0185
FRAQMD Threshold	*4.5*	*4.5*	-	-	-	-
Threshold Exceeded?	No	No	N/A	N/A	No	N/A

[8] (Feather River Air Quality Management District 2010)

Table 4-7: Maximum Daily Construction Related Emissions of Criteria Air Pollutants

Source	Daily Emissions Maximum (in pounds)					
	ROG	NOX	CO	SOX	PM10	PM2.5
Construction – Summer	1.4947	13.9172	13.9822	0.0258	7.7831	3.9856
Construction – Winter	1.4902	13.9236	13.8913	0.0256	7.7831	3.9856
FRAQMD Threshold	*2,200*	*2,200*	-	-	*80*	-
Threshold Exceeded?	No	No	No	No	No	No

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The proposed Project would not conflict with or obstruct implementation of any applicable air quality plan. The proposed Project would not exceed any threshold for air quality emissions that has been set by the CCAPCD or FRAQMD. Therefore, there would be no impact.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. Construction would be temporary, lasting for approximately six months. The proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the proposed Project region is in non-attainment. As shown in Table 4-6 and Table 4-7, the proposed Project would not exceed an emissions threshold which has been set by the FRAQMD for construction related emissions. The proposed Project would result in negligible quantities of operational emissions. Additionally, the proposed Project is not located in an area of the state that is in non-attainment for any air pollutant concentrations. Therefore, impacts would be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

No Impact. The proposed Project would not expose sensitive receptors to substantial pollutant concentrations. Emissions generated by the proposed Project would not exceed the set thresholds by the FRAQMD. Additionally, the construction would occur approximately 2,100 feet from the nearest potential sensitive receptor, a residence south of the Project site. Operational emissions would be similar to or lower than existing conditions. Therefore, there would be no impact.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No Impact. During construction activities, construction equipment exhaust, application of asphalt, and other construction applications would temporarily emit odors. Construction would be completed within rural Colusa County, northwest of the City of Williams. The proposed Project would result in ground disturbance approximately 2,100 feet from the nearest residence. Regardless, construction of the proposed Project would be temporary, and odors would not remain after Project completion. Therefore, there would be no impact.

4.4 BIOLOGICAL RESOURCES

Table 4-8: Biological Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

4.4.1 BASELINE CONDITIONS

4.4.1.1 GENERAL

The Project site is located within the U.S. Geological Survey (USGS) *Manor Slough* 7.5-minute quadrangle, within the east quadrant of section 24 and 25, Township 16 north, Range 4 west. The borrow area is located within the USGS *Maxwell* 7.5-minute quadrangle, within the west quadrant of section 30 and 31, Township 17 north, Range 3 west. The topography of the site and borrow area is relatively flat with elevations ranging from approximately 118 to 124 feet above mean sea level.

4.4.1.2 CLIMATE

Like most of California, the Project site experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 80- and 95-degrees Fahrenheit (°F). Winter temperatures are often below 60 °F during the day and rarely exceed 65 °F. On average, the County receives approximately 13 inches of precipitation in the form of rain yearly, most of which occurs between November and March, and the Project site would be expected to receive similar amounts of precipitation.

4.4.1.3 HYDROLOGY

The nearest surface water to the proposed Project is the Creek. The Glenn-Colusa Canal runs through the site and also runs adjacent to the borrow area. Small ditches also occur within and adjacent to the site and borrow area.

4.4.1.4 SOILS

Two soil mapping units representing two soil types were identified within the Project site and borrow area and are listed in (see Appendix B for the Web Soil Survey Report). The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California. Both soils are primarily used for irrigated pastures.

Table 4-9: List of Soils Located Onsite and Their Basic Properties

Soil	Soil Map Unit	Percent of Site	Hydric Soil Category	Drainage	Permeability	Runoff
Capay	Clay loam, 0 percent slopes	19.2%	Predominantly Nonhydric	Moderately well drained	Very slow	Very low
Hillgate	Clay loam, 0 to 2 percent slopes	32.6%	Predominantly Nonhydric	Well drained	Very slow	Low
Water	-	48.2%	-	-	-	-

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported. The soils within the site and borrow area are considered predominantly nonhydric.

4.4.1.5 BIOTIC HABITATS

Four biotic habitats were observed within the Project site and proposed borrow area and included ruderal, riverine/riparian, canal/ditch, and agricultural. Bird species observed throughout the Project site and borrow area include red-tailed hawk (*Buteo jamaicensis*), white-crowned sparrow (*Zonotrichia leucophrys*), great blue heron (*Ardea herodias*), American pipit (*Anthus rubescens*), savannah sparrow (*Passerculus sandwichensis*), house sparrow (*Passer domesticus*), greater yellowlegs (*Tringa melanoleuca*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), song sparrow (*Melospiza melodia*), black phoebe (*Sayornis nigricans*), Eurasian collared dove (*Streptopelia decaocto*), Brewer's blackbird (*Euphagus cyanocephalus*), and northern harrier (*Circus hudsonius*). These habitats and their constituent plant and animal species are described in more detail in the following sections.

4.4.1.5.1 RUDERAL

The ruderal habitat within the Project site and borrow area included dirt roads between the Canal and ditches. Vegetation within the ruderal habitat included non-native grasses, common groundsel (*Senecio vulgaris*), milk thistle (Sil*ybum marianum*), lupine (*Lupinus* sp.), mustard (*Brassica* spp.), moss (*Bryophyta* sp.), redstem filaree (*Erodium cicutarium*), common sow-thistle (*Sonchus oleraceus*), great mullein

(*Verbascum thapsus*), Johnson grass (*Sorghum halepense*), poison hemlock (*Conium maculatum*), white horehound (*Marrubium vulgare*), cheese weed mallow (*Malva parviflora*), and Shepherd's-purse (*Capsella bursa-pastoris*).

Wildlife species or signs observed in the ruderal habitat that were not observed in other habitats included Pacific tree frogs (*Pseudacris regilla*), raccoon (*Procyon lotor*) tracks, deer (*Cervidae* sp.) tracks, unidentified mammal bones, and small mammal burrows along the bank and at top of the bank.

4.4.1.5.2 RIVERINE/RIPARIAN

The site contains riverine/riparian habitat in the form of the Creek, which contained water at the time of the field survey and concrete structures associated with the siphon. Vegetation within the Creek included invasive grasses, Johnson grass, Himalayan blackberry (*Rubus armeniacus*), curly dock (*Rumex crispus*), poison hemlock, common duckweed (*Lemna minor*), broadleaf cattail (*Typha latifolia*), common cocklebur (*Xanthium strumarium*), and horsetail (*Equisetum hyemale*).

Wildlife species or signs observed in the riverine/riparian habitat that were not observed in other habitats included cliff swallow (*Petrochelidon pyrrhonota*) nests on the concrete structures around the siphon. The riverine/riparian habitat within the site is disturbed by the existing siphon but provides year-round habitat to a variety of wildlife. Birds, including raptors, could forage in this habitat during the day, as well as bats, coyotes, and other nocturnal animals at night.

4.4.1.5.3 CANAL/DITCH

No vegetation was observed in the Glenn-Colusa Canal. Emergent aquatic vegetation and other plant species observed within the ditches included non-native grasses, broadleaf cattail, milk thistle, bristly oxtongue (*Helminthotheca echioides*), watercress (*Nasturtium officinale*), stinging nettle (*Urtica dioica*), Himalayan blackberry, common duckweed, curly dock, mustard species, and poison hemlock.

Wildlife species observed in the canal and/or ditch that were not observed elsewhere on the Project site included red-winged blackbird (*Agelaius phoeniceus*), western mosquitofish (*Gambusia affinis*) within the ditch in the borrow area, and coyote (*Canis latrans*) dens and tracks along the banks of the Glenn-Colusa Canal and ditches.

4.4.1.5.4 AGRICULTURAL

The site contains agricultural land which included rice fields that had been harvested prior to the survey. No other vegetation was found within the site. The fields were partially inundated but a few small mammal burrows were observed in dry areas. Wildlife species observed in the agricultural land that were not observed in other areas included sandhill crane (*Antigone canadensis*).

4.4.1.6 DESIGNATED CRITICAL HABITAT

The United States Fish and Wildlife Service (USFWS) often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species, which may require special management and protection. According to the USFWS Information for Planning and Consultation (IPaC), there is no designated critical habitat in the Check site, borrow area, or within ten miles of the Check site and borrow area.

4.4.1.7 WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements.

Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. The Creek and canal/ditch habitat within the site and/or borrow area are likely to function as wildlife movement corridors. Aquatic species may use the Creek and canal/ditch to travel, and numerous wildlife tracks, including deer, were observed on the roads and within the canal/ditch areas during the field survey.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place. The Creek and the ditches within the site would be considered native wildlife nursery sites that could be used by Pacific tree frogs, western toad (*Anaxyrus boreas*), and other amphibians to raise their young. While neither Pacific tree frogs nor western toad were observed within the Creek or ditches, Pacific tree frogs were observed along the edges of the Creek and ditches within the Check site and borrow area, and western toads are commonly observed in the area.

4.4.1.8 SPECIAL STATUS PLANTS AND ANIMALS

California contains several rare plant and animal species. In this context, "rare" is defined as a species known to have low populations or limited distributions. Conversion of high-quality habitat to accommodate human population growth in turn reduces the already-limited suitable habitat for rare species. This results in rare and sensitive species becoming increasingly more vulnerable to extirpation. State and federal regulations have provided the California Department of Fish and Wildlife (CDFW) and USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under state and federal endangered species legislation. Other formal designations include "candidate" for listing or "species of special concern" by CDFW. The California Native Plant Society (CNPS) has its list of native plants considered rare, threatened, or endangered. Collectively these animals and plants are referred to as "special status species."

A query of the California Natural Diversity Database (CNDDB) for occurrences of special status plant and animal species was conducted for the *Manor Slough* and *Maxwell* 7.5-minute USGS quadrangles that contain the Project site and borrow area, and for the twelve surrounding USGS quadrangles: *Colusa*, *Cortina Creek*, *Leesville*, *Lodoga*, *Logan Ridge*, *Logandale*, *Moulton Weir*, *Princeton*, *Salt Canyon*, *Sites*, *Wilbur Springs*, and *Williams*. A query of the IPaC was also completed for the site and borrow area (see Appendix B). These species, and their potential to occur within the site or borrow area, are listed in Table 4-10 and Table 4-11 on the following pages. All relevant sources of information, as discussed in Appendix B, as well as field observations, were used to determine if any special status species have the potential to occur within the Check site and borrow area.

Table 4-10: List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Project Site
Adobe-lily (*Fritillaria pluriflora*)	CNPS 1B	Found in chaparral, cismontane woodland, and valley and foothill grasslands. Usually on clay soils; sometimes serpentine. Found at elevations between 145 and 3,100 feet. Blooms February –April.	**Unlikely.** While the Check site and borrow area contained clay soils, suitable habitat is absent. The nearest recorded observation of this species within the vicinity was approximately 12 miles southwest of the Check site in 2008.
Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*)	CNPS 1B	Found in meadows, seeps, vernal pools and swales within cismontane woodland, valley and foothill grassland, and lower montane coniferous forest with adobe or alkaline soils at elevations between 10 and 5,510 feet. Blooms April – July.	**Unlikely.** While the Check site and borrow area contained swales, adobe and alkaline soils are absent. The nearest recorded observation of this species within the vicinity was approximately 1.5 miles northwest of the borrow area in 1985.
Bent-flowered fiddleneck	CNPS 1B	Found in cismontane woodland, valley and foothill grassland, and coastal bluff	**Absent.** Suitable habitat is absent within the Check site and borrow area.

Species	Status*	Habitat	Occurrence within the Project Site
(*Amsinckia lunaris*)		scrub at elevations between 10 and 2,600 feet. Blooms March – June.	
Big-scale balsamroot (*Balsamorhiza macrolepis*)	CNPS 1B	Found in open, grassy, or rocky slopes within chaparral, grassland, and cismontane woodland habitats at elevations less than 5,000 feet. Blooms March – June.	**Absent.** Suitable habitat is absent within the Check site and borrow area.
Bolander's horkelia (*Horkelia bolanderi*)	CNPS 1B	Found in lower montane coniferous forests, chaparral, meadows and seeps, and valley and foothill grasslands between 1,500 and 2,800 feet. Blooms June – August.	**Absent.** The Check site and borrow area are outside the elevation range for this species.
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the Central Valley in alkaline or clay soils, typically in meadows or annual grasslands at elevations below 1,100 feet. Sometimes associated with vernal pools. Blooms June – October.	**Unlikely.** While the Check site and borrow area contain clay soils, suitable habitat is absent. The nearest recorded observation of this species within the vicinity was approximately 2 miles northwest of the borrow area in 1985.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	Found in the Central Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3,000 feet. Blooms March – May.	**Absent.** Suitable habitat, in the form of saline flats and mineral springs, is absent within the Check site and borrow area.
Cobb Mountain lupine (*Lupinus sericatus*)	CNPS 1B	Found in chaparral, cismontane woodland, lower montane coniferous forest, and broadleaved upland forest. Generally occurs in stands of knobcone pine-oak woodland on open wooded slopes in gravelly soils; sometimes on serpentine soils at elevations between 400 and 4,500 feet. Blooms March – June.	**Absent.** The Check site and borrow area are outside the elevation range for this species and suitable habitats and soils were absent.
Colusa layia (*Layia septentrionalis*)	CNPS 1B	Found in chaparral, cismontane woodland, and valley and foothill grasslands. Generally occurs on grassy slopes in sandy or serpentine soils at elevations between 50 and 3,600 feet. Blooms April – May.	**Absent.** Sandy soils, serpentine soils, and suitable habitat are absent within the Check site and borrow area.
Colusa grass (*Neostapfia colusana*)	FT, CE, CNPS 1B	Found in vernal pools within the Central Valley at elevations below 450 feet. Blooms May – August.	**Absent.** Suitable habitats including vernal pools are absent within the Check site and borrow area.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CNPS 1B	Found on alkaline and saline soils in vernal pools and playas in grasslands at elevations below 4,500 feet. Blooms April – May.	**Absent.** Suitable habitats, including vernal pools and playas, are absent within the Check site and borrow area and surrounding areas.
Deep-scarred cryptantha (*Cryptantha excavata*)	CNPS 1B	Found in cismontane woodlands in sandy, gravelly, dry streambanks at elevations between 600 and 1,200 feet. Blooms April – May.	**Absent.** The Check site and borrow area are outside the elevation range for this species.
Diamond petaled California poppy (*Eschscholzia rhombipetala*)	CNPS 1B	Found in alkaline and clay soils on slopes and flats in valley and foothill grasslands. The range of this species includes the southern portion of the San Joaquin valley and the inner coastal range, as well as portions of the San Francisco Bay area at elevations below 2,100 feet. Blooms March – April.	**Unlikely.** While the Check site and borrow area contain clay soils, suitable habitat is absent. The Check site and borrow area are outside the current known populations of this species. The nearest recorded observation of this species within the vicinity was approximately 11.5 miles northwest of the site prior to 1889.

Species	Status*	Habitat	Occurrence within the Project Site
Drymaria-like western flax (*Hesperolinon drymarioides*)	CNPS 1B	Found in closed-cone coniferous forest, chaparral, cismontane woodland, and valley and foothill grassland. Often occurs on serpentine soils within chaparral at elevations between 1,300 and 3,600 feet. Blooms May – August.	**Absent.** The Check site and borrow area are outside the elevation range for this species.
Ferris' milk-vetch (*Astragalus tener var. ferrisiae*)	CNPS 1B	Found in meadows, seeps, and valley and foothill grasslands. Often occurs on subalkaline flats on overflow land in the Central Valley; usually seen in dry, adobe soil at elevations below 260 feet. Blooms April – May.	**Absent.** Adobe soils and suitable habitat are absent within the Check site and borrow area.
Greene's tuctoria (*Tuctoria greenei*)	FE, CNPS 1B	Found in the Central Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3,500 feet. Blooms May – September.	**Absent.** Suitable habitats, including vernal pools, are absent within the Check site and borrow area.
Greene's narrow-leaved daisy (*Erigeron greenei*)	CNPS 1B	Found in chaparral. Often occurs in serpentine soils and volcanic substrates at elevations between 300 and 2,700 feet. Blooms May – September.	**Absent.** The Check site and borrow area are outside of the elevation range for this species and suitable habitats and soils are absent.
Hairy Orcutt grass (*Orcuttia pilosa*)	FE, CE, CNPS 1B	Found in vernal pools in valley grassland, wetland, and riparian communities at elevations below 650 feet. Blooms May – September.	**Absent.** Suitable habitats, including vernal pools, were absent within the Check site and borrow area.
Hall's harmonia (*Harmonia hallii*)	CNPS 1B	Grows on serpentine soils within chaparral. Often on hills and ridges with open, rocky areas at elevations between 1,100 and 3,100 feet. Blooms April – June.	**Absent.** The Check site and borrow area are well outside the elevation range for this species.
Heartscale (*Atriplex cordulata* var. *cordulata*)	CNPS 1B	Found in the Central Valley in saline or alkaline soils within shadscale scrub, valley grassland, and wetland-riparian communities at elevations below 250 feet. Blooms June – July.	**Absent.** Saline or alkaline soils and suitable habitat are absent within the Check site and borrow area.
Heckard's pepper-grass (*Lepidium latipes* var. *heckardii*)	CNPS 1B	This facultative wetland plant species is found in alkaline soils in valley and foothill grassland communities. It may occur in wetlands and vernal pools. Found at elevations below 2,300 feet. Blooms March – June.	**Absent.** Alkaline soils and suitable aquatic habitat with pools are absent within the Check site and borrow area.
Hoover's spurge (*Euphorbia hooveri*)	FT, CNPS 1B	Found in vernal pools within valley grassland, freshwater wetland, and riparian communities at elevations below 800 feet. Blooms July – September.	**Absent.** Suitable habitats, including vernal pools, are absent within the Check site and borrow area.
Indian Valley brodiaea (*Brodiaea rosea*)	CE, CNPS 3	Found in closed-cone coniferous forest, chaparral, cismontane woodland, and valley and foothill grasslands. Occurs in serpentine soils in areas with gravelly creek bottoms, and in meadows and swales at elevations between 1,100 and 3,900 feet. Blooms May – June.	**Absent.** The Check site and borrow area are outside the elevation range for this species.
Jepson's milk-vetch (*Astragalus rattanii* var. *jepsonianus*)	CNPS 1B	Found in cismontane woodland, valley and foothill grassland, and chaparral. Commonly on serpentine soils in grassland or openings in chaparral at elevations between 580 and 3,300 feet. Blooms March – June.	**Absent.** The Check site and borrow area are outside the elevation range for this species and suitable habitats and soils are absent.

Species	Status*	Habitat	Occurrence within the Project Site
Keck's checkerbloom (*Sidalcea keckii*)	FE, CNPS 1B	Occurs in cismontane woodland, and valley and foothill grassland communities, typically on grassy slopes in clay soils at elevations between 250 and 1,700 feet. Blooms April – May.	**Absent.** The Check site and borrow area are outside the elevation range for this species and suitable habitats and soils are absent.
Milo Baker's lupine (*Lupinus milo-bakeri*)	CT, CNPS 1B	Found in cismontane woodland, and valley and foothill grasslands. Occurs in roadside ditches, dry gravelly areas along roads, and along small streams at elevations between 1,250 and 1,400 feet. Blooms June – September.	**Absent.** The Check site and borrow area are well outside the elevation range for this species.
Palmate-bracted bird's beak (*Chloropyron palmatum*)	FE, CE, CNPS 1B	Found in the Central Valley in alkaline soils (usually Pescadero silty clay) in chenopod scrub, as well as valley and foothill grassland communities at elevations below 500 feet. Blooms June – August.	**Absent.** Alkaline soils and suitable habitats are absent within the Check site and borrow area.
Pappose tarplant (*Centromadia parryi* ssp. *Parryi*)	CNPS 1B	Found in chaparral, coastal prairie, meadows and seeps, coastal salt marsh, and valley and foothill grassland. Occurs in vernally mesic, often alkaline sites at elevations below 1,640 feet. Blooms May – November.	**Absent.** Alkaline soils and suitable habitat are absent within the Check site and borrow area.
Pink creamsacs (*Castilleja rubicundula* var. *rubicundula*)	CNPS 1B	Found in chaparral, cismontane woodland, meadows and seeps, and valley and foothill grasslands. Often found on serpentine soil at elevations from 65 and 3,000 feet. Blooms April – June.	**Absent.** Serpentine soils and suitable habitat are absent within the Check site and borrow area.
Porter's navarretia (*Navarretia paradoxinota*)	CNPS 1B	Found in meadows and seeps on serpentinite soils, in vernally mesic areas and often in drainages, at elevations between 580 and 2,870 feet. Blooms May – July.	**Absent.** The Check site and borrow area are outside the elevation and geographic range for this species.
Red-flowered bird's-foot trefoil (*Acmispon rubriflorus*)	CNPS 1B	Found in oak woodlands and valley and foothill grasslands. This species range includes the northern inner coastal range of California and the San Francisco Bay area at elevations between 600 and 1,600 feet. This species has been found growing in volcanic mudflow deposits. Blooms April – May.	**Absent.** The Check site and borrow area are outside the elevation and geographic range for this species.
San Joaquin spearscale (*Extriplex joaquinana*)	CNPS 1B	Found in alkali wetlands, sinks, and scrublands in the Central Valley and Delta-Bay region of California. Associated with desert saltgrass, sea heath, and other scrub species at elevations below 1,200 feet. Blooms April – September.	**Absent.** Alkali wetlands and suitable habitat are absent within the Check site and borrow area.
Serpentine cryptantha (*Cryptantha dissita*)	CNPS 1B	Found in chaparral on serpentine soil outcrops between 440 and 2,400 feet. Blooms March – June.	**Absent.** The Check site and borrow area are outside the elevation range for this species and suitable habitats and soils are absent.
Shining navarretia (*Navarretia nigelliformis* ssp. *radians*)	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 and 3,200 feet. Blooms May – July.	**Absent.** The Check site and borrow area are outside the elevation range for this species and suitable habitats and soils are absent.
Snow Mountain buckwheat	CNPS 1B	Found in chaparral on dry serpentine soil outcrops, balds, and barrens at elevations	**Absent.** The Check site and borrow area are well outside of the elevation range for this species.

Species	Status*	Habitat	Occurrence within the Project Site
(*Eriogonum nervulosum*)		between 1,460 and 6,900 feet. Blooms June – September.	
Three-fingered morning-glory (*Calystegia collina* ssp. *tridactylosa*)	CNPS 1B	Found in chaparral and cismontane woodland on rocky, gravelly openings in serpentine soils at elevations between 1,980 and 2,300 feet. Blooms April – June.	**Absent.** The Check site and borrow area are well outside the elevation range for this species.
Two-carpellate western flax (*Hesperolinon bicarpellatum*)	CNPS 1B	Found on serpentine barrens at the edge of chaparral at elevations between 570 and 2,700 feet. Blooms May – July.	**Absent.** The Check site and borrow area are outside the elevation range for this species and suitable habitats and soils are absent.
Vernal pool smallscale (*Atriplex persistens*)	CNPS 1B	Occurs in the Central Valley in alkaline vernal pools at elevations below 400 feet. Blooms June – September.	**Absent.** Suitable habitats including vernal pools are absent within the Check site and borrow area.
Water star-grass (*Heteranthera dubia*)	CNPS 2B	Found in marshes and swamps in alkaline soils, still, or slow-moving water. Requires a pH of 7 or higher, usually in slightly eutrophic waters. Found at elevations between 50 and 5,000 feet. Blooms July – August.	**Possible.** Duckweed was observed on top of irrigation ditch water, which is often associated with eutrophic water. However, water star-grass was not observed. The nearest recorded observation of this species within the vicinity was approximately 3.5 miles southeast of the Check site in 2013.
Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*)	CNPS 1B	Occurs in marshes and swamps in moist, freshwater-soaked riverbanks and low peat islands in sloughs. Can also occur on riprap and levees. In California, known from the delta watershed at elevations below 500 feet. Blooms July – November.	**Possible.** The Check site contains riverine/riparian habitat and canal/ditch habitat that include creekbanks and riprap where this species could occur. The nearest recorded observation of this species within the vicinity was approximately 10 miles northeast of the borrow area in 2012.

Table 4-11: List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Project Site
American badger (*Taxidea taxus*)	CSSC	Occurs most abundantly in drier open stages of shrub, forest, and herbaceous habitats with friable soils to burrow, but can be found within numerous habitats throughout California, including the margins of agricultural lands. Needs a sufficient prey base of burrowing rodents.	**Possible.** Multiple large dens were observed along the canal bank in the borrow site. This species could travel through, forage, or den within the various habitats in the site or borrow area. The nearest recorded observation of this species within the vicinity was approximately eight miles southwest of the Check site in 2016.
Bald eagle (*Haliaeetus leucocephalus*)	CE, CFP	Resides in old growth forests as well as lower montane coniferous forests. Can also be found in open uplands in the winter. Nests are generally found in large trees within a mile of water. Nests and winters along ocean shores, lake margins, and rivers.	**Unlikely.** This species could fly over the Check site and borrow area but would not be expected to forage or breed within or adjacent to either site. The nearest recorded observation of this species within the vicinity was approximately 14.5 miles northwest of the borrow site in 1997.
Bank swallow (*Riparia riparia*)	CT	Nests colonially in burrows constructed along vertical banks and bluffs near waterbodies. This disturbance tolerant species is also known to nest in human-made sites, such as quarries, mounds of gravel or dirt, and road cuts.	**Unlikely.** This species could forage within the Check site and borrow area, but banks and bluffs that could serve as nesting habitat are absent within the Check site, borrow area, and surrounding areas. The nearest recorded observation of this species within the vicinity was

Species	Status*	Habitat	Occurrence within the Project Site
			approximately 11.5 miles east of the Check site and borrow area in 2009.
Burrowing owl (*Athene cunicularia*)	CSSC	Resides in open, dry grasslands, deserts, scrublands, and other areas with low growing vegetation. Nests and roosts underground in existing burrows created by mammals, most often by ground squirrels, and human-made structures.	**Possible.** Multiple large burrows were observed along the canal bank in the borrow site. This species could travel through, forage, roost, or nest within the various habitats in the site Check or borrow area. The nearest recorded observation of this species within the vicinity was approximately 0.1 miles west of the borrow area in 1992.
Conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Found in large, turbid freshwater vernal pools in the Central Valley, from Tehama County in the north to Merced County in the south, with one outlying population in Ventura County's Interior Coast Ranges.	**Absent.** Vernal pools are absent within the Check site and borrow area.
Foothill yellow-legged frog – north coast DPS (*Rana boylii*)	FPT, CSSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Unlikely.** The Check site and borrow area lack suitable habitat for this species. The nearest recorded observation of this species within the vicinity was approximately 11 miles southwest of the Check site in 1997.
Giant garter snake (*Thamnophis gigas*)	FT, CT	Occurs in marshes, sloughs, canals, ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	**Possible.** The Check site, borrow area, and surrounding areas contain suitable aquatic habitat for this species and small mammal burrows were present throughout the Check site and borrow area. This species could be found within all habitats. The nearest recorded observation of this species within the vicinity was approximately 0.5 miles east of the borrow area in 1986.
Golden eagle (*Aquila chrysaetod*)	CFP	This species typically nests on cliff ledges or large trees, rarely on the ground. They prefer an expanse of open terrain and are found over tundra, prairie, rangeland, desert, and grassland habitats.	**Unlikely.** This species could fly over the site and borrow area but would not be expected to forage or breed within or adjacent to the site or borrow area. The nearest recorded observation of this species within the vicinity was approximately 8.5 miles southwest of the Check site in 1986.
Green sturgeon (A*cipenser medirostris*)	FT	Spawning occurs primarily in cool (51- 59 °F) sections of mainstem rivers in deep pools (26- 30 feet) with substrate containing small to medium sized sand, gravel, cobble, or boulders, such as the Sacramento, Feather, and Yuba Rivers. Presence in upper Stanislaus and San Joaquin Rivers may indicate spawning. Non-spawning adults occupy marine/estuarine waters. The Delta Estuary is important for rearing juveniles.	**Absent.** An Initial Study/ Environmental Assessment by the Bureau of Reclamation states "there is no evidence of special-status fish species presence" within the Creek.
Longfin smelt (*Spirinchus thaleichthys*)	FC, CT	Found in open waters of estuaries, mostly in middle or bottom of water column. This anadromous fish can survive a variety of salinities and prefers salinities of 15-30 parts per thousand but can be found in completely freshwater to almost pure seawater.	**Absent.** An Initial Study/ Environmental Assessment by the Bureau of Reclamation states "there is no evidence of special-status fish species presence" within the Creek.

Species	Status*	Habitat	Occurrence within the Project Site
Monarch butterfly (*Danaus plexippus*)	FC	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.). Winter roost sites extend along the Pacific coast from northern Mendocino to Baja California, Mexico.	**Unlikely.** The Check site and borrow area do not provide suitable habitat to support this species. No milkweeds were observed, and these areas are maintained for irrigation purposes. There are no recorded observations of this species on CNDDB within the regional vicinity of the Project.
Northern spotted owl (*Strix occidentalis caurina*)	FT, CT	Found in old-growth forests or mixed stands of old-growth and mature trees. Occurs in areas with many trees with cavities or broken tops, woody debris, and space under canopy.	**Absent.** The Check site and borrow area lack suitable habitat for this species.
Northwestern pond turtle (*Actinemys marmorata*)	FPT, CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Possible.** This species could occur within the riverine/riparian habitat and the canal/ditch habitat within the Check site and borrow area. The nearest recorded observation of this species within the vicinity was approximately 12 miles southwest of the Check site in 2004.
Song sparrow ("Modesto" population) (*Melospiza melodia*)	CSSC	Occurs from Colusa County south to Stanislaus County and east of Suisun Marshes. Breeds chiefly below 200 feet elevation. Found in freshwater marshes, riparian thickets, sparsely vegetated irrigation canals, and Valley Oak restoration sites. Cover consists of willow and nettle thickets, growths of tules and cattails, and riparian oak forests with a sufficient understory of blackberry.	**Possible.** The Check site and borrow area contain suitable foraging habitat and nesting habitat within the riverine/riparian habitat and canal/ditch habitat. The nearest recorded observation of this species within the vicinity was approximately 12 miles east of the Check site in 1923.
Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11)	FT	This winter-run fish begins migration to fresh water during peak flows in December through February. The spawning season is typically from February to April. After hatching, this species will move to deeper, mid-channel habitats in late summer and fall. In general, both juveniles and adults prefer complex habitat with boulders, undercut banks, and large woody debris.	**Absent.** An Initial Study/ Environmental Assessment by the Bureau of Reclamation states "there is no evidence of special-status fish species presence" within the Creek.
Swainson's hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible.** One large tree within the borrow area provides suitable nesting habitat. The nearest recorded observation of this species within the vicinity was approximately 2.5 miles northeast of the borrow area in 2006.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSSC	Occurs in a variety of habitats, but prefers cool, dark roost sites, and are often found in caves and mines. They roost in the open, hanging from walls and ceilings. Western populations typically forage on moths in areas of dense foliage.	**Unlikely.** This species could forage within the Check site and borrow area, but suitable roosting habitat is absent. The nearest recorded observation of this species within the vicinity was approximately 15 miles southwest of the Check site in 2014.
Tricolored blackbird (*Agelaius tricolor*)	CT, CSSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found foraging in dairy farm feed fields.	**Possible.** The Creek within the riverine/riparian habitat and the ditches within the canal/ditch habitat in the site and borrow area contain cattails where this species could nest. The nearest recorded observation of this species

Species	Status*	Habitat	Occurrence within the Project Site
			within the vicinity was approximately 1.5 miles northeast of the borrow area in 2014.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs in the Central Valley and adjacent foothills from Tehama County south through Merced and Mariposa Counties with two scattered populations in Madera and Fresno Counties. Adults are active from March to June.	**Absent.** Elderberry shrubs are absent within the Check site and borrow area.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal and seasonal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Vernal pools are absent within the Check site and borrow area.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Vernal pools are absent within the Check site and borrow area.
Western red bat (*Lasiurus blossevillii*)	CSSC	Roosts primarily in trees, 2–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Unlikely.** This species could forage within the Check site and borrow area, but large trees and suitable roosting habitat are absent. The nearest recorded observation of this species within the vicinity was approximately 13 miles east of the Check site in 1999.
Western spadefoot (*Spea hammondii*)	FPT, CSSC	The majority of the time this species is terrestrial and occurs in small mammal burrows and soil cracks, sometimes in the bottom of dried pools. Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal or seasonal pools, that hold water for a minimum of three weeks, are necessary for breeding.	**Possible.** The Check site and borrow area contain slow moving waterways within the riverine/riparian habitat and the canal/ditch habitat, which this species could use for breeding. Small mammal burrows were also observed throughout the Check site and borrow area. The nearest recorded observation of this species within the vicinity was approximately 15.5 miles south of the Check site in 2017.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once common in the Central Valley, as well as coastal valleys and riparian habitats east of the Sierra Nevada, habitat loss now constrains the California breeding population to small numbers of birds.	**Unlikely.** This species could forage within the Check site and borrow area, but large trees and suitable nesting habitat are absent within the Check site and borrow area. The nearest recorded observation of this species within the vicinity was approximately 13 miles east of the Check site and borrow area in 2013 along the Sacramento River.
White-tailed kite (*Elanus leucurus*)	CFP	Occurs in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Uses isolated, dense-topped trees for nesting and perching. Often occurs in open grasslands, meadows, or marshes for foraging.	**Unlikely.** This species could forage within the Check site and borrow area, but large trees and suitable nesting habitat are absent within the Check site and borrow area. The nearest recorded observation of this species within the vicinity was approximately 2.5 miles northwest of the borrow area in 1985.

***EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES**

Present:	Species observed on the site at time of field surveys or during recent past.
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible:	Species not observed on the site, but it could occur there from time to time.
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent:	Species not observed on the site and precluded from occurring there due to absence of suitable habitat.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FC	Federal Candidate	CCT	California Threatened (Candidate)
		CFP	California Fully Protected
		CSSC	California Species of Concern
		CCE	California Endangered (Candidate)

CNPS LISTING

1B	Plants Rare, Threatened, or Endangered in California and elsewhere.	2B	Plants Rare, Threatened, or Endangered in California, but more common elsewhere.

4.4.2 IMPACT ANALYSIS

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporated. Of the 40 regionally occurring special status plant species, 38 are considered absent from or unlikely to occur within the Check site and borrow area due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: adobe-lily, Baker's navarretia, bent-flowered fiddleneck, big-scale balsamroot, Bolander's horkelia, brittlescale, California alkali grass, Cobb Mountain lupine, Colusa layia, Colusa grass, Coulter's goldfields, deep-scarred cryptantha, diamond petaled California poppy, drymaria-like western flax, Ferris' milk-vetch, Greene's tuctoria, Greene's narrow-leaved daisy, hairy Orcutt grass, Hall's harmonia, heartscale, Heckard's pepper-grass, Hoover's spurge, Indian Valley brodiaea, Jepson's milk-vetch, Keck's checkerbloom, Milo Baker's lupine, palmate-bracted bird's beak, Pappose tarplant, pink creamsacs, Porter's navarretia, red-flowered bird's-foot trefoil, San Joaquin spearscale, serpentine cryptantha, shining navarretia, Snow Mountain buckwheat, three-fingered morning-glory, two-carpellate western flax, and vernal pool smallscale.

Since it is unlikely that these species would occur onsite, implementation of the proposed Project should have no impact on these 38 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Of the 25 regionally occurring special status animal species, 17 are considered absent from or unlikely to occur within the Check site and borrow area due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: bald eagle, bank swallow, conservancy fairy shrimp, foothill yellow-legged frog, golden eagle, green sturgeon, longfin smelt, monarch butterfly, northern spotted owl, steelhead, Townsend's big-eared bat, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western red bat, western yellow-billed cuckoo, and white-tailed kite. Some of these species may pass through the site but could move out of harm's way during implementation of the proposed Project.

Since it is unlikely that these species would occur on the Check site and borrow area or be impacted should they pass through the Check site and borrow area, implementation of the proposed Project should have no impact on these 17 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

4.4.2.1 PROJECT-RELATED IMPACTS TO SPECIAL STATUS PLANT SPECIES

The following special status plant species were identified to potentially occur within or adjacent to the Check site and borrow area: water star-grass and woolly rose-mallow. Projects that adversely affect special status plants or result in the mortality of special status plants would be considered a significant impact.

Mitigation measures are warranted and are identified in Section 4.4.4 below. Implementation of mitigation measures BIO-1, BIO-2, BIO-3, BIO-4, and BIO-5 will reduce potential impacts to special status plant species to a less than significant level.

4.4.2.2 PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO AMERICAN BADGER

The Check site and borrow area contain ruderal habitat and canal banks that could potentially be used by American badger. Multiple large dens were observed along the canal bank in the borrow site. American badgers denning within the Check site and borrow area during construction may be injured or killed by Project-related activities. Projects that result in the mortality of individuals would be considered a significant impact.

Mitigation measures are warranted and are identified in Section 4.4.4 below. Implementation of mitigation measures BIO-1, BIO-2, BIO-6, BIO-7, BIO-8, and BIO-9 will reduce potential impacts to American badgers to a less than significant level.

4.4.2.3 PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO BURROWING OWL

The Check site and borrow area contain suitable nesting, roosting, and foraging habitat for burrowing owls. Burrows this species could use occurred within the canal and ditches. Construction activities that adversely affect the nesting success of burrowing owls or result in the mortality of individuals would be considered a significant impact.

While the Check site and proposed borrow area may impact some potential foraging habitat for burrowing owls, there is abundant foraging habitat adjacent to the Check site and borrow area that could be used, and implementation of the proposed Project would not significantly reduce potential foraging habitat for this species. Therefore, no mitigation measures are warranted for loss of burrowing owl foraging habitat.

Mitigation measures are warranted and are identified in Section 4.4.4 below. Implementation of mitigation measures BIO-1, BIO-2, BIO-10, BIO-11, and BIO-12 will reduce potential impacts to burrowing owls to a less than significant level.

4.4.2.4 PROJECT-RELATED MORTALITY AND/OR NEST ABANDONMENT OF MIGRATORY BIRDS, RAPTORS, AND SPECIAL STATUS SPECIES

The Check site and borrow area contain suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds, raptors, and special status birds. It is anticipated that during the nesting bird season, protected birds could nest on the ground or in shrubs, trees, or structures within the site and borrow area and forage within the site and borrow area. Song sparrow, Swainson's hawk, and tricolored blackbird could nest or forage within or immediately adjacent to the Check site and borrow area. Burrowing owl could also nest, roost, or forage within the Check site and borrow area, however potential impacts to this species and mitigation measures are described separately (see BIO-10, BIO-11, and BIO-12). Protected birds located within or adjacent to the Check site and borrow area during construction may be injured or killed by project-related activities. In addition to the direct "take" of protected birds within the Check site and borrow area or adjacent areas, these birds nesting in these areas could be disturbed by project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of protected birds or result in the mortality of these birds would be a significant impact.

Mitigation measures are warranted and are identified in Section 4.4.4 below. Implementation of mitigation measures BIO-1, BIO-2, BIO-13, BIO-14, and BIO-15 will reduce potential impacts to migratory birds, raptors, and special status nesting species to a less than significant level.

4.4.2.5 PROJECT-RELATED MORTALITY AND/OR DISTURBANCE OF GIANT GARTER SNAKE

The Check site and proposed borrow area contain suitable giant garter snake aquatic habitat for foraging and upland habitat with small mammal burrows for overwintering. This species is known to occur in the area along creeks and in rice fields. Giant garter snakes occurring within the Check site and borrow area during construction may be injured or killed by project-related activities. Projects that adversely affect the success of giant garter snakes or result in the mortality of individuals would be considered a significant impact.

Mitigation measures are warranted and are identified in Section 4.4.4 below. Implementation of mitigation measures BIO-1, BIO-2, BIO-16, BIO-17, and BIO-18 will reduce potential impacts to giant garter snakes to a less than significant level.

4.4.2.6 PROJECT-RELATED IMPACTS TO NORTHWESTERN POND TURTLE

The riverine/riparian habitat and the canal/ditch habitat on the site and borrow area contain suitable habitat features for northwestern pond turtle (NPT) dispersal and basking. NPT occurring within the Project site and borrow area during construction may be injured or killed by project-related activities. Projects that adversely affect the success of NPT or result in the mortality of individuals would be considered a significant impact.

Mitigation measures are warranted and are identified in Section 4.4.4 below. Implementation of mitigation measures BIO-1, BIO-2, BIO-19, and BIO-20 will reduce potential impacts to NPT to a less than significant level.

4.4.2.7 PROJECT-RELATED IMPACTS TO WESTERN SPADEFOOT

The Project site and proposed borrow area contain suitable aquatic and upland habitats for western spadefoot. This species may breed within the canal/ditch habitat and aestivate within burrows or soil cracks in the Check site and borrow area. Western spadefoot occurring within the Check site or borrow area during construction may be injured or killed by project-related activities. Projects that adversely affect the success of western spadefoot or result in the mortality of individuals would be considered a potentially significant impact under CEQA and NEPA.

Mitigation measures are warranted and are identified in Section 4.4.4 below. Implementation of mitigation measures BIO-1, BIO-2, BIO-21, and BIO-22 will reduce potential impacts to western spadefoot to a less than significant level under CEQA and NEPA.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

b) and c) Less than Significant Impact with Mitigation Incorporated. The proposed Project involves the construction of a new siphon under the Creek, which contains riparian habitat. Project-related impacts to riparian habitat would be considered a potentially significant impact under CEQA. Impacts to waters of the U.S. are also subject to the permit requirements of Section 404 and 401 of the Clean Water Act

and impacts to CDFW jurisdictional waters are subject to the permit requirements of California Fish and Game Code. There are no federally protected wetlands within the Project site. Work within the Creek or the placement of fill in jurisdictional features would require a 404 permit from the United States Army Corps of Engineers (USACE), a 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB), and compliance with Fish and Game Code section 1600 et seq. An aquatic resource delineation was performed on the Creek and ditches within the Check site and proposed borrow area. Permits with USACE, RWQCB, and CDFW (see BIO-28 and BIO-29) would include mitigation to protect or fully mitigate any impacts to riparian habitat.

There are no CNDDB-designated "natural communities of special concern" or designated critical habitat recorded within the Check site, borrow area, or surrounding lands. Additional mitigation is not warranted.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact with Mitigation Incorporated. Rivers and canals can function as wildlife movement corridors through highly disturbed areas and can be sensitive resources for various species. Anthropogenic activities would deter wildlife from using these corridors during the day, though these deterrents are likely absent at night. The Creek and the canals/ditches within the Check site and borrow area contained many animal tracks and would be considered wildlife movement corridors. Mitigation measures are warranted and are identified in Section 4.4.4. Implementation of mitigation measures BIO-23, BIO-24, BIO-25, BIO-26, and BIO-27 will reduce potential impacts to native wildlife nursery sites to a less than significant level.

The Check site and borrow area contain the Creek and two ditches that could be used by amphibians to lay eggs. When these waterways are flowing, they would not be considered native wildlife nursery sites, however, when they are not flowing and areas are ponded, they could provide suitable habitat which would be considered native wildlife nursery sites. It is unlikely other native species would utilize any other features of the Check site or borrow area as a wildlife nursery site. Mitigation measures included with the proposed Project would reduce potential impacts to a less than significant level. Additional mitigation measures are not warranted.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

e) and f) No Impact. There are no adopted Habit Conservation Plans or Natural Community Conservation Plans, or other local, regional or state habitat conservation plans in the Project vicinity. There would be no impact.

4.4.3 FEDERAL CROSS-CUTTING TOPIC

4.4.3.1 FEDERAL ENDANGERED SPECIES ACT

Regulations in the federal Endangered Species Act of 1973 and subsequent amendments govern the conservation of endangered and threatened species and the ecosystems on which they depend. USFWS and the National Marine Fisheries Service (NMFS) oversee the act. USFWS has jurisdiction over plants, wildlife, and resident fish, and NMFS has jurisdiction over anadromous fish, marine fish, and mammals. Section 7 requires federal agencies to consult with USFWS and NMFS if they determine that a proposed

project may affect a listed species, destroy, or adversely modify designated critical habitat. Under Section 7, the federal lead agency must obtain incidental take authorization or a letter of concurrence, stating that the project is not likely to adversely affect federally listed species.

A Biological Evaluation Report intended to provide the basis for compliance with Section 7 of the ESA for the proposed Project is located in Appendix B. Appendix B summarizes the Project effect determinations for Federally Listed Species found on the USFWS IPaC list generated on April 11, 2024, in accordance with Section 7 of the Endangered Species Act.

Section 9 prohibits "take" of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species' recovery. "Take" is defined as any action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule governing take was defined at the time the species became listed.

The take prohibition in Section 9 applies only to fish and wildlife species. However, Section 9 also prohibits the unlawful removal and possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any State law or in the course of criminal trespass. Candidate species and species that are proposed for or under petition for listing receive no protection under Section 9.

The discussion regarding the proposed Project's potential effects as they relate to ESA can be further found in Section 4.4.2 under checklist item a).

4.4.4 MITIGATION

4.4.4.1 GENERAL PROJECT-RELATED IMPACTS

BIO-1 (*WEAP Training*): Prior to initiating construction activities (including staging and mobilization), all personnel associated with project construction will attend a mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources that may occur in the site and borrow area. The specifics of this program will include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. This training will discuss special status species, describe the laws and regulations in place to provide protection of these species, identify the penalties for violation of applicable environmental laws and regulations, and include a list of required protective measures to avoid "take." A fact sheet summarizing this information, along with photographs or illustrations of sensitive species with potential to occur on the site and borrow area, will also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the project. All trainees will sign a form documenting that they have attended WEAP training and understand the information presented to them.

BIO-2 *(Best Management Practices)*: GCID will ensure that all workers employ the following best management practices (BMPs) in order to avoid and minimize potential impacts to special status species:

i. Vehicles will observe a 15-mph speed limit while on unpaved access routes.

ii. Workers will inspect areas beneath parked vehicles, equipment, and materials prior to mobilization. If special status species are detected, the individual will either be allowed to leave of its own volition or will be captured by the qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the project work area. "Take" of a state or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited.

iii. The presence of any special status species will be reported to a qualified biologist, who will submit the occurrence to the CNDDB. If necessary, the biologist will report the occurrence to CDFW and/or USFWS.

4.4.4.2 SPECIAL STATUS PLANT SPECIES

BIO-3 (*Focused Survey*): A qualified botanist/biologist (someone who is able to identify these species) will conduct focused botanical surveys during the appropriate blooming seasons for water star-grass (July – August) and wooly rose-mallow (July – November), according to CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (2018) for areas where ground disturbance will occur and prior to the start of construction.

BIO-4 (*Avoidance*): If special status plants are identified during a survey, an avoidance buffer and, if necessary, use of exclusion fencing, will be placed around the area to avoid disturbance to the plants and its root system.

BIO-5 (*Formal Consultation*): If rare plant individuals or populations or sensitive natural communities are detected within project work areas during the focused botanical survey(s), and the plants cannot be avoided, the District will initiate consultation with CNPS, CDFW, and/or USFWS to determine next steps for relocation and implement recommended relocation actions.

4.4.4.3 AMERICAN BADGER

BIO-6 (*Pre-construction Take Avoidance Survey*): A qualified biologist (someone familiar with the identification and sign of this species) will conduct a pre-construction survey of the Check site and borrow area within seven (7) days prior to vegetation clearing or ground disturbing activities. The goal of this survey is to search for potentially active badger dens.

BIO-7 (*Remote Cameras*): If potential dens for American badger are detected during the pre-construction survey, each potential den will be monitored with remote cameras for a period of three consecutive nights. If there is no activity at the den location recorded for three consecutive nights, the den can be deemed "inactive" or "unoccupied" and closed or excavated.

BIO-8 (*Den Avoidance*): If an American badger is denning on or within 50 feet of the Check site borrow area, GCID shall avoid the den by a minimum 50-foot buffer.

BIO-9 (*Eviction and Den Excavation*): If an American badger is denning on or within 50 feet of the Check site and borrow area and it cannot be avoided, the badger may be evicted, and the den excavated outside of the natal season (generally March 15 – June 15) or if it

is determined that there are no cubs in the den. Prior to the planned eviction and den excavation, a remote camera will be placed at the den entrance for a minimum of three consecutive nights to record the general time when the badger leaves the den. If it is outside of the natal season or it is determined by a qualified biologist that there are no cubs present in the den, the badger will be evicted from the den and the den excavated by hand, with the assistance of machinery, after it has left the den for that night. Should any cubs be discovered during the excavation the work will stop and the crew will leave the site immediately so the female can rescue her cubs and relocate them.

4.4.4.4 BURROWING OWL

BIO-10 (*Pre-construction Take Avoidance Survey*): A qualified biologist (someone familiar with the identification and sign of this species) will conduct a pre-construction take avoidance survey for burrowing owls and suitable burrows, in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (2012), within seven (7) days prior to the start of construction activities. The survey shall include the proposed work area and surrounding lands up to 500 feet. If no burrowing owls or active burrows are observed, no further mitigation is required.

BIO-11 (*Avoidance*): If an active burrowing owl burrow is detected, avoidance buffers will be implemented. A qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW guidelines, the biology of the species, conditions of the burrow(s), and the level of project disturbance. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged, and all burrowing owls have left the Check site or borrow area.

BIO-12 (*Passive Relocation*): If avoidance of an active burrowing owl burrow is not feasible, owls may be passively relocated during the non-breeding season (September 1 through January 31) or during the breeding season (February 1 through August 31) if a qualified biologist determines that there are no young in the burrow. Prior to the passive relocation, a qualified biologist will prepare a passive relocation plan that will detail the methods to be used. The plan, which will also be carried out by a qualified biologist, shall specify the tools to exclude the burrowing owl from its burrow (i.e., one-way doors or other devices) and excavate the burrow (hand tools and machinery, if needed). Following completion of passive relocation, a report will be prepared that documents the methods and results of these efforts.

4.4.4.5 NEST ABANDONMENT OF MIGRATORY BIRDS, RAPTORS, AND SPECIAL STATUS SPECIES

BIO-13 (*Avoidance*): The Project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.

BIO-14 (*Pre-construction Surveys*): If activities must occur within the nesting bird season (February 1 to September 15), a qualified biologist (someone familiar with the identification and sign of this species) will conduct a single pre-construction take avoidance survey for Swainson's hawk nests on the Check site and borrow area and within a 0.5-mile radius within five calendar days prior to the start of construction. The Swainson's hawk survey will not be completed between April 21 and June 10 due to the

difficulty of identifying nests during this time of year. The survey also shall include a single pre-construction take avoidance survey for song sparrow and tricolored blackbird and other nesting migratory birds within and up to 100 feet outside of the Check site and borrow area and for other nesting raptors within and up to 500 feet outside of the Check site and borrow area. All raptor nests will be considered "active" upon the nest-building stage. If work stops for more than 7 days during nesting bird season a follow-up nesting bird survey will be conducted. If no active nests are observed, no further mitigation is required.

BIO-15 (*Avoidance Buffers*): On discovery of any active nests or breeding colonies near work areas, a qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of project disturbance. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.

4.4.4.6 GIANT GARTER SNAKE

BIO-16 (*Pre-Construction Surveys*): If work will occur during the active season for giant garter snake (between May 1 and September 30), a qualified biologist (someone familiar with garter snake species) will conduct two giant garter snake pre-construction surveys with the first occurring within 15 days prior to onset of construction and the second occurring within 24-hours prior to the onset of construction. The information collected from the first pre-construction survey will serve primarily to alert the biologist and construction crews of the general level of giant garter snake activity at the site and borrow area, and the second survey will serve to minimize potential for take of giant garter snake.

BIO-17 (*Exclusion*): If work will occur during the inactive season for giant garter snake (between October 1 and April 30), an exclusion fence will be installed around the work areas prior to the start of the inactive season. The design of the fence will be approved by the CDFW and USFWS prior to installation. Fence installation will be supervised by a qualified biologist.

BIO-18 (*Monitor*): Each workday prior to the initiation of work the contractor will inspect the exclusion fence to ensure it is functional for the intended purpose. The contractor shall be instructed during the WEAP training on how to inspect the exclusion fence. If a garter snake is observed within the Check site or borrow area, the contractor will stop work and allow the species to leave the site and borrow area of its own volition or will be captured by a qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the project work area. "Take" of a state or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited without appropriate take permits from the USFWS and CDFW.

4.4.4.7 NORTHWESTERN POND TURTLE

BIO-19 (*Pre-Construction Survey and Avoidance Buffers*): Within seven (7) days prior to the start of construction within the Check site and borrow area, a qualified biologist (someone who is able to identify this species) will conduct a pre-construction survey for NPT and within the Check site and borrow area, and all accessible areas within up to 330 feet.

Pre-construction surveys will be conducted in accordance with the draft *Western Pond Turtle (Emys marmorata) Visual Survey Protocol for the Southcoast Ecoregion* (United States Geological Survey 2006). If no NPTs are observed during the pre-construction survey, then construction activities may begin. If construction is delayed or halted for more than seven (7) days, another pre-construction survey for NPTs will be conducted. If the surveys result in the identification of a NPT, or an individual is found within the Check site or borrow area during construction activities, it will be allowed to leave the site on its own and the qualified biologist will determine appropriate buffers to be implemented to avoid impacts to the individual(s).

BIO-20 (*Monitor*): If NPTs are observed within the Check site or borrow area, a qualified biologist will conduct a pre-activity clearance survey each day and remain onsite to oversee all vegetation clearing and ground disturbing activities until the individual(s) has vacated the work areas. If NPTs are detected, the biologist will stop work and allow the species to leave the site of its own volition, or the NPTs will be captured by the qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the project work area. "Take" of a state or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited.

4.4.4.8 WESTERN SPADEFOOT

BIO-21 (*Focused Survey*): A qualified biologist (someone familiar with the identification and sign of this species) will conduct a focused survey prior to the start of construction. Transects will be walked throughout the Check site, borrow area, and surrounding lands within up to 50 feet. All waterways within the Project sites will be visually surveyed for western spadefoot adults, eggs, and larvae. If no western spadefoot adults, eggs, or larvae are observed during these surveys, then construction activities may begin. If the survey results in the identification of this species, monitoring will be required.

BIO-22 (*Monitor*): If western spadefoot is observed within the Check site or borrow area, a qualified biologist will conduct a pre-activity clearance survey each day and remain onsite to oversee all vegetation clearing and ground disturbing activities until the individual(s) have vacated the work areas. If western spadefoot is detected, the biologist will stop work and allow the species to leave the site of its own volition or will be captured by the qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the project work area. "Take" of a state or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited.

4.4.4.9 WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

BIO-23 (*Operational Hours*): Construction activities shall be limited to a half hour after sunrise through a half hour before sunset to reduce potential impacts to wildlife movement corridors.

BIO-24 (*Wildlife Access*): Access to Project sites should not be blocked outside of construction hours or during overnight hours or weekends. If construction must block both sides of a wildlife access route, an alternative route through the construction area shall be

identified by a qualified biologist and maintained throughout the construction schedule timeframe.

BIO-25 (*Cover Excavations*): Pipeline/culvert/siphon excavations and vertical pipes shall include wildlife ramps (not to exceed a one-to-one slope) or be covered each night to prevent wildlife from falling in and becoming trapped or injured during migratory or dispersal movements.

BIO-26 (*Pre-Construction Survey*): Within seven (7) days prior to the start of construction within the Check site and borrow area, a qualified biologist (someone who is able to identify this habitat) will conduct a pre-construction survey for native wildlife nursery sites within the Check site and borrow area, and all accessible areas within up to 50 feet. If native wildlife nursery sites are observed a 50-foot buffer will be required.

BIO-27 (*Avoidance*): Native wildlife nursery sites identified during the pre-construction survey will be avoided by 50 feet until a qualified biologist has determined they are no longer being used and any young have dispersed.

4.4.4.10 REGULATED WATERS, WETLAND, WATER QUALITY, AND RIPARIAN HABITAT

BIO-28 (*Permits*): If the Creek onsite cannot be avoided, GCID will obtain all required permits with USACE, RWQCB, and CDFW will be obtained, and comply with all permit conditions. Compliance with these permits, certifications, and agreements will ensure there are no significant impacts to jurisdictional waters or riparian habitat.

BIO-29 (*Diversion Plan*): If the Creek will be diverted out of the original channel for construction, a detailed diversion plan will be approved by agencies (USACE, RWQCB, and CDFW) if required, prior to any construction activities taking place, and GCID will implement the approved plan.

4.5 CULTURAL RESOURCES

Table 4-12: Cultural Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

4.5.1 BASELINE CONDITIONS

The Project area includes the existing Glenn-Colusa Canal and agricultural lands in the District's service area within the County. The area circumscribing the proposed Project also includes agricultural land, and long-standing agricultural development in the area has heavily disturbed the ground.

4.5.1.1 RECORDS SEARCH

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information regarding historical resources inventory, and provides the data to local, State, and federal agencies; cultural resource professionals; Native American tribes; researchers; and the public. A records search request was submitted to the regional Northwest California Information Center (NCIC) at California State University, Sonoma in January of 2024 to access this database and research whether or not any cultural or historical resources are known in the proposed Project area. The results of the CHRIS records search include known and recorded historic or cultural resources sites, inventory and excavation reports filed with the NCIC office, and a culmination of resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. A response letter from NCIC, dated March 8, 2024, was received with the results of the requested records and database search (see Appendix C). The search identified that no cultural resources were previously recorded within the Project site.

4.5.1.2 NATIVE AMERICAN OUTREACH

The Native American Heritage Commission (NAHC) was contacted in January 2024. NAHC was provided with a brief description of the proposed Project and a map showing its location and requested that they perform a search of the Sacred Lands File (SLF) to determine if any Native American resources have been recorded in the immediate Project area. The NAHC identifies, catalogs, and protects Native American cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act, among many other powers and duties. NAHC provided a current list of

Native American Tribal contacts in the Project area to notify of the proposed project. The following Native American organizations/individuals were contacted via letter from the list provided by NAHC below on March 6, 2024:

1. *Cachil Dehe Band of Wintun Indians of the Colusa Indian Community, Jennie Mitchum, Cultural Preservation Director*
2. *Cachil Dehe Band of Wintun Indians of the Colusa Indian Community, Wayne Mitchum Jr., Chairman*
3. *Cortina Rancheria – Kletsel Dehe Band of Indians, Charlie Wright, Chairperson*
4. *Estom Yumeka Maidu Tribe of the Enterprise Rancheria, Glenda Nelson, Chairperson*
5. *Grindstone Rancheria of Wintun-Wailaki, Ronald Kirk, Chairperson*
6. *Paskenta Band of Nomlaki Indians, Andrew Alejandre, Chairperson*
7. *Paskenta Band of Nomlaki Indians, Laverne Bill, THPO*
8. *Yocha Dehe Wintun Nation, Anthony Roberts, Chairperson*
9. *Yocha Dehe Wintun Nation, James Kinter, Tribal Secretary*
10. *Yocha Dehe Wintun Nation, Yvonne Perkins, THPO, Cultural Resources Chairman*
11. *Yocha Dehe Wintun Nation, Leland Kinter, Tribal Treasurer*

The letters included a description of the proposed Project and a topographic map of the location.

4.5.2 IMPACT ANALYSIS

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

a) and b) Less than Significant Impact. As previously mentioned, a cultural resources database search was conducted in March of 2024. This search identified that no cultural resources were previously recorded within the Project site, but there is a moderate to high potential for historic-period and for Native American archaeological resources to be within the Project area. However, due to the previous disturbance of the area from the construction of the Canal, existing Check structure and adjacent levee roads and planted fields, there is a low potential for Native American and/or historic-period archaeological resources to be within the Project area.

The proposed Project is located on land that has been previously disturbed and, as such, it is unlikely that the proposed Project would cause a substantial adverse change in the significance of a historical or archaeological resource. The proposed Project includes standard practices to avoid or minimize cultural resources impacts and would be required to follow all applicable federal, State, and local requirements set for archaeologic resource recovery. In the unlikely event that an archaeological resource is uncovered during the construction of this proposed Project, all construction activities would cease, and a qualified archaeologist would be contacted to assess the uncovered resource. Any impacts would be considered less than significant.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact. There is no evidence or record that indicates the Project site has the potential to be an unknown burial site or the site of buried human remains. In addition, no sacred sites or tribal cultural resources were identified by the NAHC SLF results within the Project site or in the surrounding vicinity. Although no formal cemeteries or other places of human internment are anticipated

to exist on the Project site due to its existing disturbed status, in accordance with Health and Safety Code Section 7050.5 and Public Resource Code Section 5097.98, if human remains are uncovered, construction activities would cease, and the Colusa County Coroner would be contacted. The proposed Project would adhere to all applicable federal, State, and local requirements regarding the discovery of human remains due to Project activities. Any impacts would considered be less than significant.

4.6 ENERGY

Table 4-13: Energy Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

4.6.1 BASELINE CONDITIONS

The proposed Project would be located in rural Colusa County to the northwest of the City of Williams. This area is served by Pacific Gas & Electric Company (PG&E) for both its electric energy and natural gas energy needs. PG&E obtains its power through hydroelectric, thermal (natural gas), wind, and solar generation of purchases. PG&E continually produces new electric generation and natural gas sources and implements improvements to gas lines throughout its service areas to ensure the provision of services to residents. New construction would be subject to Titles 20 and 24 of the California Code of Regulations which each serve to reduce demand for electrical energy by implementing energy-efficient standards for residential, as well as non-residential buildings. Power is currently available to the Project site.

4.6.2 IMPACT ANALYSIS

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction. For heavy-duty construction equipment, horsepower and load factor were assumed using default data from the CalEEMod model. Fuel use associated with construction vehicle trips generated by the proposed Project was also estimated; trips include construction worker trips, haul trucks trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles was based on (1) the projected number of trips the proposed Project would generate (CalEEMod default values), (2) default average trip distance by land use in CalEEMod, and (3) fuel efficiencies estimated in the ARB 2017 Emissions Factors model (EMFAC2017) mobile source emission model.

Construction is estimated to consume a total of 10,155.17 gallons of diesel fuel and 662.57 gallons of gasoline fuel (See Appendix A). California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2), "Idling," limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment. In addition, the energy consumption for construction activities would be temporary and limited to the six-month duration of proposed Project construction.

Energy consumption of non-residential uses is currently governed by the 2022 California Building Code, Part 6 for structures, and Title 20 of the California Code of Regulations for appliances. Energy

consumption is anticipated to decrease over time as more energy efficient standards take effect and energy-consuming equipment reaches its end-of-life and necessitates replacement. As a result of these factors, impacts would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. State and local authorities regulate energy use and consumption. These regulations at the State level are intended to reduce energy use and greenhouse gas (GHG) emissions. These include, among others, Assembly Bill (AB) 1493 – Light-Duty Vehicle Standards; California Code of Regulations Title 24, Part 6 – Energy Efficiency Standards; and California Code of Regulations Title 24, Parts 6 and 11 – California Energy Code and Green Building Standards. The proposed Project would not conflict with or obstruct a State or local plan, such as the County's General Plan, for renewable energy or energy efficiency. Policy PSF 4-17 of the Colusa County General Plan supports the use of renewable energy sources for new construction.[9] The Project would be constructed according to applicable State Building Code standards, ensuring that the Project is constructed as energy efficiently as is required. The Project would comply with both State law and the policies of the City's General Plan. Therefore, there would be no impacts.

[9] (Colusa County, 2012)

4.7 GEOLOGY AND SOILS

Table 4-14: Geology and Soils Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☐	☒

4.7.1 BASELINE CONDITIONS

4.7.1.1 GEOLOGY AND SOILS

The Project site is located in Colusa County, in the northern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago)

alluvium. The sedimentary formations are steeply upturned along the western margin due to the uplifted Sierra Nevada Range.[10]

The soils present (see Figure 4-2) and their characteristics at the Project site can be found in Appendix B.

4.7.1.2 FAULTS AND SEISMICITY

The Project site is not located within the Alquist-Priolo Earthquake Fault Zone, and no known faults cut through the local soil at the site. The Project site is not located on any active fault line or system. The nearest mapped principal fault is the Maacama fault, located over 46 miles southwest of the site. A smaller fault zone, the Resort fault zone, is located approximately 12.8 miles southwest of the proposed Project, according to the California DOC's Fault Activity Map of California.[11]

4.7.1.3 LIQUEFACTION

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in the County, this potential is recognized in parts of the Sacramento Valley where unconsolidated sediments and a high-water table coincide. The proposed Project area is comprised of Capay clay loam and is not known to be located within an area that has experienced liquefaction.

4.7.1.4 SOIL SUBSIDENCE

There are two types of subsidence: land subsidence and hydrocompaction subsidence. Hydrocompaction subsidence occurs when a large land area settles due to over-saturation. These areas are typically composed of open-textured soils that become saturated, high in silt or clay content. Land subsidence occurs when an extensive amount of ground water, oil, or natural gas is withdrawn from below the ground surface. Subsidence has been documented in some areas of the Sacramento Valley. For example, marked subsidence has been documented in eastern Yolo County, apparently the result of non-sustainable levels of groundwater extraction. In the Sacramento/San Joaquin Delta, subsidence has been associated with the drainage of organic soils and sediment compaction, which has been exacerbated by biological oxidation and extreme desiccation. Additionally, expansive soils are known to exist throughout the County with a shrink-swell potential ranging from Low to Very High. Approximately two-thirds of the County's land surface is comprised of soils that would require special design considerations due to shrink-swell potentials.[12] The Project site is dominated by water and Capay clay loam soils, which has a moderate risk of subsidence.[13]

4.7.1.5 DAM AND LEVEE FAILURE

The closest inundation zone to the Project site is the Shasta Dam inundation zone located approximately 5.5 miles east of the site.[14]

[10] Harden, D.R. 1998, California Geology, Prentice Hall, 479 pages
[11] (California Department of Conservation 2015)
[12] (Colusa County 2010)
[13] (United States Department of Agriculture 2023)
[14] (California Department of Water Resources 2015)

4.7.2 IMPACT ANALYSIS

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii. Strong seismic ground shaking?

a-i and a-ii) Less than Significant Impact. No known faults with evidence of historic activity cut through the valley soils in the Project site's area. According to the Alquist-Priolo Earthquake Fault Zoning Map, the nearest known fault of any kind is the Resort Fault located approximately 12.8 miles southwest of the Project site. The nearest major active fault, the Maacama Fault – south section, is located approximately 46.3 miles southwest of the site.[15] The proposed Project does not include habitable residential, agricultural, commercial, or industrial structures. Operation of the proposed Project would require infrequent, as-needed maintenance trips to the site. The proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Ground shaking intensity is largely a function of distance from the earthquake epicenter and underlying geology. The most common impact associated with strong ground shaking is damage to structures, and no habitable structures are associated with the proposed Project. Any impacts would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. The Sacramento River corridor, which loosely serves as the eastern border of the County, presents the greatest likelihood of loose sediment and saturated soils within Colusa County. The Project site is situated within the central western portion of the County, a substantial distance from the Sacramento River. Nonetheless, the Project site includes portions of Lurline Creek and Glenn-Colusa Canal, which would include often-saturated soils with the potential for loose sediment. The proposed Project would be in compliance with the relevant land use plans and the goals and policies set forth in the Colusa County General Plan that would avoid or reduce the effects of seismic-related ground failure. In addition, seismic risk is low, and no habitable structures or public facilities (such as public roads) are associated with the proposed Project, so the potential for substantial adverse effects, such as the risk of loss, injury, or death, would be less than significant. As such, this impact would be less than significant.

iv. Landslides?

No Impact. Landslide potential in the County is influenced by physical factors, such as slope, soil, and precipitation. Only the northwestern portion of the County is within a sub-region of high landslide susceptibility. This area of high susceptibility is almost entirely within the boundaries of the Mendocino

[15] (California Department of Conservation 2015)

National Forest. The proposed Project would be located on relatively flat land with no major geologic landforms existing on or near the site that could result in a landslide event. There would be no impact.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. No soils with a very high erosion factor are identified within the County. Moderate erosion factors dominate the County's surveyed soils. High erosion factors are found primarily along the Sacramento River corridor and along the Coast Range/Central Valley boundary. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation. These activities could expose soils to erosion processes and the extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Since the Project site has relatively flat terrain with a moderate potential for soil erosion and would comply with the State Water Resources Control Board (SWRCB) requirements, the impacts would be less than significant.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant Impact. The Project site and the immediate surrounding areas do not have any substantial grade changes in the topography to the point where the proposed check structure and siphon construction and operation would expose people or structures to potential substantial adverse effects onsite or offsite, such as landslides, lateral spreading, or collapse. Any impacts would be less than significant.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. The soil at the Project site is considered moderately well drained and is primarily Capay clay loam with approximately half of the site consisting of water from the Glenn-Colusa Canal and Lurline Creek. The Project site has been found to contain soils that have a medium to high potential for expansion. However, the proposed Project does not include any habitable structures and is a replacement infrastructure project for the irrigation District. Therefore, impacts would be less than significant.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. Disposal of wastewater is not necessary for the proposed Project; therefore, there would be no impact.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

No Impact. No known paleontological resources or unique geological features have been identified at the Project site. There would be no impact.

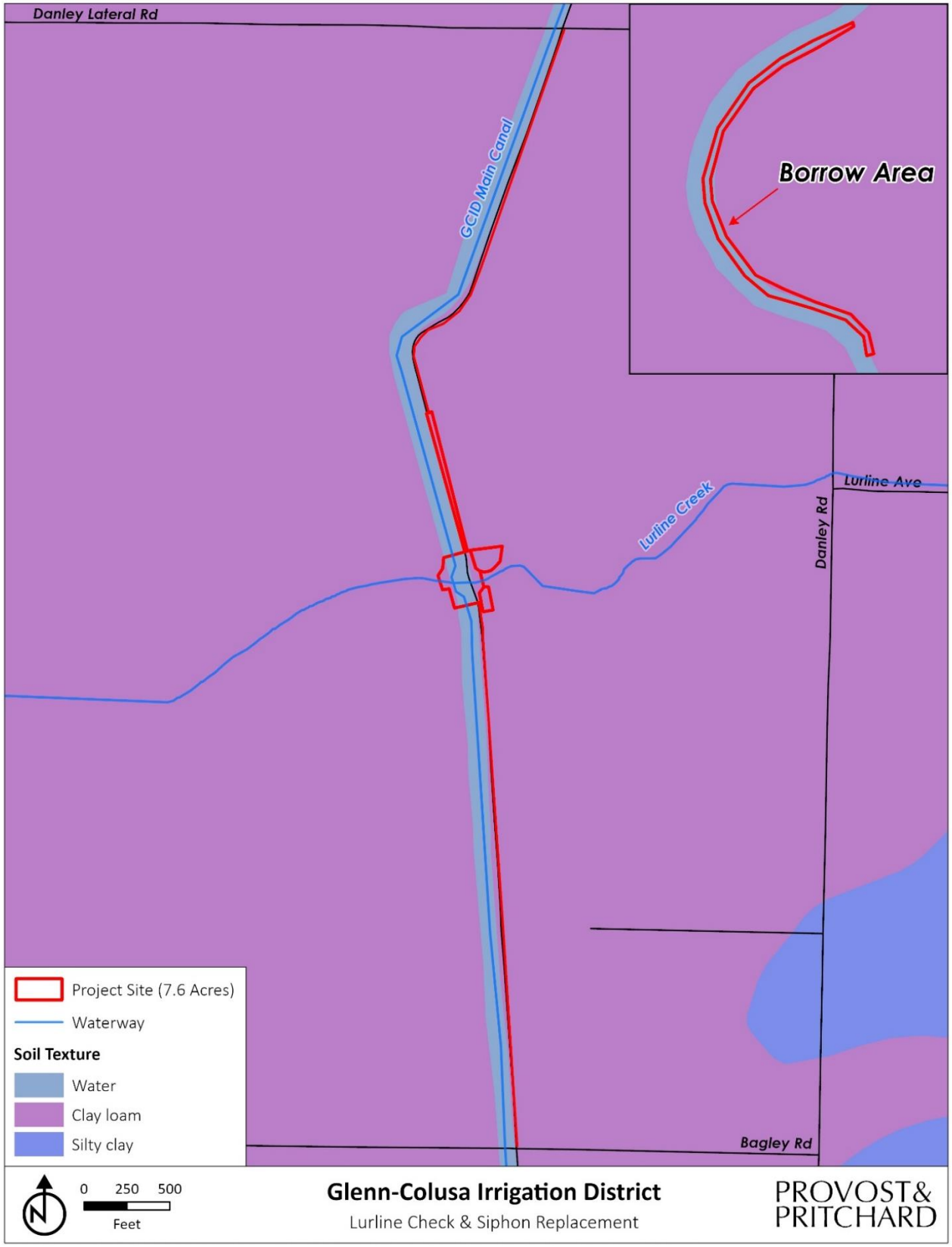

Figure 4-2: Soils Map

4.8 GREENHOUSE GAS EMISSIONS

Table 4-15: Greenhouse Gas Emissions Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

4.8.1 BASELINE CONDITIONS

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas. CO_2 is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH_4) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

Water vapor is the most abundant, and variable greenhouse gas. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life.

Ozone (O_3) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. O_3 is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur hexafluoride) with the highest global warming potential. HFCs are human-made for applications such as air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth, and what the effects of clouds will be in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy.

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O have increased by at least 40 percent, 150 percent, and 20 percent respectively since the year 1750. GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 25 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2.

Neither CCAPCD nor FRAQMD have a set threshold for the regulation of GHG emissions. As a result, the GHG emissions threshold from Placer County Air Quality Control District (PCAQCD) has been used as the applicable threshold for the proposed Project. A portion of the PCAQCD is located within the SVAB and as a result the PCAQCD experiences similar air quality conditions as the CCAPCD.

4.8.2 IMPACT ANALYSIS

4.8.2.1 PROJECT RELATED EMISSIONS

Short-term construction emissions associated with the proposed Project were calculated using CalEEMod, Version 2020.4.0. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Modeling assumptions and output files are included in Appendix A. Estimated construction-generated emissions are summarized in Table 4-16. GHGs impact the environment over time as they increase and contribute to climate change. As discussed in Section 4.3, the amount of operational related emissions generated would be considered negligible.

Table 4-16: Short Term Construction Related GHG Emissions

	Emissions (MT CO2e) in Tons per Year
Maximum Annual Construction CO_2e Emissions	69.4587
PCAPCD Thresholds [16]	10,000
Threshold Exceeded?	No

Construction related generation of GHGs would be a maximum of 69.4587 Metric Tons of Carbon Dioxide Equivalent ($MTCO_2e$) per year. While some operational emissions could result from the proposed Project, this quantity would be negligible and would be similar to or less than existing operations emissions. The proposed Project would not exceed the PCAPCD threshold for both short-term construction emissions and would not result in a substantial adverse change in operations emissions.

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. The proposed Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. As shown in Table 4-16, the proposed Project would not result in the generation of GHG emissions that would exceed the PCAPCD threshold of 10,000 MT CO2e annually during both construction and operational activities. Long-term operational activities would result in negligible quantities of GHG emissions being generated due to use of pumps, valves, and associated infrastructure, and operational emissions would be similar to or less than existing operations. Therefore, impacts would be less than significant.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The proposed Project would be in compliance with all CCAPCD policies and regulations regarding GHG emissions and would not exceed an applicable threshold for the generation of such emissions. The Project would also not result in the generation of GHG emissions that would be in conflict with the State's 2022 Scoping Plan for Achieving Carbon Neutrality.[17] Therefore, there would be no impacts.

[16] (Placer County Air Pollution Control District 2017)
[17] (California Air Resources Board, 2022)

4.9 HAZARDS AND HAZARDOUS MATERIALS

Table 4-17: Hazards and Hazardous Materials Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

4.9.1 BASELINE CONDITIONS

According to the State Water Resources Control Board's (SWRCB) GeoTracker database and the Department of Toxic Substance's (DTSC) EnviroStor database, the nearest active hazardous waste cleanup site is located approximately 3.4 miles southeast of the Check site.[18][19] The proposed Project would not result in the emissions of hazardous materials during operation, and any foreseeable potential hazardous

[18] (California State Waterboards 2022)
19 (California Department of Toxic Substances Control 2022)

material spillage as a result of construction activities would be remediated in accordance with industry Best Management Practices (BMPs) and State and County regulations.

4.9.1.1 HAZARDOUS MATERIALS

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the SWRCB Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups sites, Department of Defense sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed in December 2023 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediately surrounding area.[20][21]

4.9.1.2 AIRPORTS

The Colusa County Airport is located approximately 14 miles east of the Lurline Check Project site. The Project site is not located within the Colusa County Airport Land Use Compatibility Plan.

4.9.1.3 EMERGENCY RESPONSE PLAN

The Colusa County Office of Emergency Services, which serves as a division of the Colusa County sheriff's office, is the County's emergency management agency. As such, it is the lead agency that fulfills the County's requirements under the Emergency Services Act (Government Code Section 8550). It coordinates response, recovery, and mitigation efforts, as well as the ways in which these three factors intersect and overlap, for disasters occurring within the unincorporated area of the County.

4.9.1.4 SENSITIVE RECEPTORS

Sensitive Receptors are groups that would be more affected by air, noise, light pollution, pesticides, and other toxic chemicals than others. This includes infants, children under 16, elderly over 65, athletes, and people with cardiovascular and respiratory diseases. High concentrations of these groups would include daycares, residential areas, hospitals, elder care facilities, schools, and parks. The Project site is located within an agricultural and rural setting; there are no sensitive receptors near the Project site.

4.9.2 IMPACT ANALYSIS

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

[20] (California Department of Toxic Substances Control 2023)
[21] (California State Water Resources Control Board 2023)

a) and b) Less than Significant Impact. There would be no transport, use, or disposal of hazardous materials associated with construction, with the exception of diesel fuel for construction equipment. Regulations governing hazardous materials transport are provided in Title 22 of the CCR and the California Vehicle Code (Title 13 CCR). Any potential accidental hazardous materials spills during Project construction are the responsibility of the contractor to remediate in accordance with industry BMPs and State and County regulations. Any impacts would be less than significant.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The Project site is not located within a quarter mile of an existing or a proposed school. Maxwell High School is situated approximately 4.9 miles northeast of the Lurline Check, and Williams Junior/Senior High School is approximately 6.7 miles southeast of the Lurline Check. There would be no impact.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The proposed Project does not involve land that is actively listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the DTSC. Both the SWRCB's Geotracker and DTSC's EnviroStor websites were checked for contaminated groundwater or hazardous materials sites in the area. According to GeoTracker, the closest site sits approximately four miles northeast of the Check site. The site (American Rice Inc. T0601100018) closed in 2006.[22] EnviroStor lists the closest site as more than four and a half miles to the northeast of the Check site. The hazardous materials site, the Maxwell Transfer Station (06490009), is an evaluation site at a landfill.[23] These hazardous materials sites are located at adequate distances from the Project site such that they would be of no concern to present a worker hazard for construction crews. There would be no impact.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The Project site is not located within an airport land use plan or within two miles of an airport. The Colusa County Airport, the nearest public airport to the Project site, is located approximately 14 miles east of the Project site. The construction of the proposed Project would not be a safety hazard for people working or residing in the area as agricultural lands circumscribe the site. There would be no impact.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed Project does not provide any physical barriers or disturb any roadways in a way that would impede emergency or hazards response; therefore, the proposed Project would not interfere with implementation of any existing or future emergency response plans or evacuation plans of the area. There would be no impact.

[22] (California State Water Resources Control Board 2023)
[23] (California Department of Toxic Substances Control 2023)

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact. The Project site and the surrounding lands consists of the Glenn-Colusa Canal and Lurline Creek, as well as agricultural lands and related infrastructure. The proposed Project does not include any residential components, nor would it require any employees to be stationed permanently at the site on a daily basis. As discussed in further detail in Section 4.20, any impacts from directly or indirectly exposing people or structures to injury or death involving a wildland fire would be considered less than significant.

4.10 HYDROLOGY AND WATER QUALITY

Table 4-18: Hydrology and Water Quality Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

4.10.1 BASELINE CONDITIONS

The proposed Project would result in the construction of a check structure and siphon to replace the existing structure and associated facilities in their approximate current location in rural Colusa County. The proposed Project would be located within the Colusa Groundwater Authority Groundwater Sustainability Agency (CGAGSA) in the Sacramento Valley Basin and Colusa subbasin.[24] Due to the size of the proposed Project, a SWPPP would be completed in order to address any potential impacts to storm drainage on-site.

[24] (California Department of Water Resources 2022)

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Panel No. 06011C0500F (effective 5/15/2003) indicates that the proposed Project area is located immediately adjacent to and slightly overlapping a 100-Year Flood Zone (see Figure 4-3).[25]

4.10.2 IMPACT ANALYSIS

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. The SWRCB requires that a SWPPP be prepared for projects that disturb one or more acres of soil, such as the proposed Project. A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining best management practices to minimize the risk of pollution and sediments being discharged from construction sites. Implementation of the SWPPP would minimize the potential for the proposed Project to substantially alter the existing drainage pattern in a manner that would result in substantial erosion or siltation on-site or off-site.

The intent of the proposed Project is to replace an existing check structure and siphon where the Glenn-Colusa Canal meets Lurline Creek. The proposed Project would not generate any type of wastewater; therefore, there would be no discharge of water to any surface source. As such, there would be no discharge directly associated with Project implementation that could impact water quality standards. Impacts would be less than significant.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact. The proposed Project entails the construction of a new check structure and siphon, replacing the existing structure, in the County to improve water supplies by more accurately and sufficiently controlling water flows in the area. The proposed Project would benefit groundwater storage specifically by improving the reliability of surface water supplies, which would reduce the potential for adverse effects to groundwater. Additionally, the CGAGSA holds jurisdiction over the proposed Project area and is responsible for developing a GSP to minimize significant impacts to lowering groundwater levels and promote aquifer replenishment. The proposed Project would not interfere substantially with groundwater recharge, nor would the proposed Project interfere substantially with the production rate of pre-existing nearby wells. Impacts would be less than significant.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. result in substantial erosion or siltation on- or off-site;

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

[25] (Federal Emergency Management Agency 2023)

iv. impede or redirect flood flows?

Less than Significant Impact. The proposed Project does not propose significant alteration of the topography of the site. It would include the construction of a new low-water vehicle crossing for District maintenance vehicles. The low-water crossing would include a vehicle drive surface elevated above the stream bed elevation with culvert pipes cast into the structure in order to continue to convey typical stormwater runoff. The proposed Project also involves the construction and installation of a new check structure and siphon which would serve to better manage the water levels in the Glenn-Colusa Canal as well as the water velocity therein. The proposed Project would not alter the existing drainage pattern of the site nor the course of the flow of a stream or river in which substantial erosion or siltation could occur.

In order to minimize erosion and run-off during construction activities, a SWPPP would be implemented, and the contractor would comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. Moreover, by constructing the new Lurline Check, the District would be able to better control and lessen the velocity of the water flow. Higher velocities are more likely to cause erosion, so the proposed Project would serve to prevent erosion or siltation. Additionally, apart from water on site, the Capay clay loam present on the Project site maintains a very low runoff class, and the frequency of flooding is rare for Capay clay loam soil. Therefore, impacts would be less than significant.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

Less than Significant Impact. The Project site is not located in a tsunami or seiche zone. The Project site is within rural and agricultural Colusa County, especially isolated from opportunities for tsunami or seiche. There is a very low probability of dam failure inundation; the closest dam inundation area stems from the Shasta Dam with its inundation zone reaching a point 5.5 miles east of the site. There would be no employees required to be on site on a regular basis at the Project location, and no housing would result from Project construction or implementation. The impacts would be less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The proposed Project would not conflict with implementation of a water quality control plan. The proposed Project would help maintain the steady water supply during the irrigation season by better controlling water within the Glenn-Colusa Canal. Furthermore, construction activities would require implementation of a SWPPP and compliance with all Cal/OSHA regulations in order to reduce the potential for incidental release of pollutants or hazardous substances into surface water or groundwater. There would be no impact.

4.10.3 FEDERAL CROSS-CUTTING TOPIC

4.10.3.1 FLOOD PLAIN MANAGEMENT- EXECUTIVE ORDER NUMBERS 11988, 12148, AND 13690

FEMA designates flood hazard and frequency for cities and counties on its Flood Insurance Rate Maps. The Project area is within a designated 100-year floodplain, on a floodplain map, or otherwise designated by FEMA as shown in Figure 4-3. However, the open trenching that would be excavated for the construction process would be outside the floodway, and the siphon installation would be beneath ground surface upon completion.

4.10.3.2 RIVERS AND HARBORS ACT

The Rivers and Harbors Act of 1899 prohibits construction of any bridge, dam, dike, or causeway over or in navigable waterways of the U.S., without Congressional approval. Under Section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers. The USACE is authorized to issue permits for the discharge of refuse matter into or affecting navigable waters under Section 13 of the act.

The proposed Project would not be constructed in a location that would affect a navigable waterway, requiring a Section 10 or 13 permit or approval by USACE.

4.10.3.3 SAFE DRINKING WATER ACT, SOLE SOURCE AQUIFER PROTECTION

The Safe Drinking Water Act (SOWA) required USEPA to establish criteria through which an aquifer may be declared a critical aquifer protection area. Since 1977, it has been used by communities to help prevent contamination of groundwater from federally funded projects. These aquifers are defined as "sole source aquifers." EPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the SOWA. These are, essentially, aquifers that are the only drinking water supply for the population of a region.

SSA designation protects an area's groundwater resources by requiring USEPA to review all proposed projects within the designated area that will receive federal financial assistance. The SSA Program states that if USEPA determines an area to have an aquifer which is the sole or principal drinking water source for the area, that if contaminated would create a significant hazard to public health, a notice of that determination needs to be published in the Federal Register. After publication of any such notice, no commitment for federal financial aid may be applied for any project that the Administrator determines may contaminate the aquifer through a recharge zone, so as to create a significant hazard to public health.[26]

Pursuant to Section 1424(e), the USEPA has designated six (6) aquifers in Region IX which are the sole or principal source of drinking water for all municipal and private water systems in that watershed, and that if contaminated, would create a significant hazard to public health. The Project site is not located in a Sole Source Aquifer.

[26] (EPA 2019)

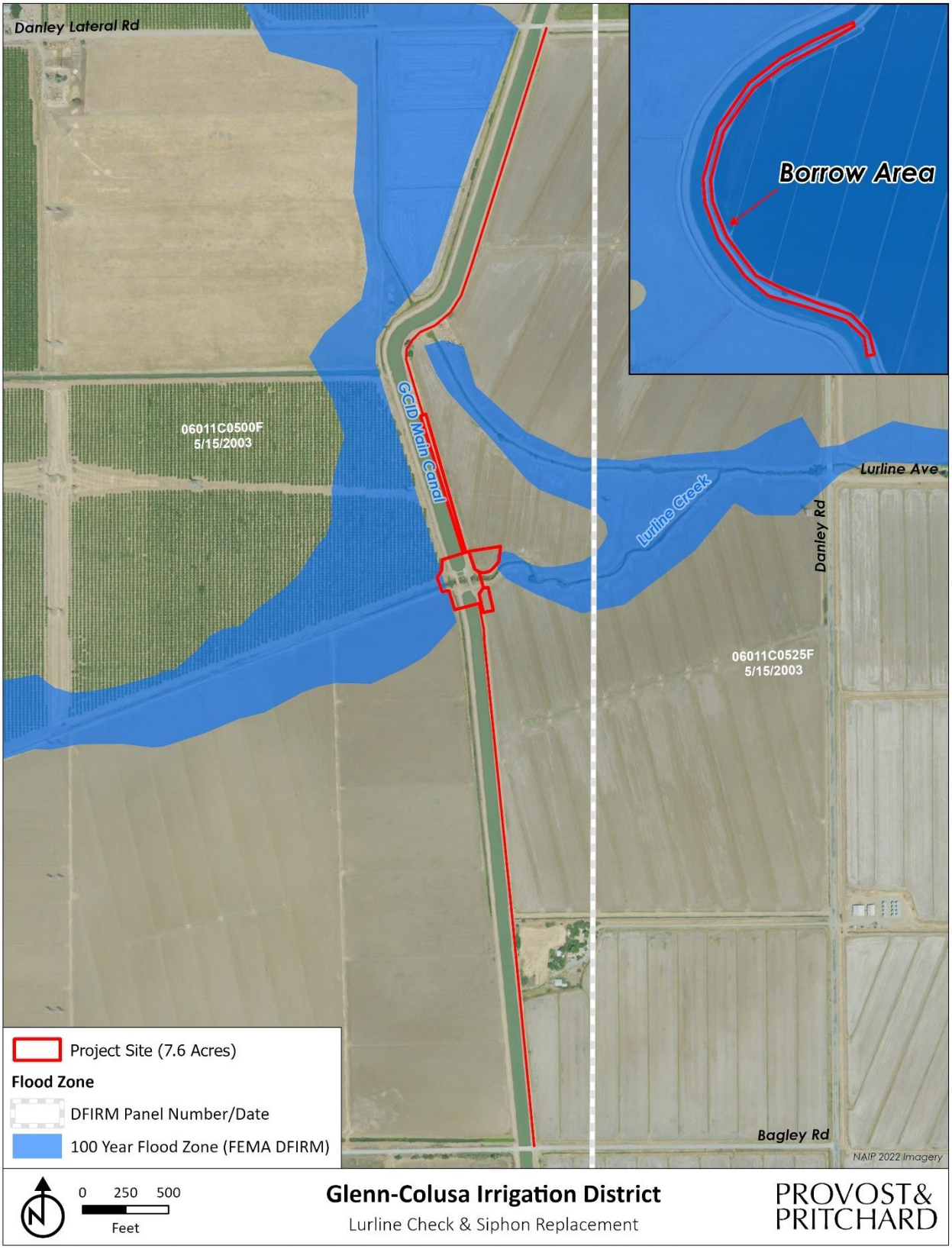

Figure 4-3: FEMA Flood Map

4.11 LAND USE AND PLANNING

Table 4-19: Land Use and Planning Impacts

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

4.11.1 BASELINE CONDITIONS

The site for the proposed Project is situated within rural Colusa County, an area dominated by agriculture – agricultural lands comprise more than 75% of the County. The site is made up of farmland, waterways, and access roads. Land within this part of the County, including the Project site, is zoned Exclusive Agriculture by Colusa County.[27] According to the Colusa County General Plan Background Report, the site is planned for Agriculture General Use.[28]

4.11.2 IMPACT ANALYSIS

a) Would the project physically divide an established community?

No Impact. The Project site is located in an agricultural area in rural Colusa County. The proposed Project would not physically divide any established communities, nor does it include the permanent alteration of roads, trails, or paths that could be considered a connectivity network or that would divide an established community. There would be no impact.

b) Would the project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Project site is zoned Exclusive Agricultural. Construction of the proposed Project would not develop new sources of water that would support any new housing or new permanent population growth that would exceed official regional or local population projections in the District service area. Therefore, no impacts to land use are anticipated. Additionally, the construction and operation of the proposed Project is consistent with the land use within the vicinity. Therefore, the proposed Project would not conflict with any applicable plans, policies, or regulations. There would be no impact.

[27] (Colusa County n.d.)
[28] (Colusa County 2010)

4.11.3 FEDERAL CROSS-CUTTING TOPIC

4.11.3.1 COASTAL ZONE MANAGEMENT ACT

The Coastal Zone Management Act was enacted in 1972. This act, administered by the National Oceanic and Atmospheric Administration, provides management of the nation' s coastal resources. The California coastal zone generally extends 1,000 yards inland from the mean high tide line. The Project site is more than 100 miles from the coastline. Therefore, the proposed Project would not conflict with the Coastal Zone Management Act.

4.12 MINERAL RESOURCES

Table 4-20: Mineral Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

4.12.1 BASELINE CONDITIONS

According to the California DOC's Mineral Land Classification map, the Project site is not located in an area identified for aggregate material production.[29] The site is not zoned for mineral extraction or preservation, and the proposed Project would not result in the loss of any identified mineral resources on-site or within vicinity of the site.

4.12.2 IMPACT ANALYSIS

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

a) and b) No Impact. The California Geological Survey Division of Mines and Geology has not classified any of the Project site as a Mineral Resource Zone under the Surface Mining and Reclamation Act. California's Division of Oil, Gas and Geothermal Resources has no records of closed or active oil or gas wells on the Project site. Additionally, no known mineral resources are within the Project area, and the Colusa County General Plan does not designate the Project site as a mineral resource site. Therefore, construction of the proposed Project would not result in the loss of availability of a known mineral resource since no known mineral resources occur in this area. There would be no impacts.

[29] (California Department of Conservation 2022)

4.13 NOISE

Table 4-21: Noise Impacts

Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

4.13.1 BASELINE CONDITIONS

The Project site is located in an agricultural area, with the Lurline Check situated approximately four and a half miles northeast of the community of Maxwell. The closest school is Maxwell High School, located about five miles northeast of the Check site, and the Colusa County Airport is located approximately 14 miles east of the Check site. While much of the County is composed of large swaths of agricultural land, discrete small communities, and remote rural residences, major noise generators include I-5, located approximately 3.8 miles east of the site, and other roadway travel, airports, and industrial operations.

Due to the seasonal nature of the agricultural industry, there are often extended periods of time when little to no noise is generated at the Project site, followed by short-term periods of intensive mechanical equipment usage and corresponding noise generation. The Colusa County General Plan identifies the normally acceptable noise range for agricultural land uses between 55 and 60 dB.[30]

Colusa County Noise Control Ordinance[31]: Chapter 13-8 of the Colusa County Code contains the special provisions for the County's noise control ordinance, which places limits on noise levels and hours of construction. Section 13-8(b) states that noise sources associated with construction activities are allowed under the provisions of the Noise Control Ordinance, as long as construction does not take place before 8:00 a.m. or after 8:00 p.m. on any day except Saturday or Sunday or before 7:00 a.m. or after 7:00 p.m. on Saturday or Sunday.

[30] (Colusa County 2012)
[31] (Colusa County California Code of Ordinances 2023)

4.13.2 IMPACT ANALYSIS

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. Construction of the proposed Project would involve temporary noise sources, predominantly from off-road equipment, such as excavators, backhoe/loader, graders, concrete trucks, and concrete pumpers. The Project site is located adjacent to agricultural lands, accustomed to noises associated with farm equipment. The proposed Project would comply with the Colusa County Noise Control Ordinance. Operational maintenance activities would be on an as-needed basis with routine monitoring performed by existing staff and would not generate substantial new noise. The majority of monitoring by staff would occur remotely thanks to the SCADA system that would be constructed as part of the proposed Project. Any impacts would be temporary, and not substantial, and, therefore, less than significant.

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. Construction of the proposed Project would primarily consist of excavation and grading as part of development of the new Lurline Check. The Project site is located in an area dominated by agricultural production. Agricultural production commonly includes the regular use of off-road equipment and ground-disturbing activities. During construction, Project-related construction activities would not vary substantially from the baseline conditions routinely experienced on neighboring properties. Impacts would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project site is not located within an airport land use plan of an airport.[32] The Colusa County Airport is located approximately 14 miles east of the Project site. Moreover, the proposed Project does not involve the development of habitable structures or require the presence of permanent staff onsite. There would be no impact.

[32] (Colusa County 2014)

4.14 POPULATION AND HOUSING

Table 4-22: Population and Housing Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

4.14.1 BASELINE CONDITIONS

The immediate area surrounding the proposed Project is used for agricultural operations. Properties within the immediate vicinity of the Project site are designated and zoned for agricultural uses by the County. The closest town to the proposed Project is Maxwell, about five miles northeast of the site.

According to 2020 United States Census Bureau data, the County's population was 21,839 with an estimated percent change from 2010 to 2020 of 2.0%. As of 2022, there were 8,173 housing units in the County with an average of 2.9 persons per household.[33]

4.14.2 IMPACT ANALYSIS

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

a) and b) No Impact. The proposed Project involves the construction and replacement of a check structure and siphon along the Glenn-Colusa Canal that facilitates water conveyance for GCID. The proposed Project would not encourage population growth directly or indirectly. No housing or habitable structures would be built, nor would any be removed; implementation of the proposed Project would not result in displacement of people or existing housing. Therefore, there would be no impact.

4.14.3 FEDERAL CROSS-CUTTING TOPIC

4.14.3.1 ENVIRONMENTAL JUSTICE EXECUTIVE ORDER 12898

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was issued in 1994. The EO directs federal agencies to identify and address the

[33] (United States Census Bureau 2023)

disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law.

USEPA has developed a mapping and screening tool called EJSCREEN that uses nationally consistent data to identify minority or low-income communities. According to EJSCREEN, the Project site is not in an environmental justice community (US EPA 2015). In addition, the purpose of the Project would be to provide a reliable water supply to customers within the District. Because the proposed Project would directly benefit the local community only, no disproportional health or environmental effect would be imposed on minority or low-income populations. The proposed Project would not conflict with the purpose and objectives of EO 12898.

4.15 PUBLIC SERVICES

Table 4-23: Public Services

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
i. Fire protection?	☐	☐	☐	☒
ii. Police protection?	☐	☐	☐	☒
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

4.15.1 BASELINE CONDITIONS

Fire Protection: The County has a number of fire departments, fire protections districts, and fire protection authorities, as well as United States Forest Service and California Department of Forestry and Fire (Cal FIRE) Protection stations. The proposed Project area is served by the Maxwell Fire Protect District. The Maxwell Fire Protection District's fire station is the closest to the proposed Project located 7.5 miles to the northeast.

Police Protection: According to the County of Colusa's General Plan, the Colusa County Sheriff's Department serves the proposed Project area. The Sheriff's Department provides various administrative, correctional, field, and support services. The closest law enforcement station is the Williams Police Department located approximately 8.75 miles southeast of the Project site, but the closest station serving the proposed Project area is the Colusa County Sheriff's Office situated 15.25 miles to the east.

Schools: Public school services are provided throughout the County by four school districts, all of which are unified districts.[34] The closest school is Maxwell High School, which is located about five miles northeast of the site.

Parks: The County is home to the East Park Reservoir regional park, Colusa-Sacramento River State Recreation Area, and the Mendocino national forest, as well as two wildlife refuges. The development and maintenance of regional parks and landscaped areas is performed by the Colusa County Parks & Recreation Division. The nearest park is North View Park, which is located approximately 6.25 miles southeast of the Project site.

[34] (Colusa County Office of Education 2023)

Landfills: The nearest landfill to the Project site is the Maxwell Transfer Station (approximately 4.5 miles northeast of the proposed Project).

4.15.2 IMPACT ANALYSIS

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i. Fire Protection:

ii. Police Protection:

iii. Schools:

iv. Parks:

v. Other public facilities:

a -i-v) No Impact. The proposed Project would not require new or altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for public services. The proposed Project involves the construction of the replacement Lurline Check along the Glenn-Colusa Canal. The proposed Project would not result in an increase of population that would require additional school facilities; therefore, there would be no impact.

4.16 RECREATION

Table 4-24: Recreation Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

4.16.1 BASELINE CONDITIONS

The Project site is located in Colusa County on land that has historically been utilized for agricultural production. Representing over 75 percent of the land base, agriculture greatly contributes to the County's open space character. As new residential development occurs, the Open Space and Recreation Element of the Colusa County General Plan establishes a baseline of developing parks and recreation facilities at a rate of five acres of park land for each 1,000 residents. The County is home to a number of community parks, the East Park Reservoir regional park, the Colusa-Sacramento River State Recreation Area, and the Mendocino national forest, as well as two wildlife refuges. The development and maintenance of regional parks and landscaped areas is held responsible by the Colusa County Parks & Recreation Division. The nearest park is North View Park, which is located approximately 6.2 miles southeast of the Project site.

4.16.2 IMPACT ANALYSIS

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed Project does not propose any residential development or job-creating commercial or industrial development, and therefore will not generate an increase in the demand for recreational facilities or put a strain on the existing recreational facilities in or around the area. No population growth will result from the proposed Project. There would be no impact.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The proposed Project does not include recreational facilities as part of the proposed Project components, nor does it propose the expansion of any existing recreational facilities. There is no housing or population growth associated with the proposed Project that could result in accelerated substantial physical deterioration of any such facilities. There would be no impact.

4.17 TRANSPORTATION

Table 4-25: Transportation Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)??	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

4.17.1 BASELINE CONDITIONS

The Project site is circumscribed by agricultural farmland plots and the Glenn-Colusa Canal. Existing access roads travel north-south alongside the Glenn-Colusa Canal. There are no State or interstate highways in the immediate vicinity; I-5 is the nearest highway and is located approximately 3.8 miles east of the site. The Colusa County Airport, the closest airport to the proposed Project, is located approximately 14 miles east of the Project site.

4.17.2 IMPACT ANALYSIS

a) Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

a) and b) Less than Significant Impact. The proposed Project would replace the existing check structure and siphon at the Glenn-Colusa Canal where it intersects with Lurline Creek with a new structure and siphon. No roads would be constructed as a result of the proposed Project. Operational traffic consists of as-needed maintenance trips. There would not be a substantial adverse effect to existing roadways in the area. The proposed Project would not affect a plan, ordinance, or policy addressing the circulation system.

Construction associated with the proposed Project would be restricted to the Project site, and it would not intersect any roadways nor pedestrian or bicycle paths. These construction-related impacts would be temporary, and there would be no impacts to the surrounding transportation network. Road closures and detours are not anticipated as part of construction.

There is no population growth associated with the proposed Project, nor would implementation of the proposed Project result in an increase of staff or drivers utilizing roadways in the area. The upgraded SCADA system and replaced Lurline Check would likely allow District staff to make fewer maintenance

trips. Therefore, the proposed Project would not increase the demand for any changes to congestion management programs or interfere with existing level of service standards during the operational phase. There would be no impact.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed Project does not involve geometric roadway features or propose incompatible uses. No additional roads would be constructed as a result of the proposed Project. There would be no impact.

d) Would the project result in inadequate emergency access?

No Impact. The proposed Project does not propose new roadway design features or permanent alterations to roadways that would affect existing emergency access. Road closures and detours are not anticipated as part of the construction phase of the proposed Project. The operational phase of the proposed Project would have no effect on roadways or emergency access. Therefore, there would be no potential Project-related impacts to emergency access on local roadways.

4.18 TRIBAL CULTURAL RESOURCES

Table 4-26: Tribal Cultural Resources Impacts

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

4.18.1 BASELINE CONDITIONS

The proposed Project would result in the construction and replacement of a check structure and siphon. The Project site is located in central Colusa County. Lands in the proposed Project's vicinity consist of relatively flat, irrigated and non-irrigated farmland and agricultural infrastructure. At the time of Euroamerican contact, the Native Americans that lived in the area were speakers of the Patwin language, which is part of the Southern Wintuan language family. Native American resources in this part of the County have been found near intermittent and perennial watercourses, and in areas near the hill to valley interface. There are no Native American resources within or adjacent to the Project area that are referenced in the ethnographic literature (see Appendix C).

4.18.1.1 Public Resources Code Section 21080.3.1, et seq. (Codification of AB 52, 2013-14)

Public Resources Code Section 21080.3.1, et seq. (codification of AB 52, 2013-14) requires that a lead agency, within 14 days of determining that it would undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate formal consultation.

Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement would be made. The District received a written request from the Cachil Dehe Band of Wintun Indians on October 1, 2019, for notice of proposed projects, and the District provided notice of the proposed Project in accordance with Public Resources Code Section 21080.3.1. The Cachil Dehe Band of Wintun Indians requested that all notices be sent via certified U.S. Mail with return receipt. Following receipt of the information, within the 30-day period proscribed by Public Resources Code Section 21080.3.1, the Colusa Indian Community Council (the governing body for the Cachil Dehe Band of Wintun Indians) may request consultation to mitigate any project impacts to tribal cultural resources.

4.18.1.2 NATIVE AMERICAN OUTREACH

The NAHC in Sacramento was contacted in January 2024 to perform a search of the Sacred Lands File (SLF) to determine if any Native American resources have been recorded in the immediate Project area. The response letter dated February 14, 2024, showed results were negative and confirms there are no known records associated with the Project (see Appendix C). The NAHC also provided a list of Native American tribes who may also have knowledge of cultural resources in the area.

4.18.2 IMPACT ANALYSIS

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

vi. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or

vii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant Impact with Mitigation Incorporated. As discussed in Section 4.5, an SLF search completed for the Project area, dated February 14, 2024, did not identify any tribal cultural resources within the Project area. Additionally, a records search was conducted at the NCIC at California State University, Sonoma. This search also determined that tribal cultural resources were not present on-site.

Outreach letters and follow-up emails were sent to tribal organizations using the NAHC list as well as an AB 52 letter sent to the Cachil Dehe Band of Wintun Indians to further identify Native American interests and concerns in the Project area. A response was received from the Yocha Dehe Wintun Nation Tribe stating that while there are no known cultural resources near the Project site, they are requesting a Cultural Awareness Training take place prior to any ground disturbing activities. No other responses were received from any other tribes.

There is a very low probability the Project would cause a substantial adverse change to the significance of a tribal cultural resource as defined. With the implementation of mitigation measure **TCR-1** outlined below, any impacts to Tribal Cultural Resources would be less than significant.

4.18.3 MITIGATION

TCR-1 (Cultural Awareness Training): Prior to construction or any ground disturbing activities, a Cultural Awareness Training Program shall be provided to all construction managers and construction personnel prior to commencing ground disturbance work at the Project site. The training shall be prepared and conducted by a qualified archaeologist. The training shall be a length of time adequate to explain applicable statues, regulations, enforcement provisions; the prehistoric and historic environmental setting and context, local tribal groups; show sample artifacts; and what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction. The training may be discontinued for new workers to the site when ground disturbance is completed. Construction personnel shall not be permitted to operate equipment within the construction area unless they have attended the training. A list of the names of all personnel who attended the training, and copies of the signed acknowledgement forms shall be submitted to the District for their review and approval.

4.19 UTILITIES AND SERVICE SYSTEMS

Table 4-27: Utilities and Service Systems Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

4.19.1 BASELINE CONDITIONS

4.19.1.1 WATER SUPPLY

The Project site is located within the Colusa Subbasin of the Sacramento Valley Groundwater Basin, as defined by the California Department of Water Resources Groundwater Bulletin 118.[35] Measures for ensuring the continued availability of groundwater for municipal needs have been identified and planned in several areas of the County. The measures include groundwater conservation and recharge, and supplementing or replacing groundwater sources for irrigation with surface water. The District operates and maintains a main pump station near Hamilton City, the District's only diversion from the Sacramento River.

4.19.1.2 WASTEWATER COLLECTION AND TREATMENT

The Maxwell wastewater treatment plant is the closest wastewater facility approximately five miles northeast of the Project site.

[35] (California Department of Water Resources 2018)

4.19.1.3 LANDFILLS

The closest landfill to the Project site is the Maxwell Transfer Station, owned and operated by Recology, over 4.5 miles northeast of the proposed Project.

4.19.2 IMPACT ANALYSIS

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The proposed Project would not require construction of new or relocation or expansion of existing facilities for water, wastewater treatment, storm water drainage, natural gas, or telecommunications. There would, however, be the replacement and construction of existing electrical service infrastructure. The existing underground electrical service would be replaced from the Lurline Check to the existing PG&E service pole. The contractor would be required to adhere to PG&E requirements and follow industry BMPs, comply with applicable regulatory requirements and mitigation measures for the Project, including those pertaining to biological, cultural and tribal cultural resources, erosion and stormwater, which would ensure that any impacts would be less than significant. As such, impacts would be less than significant.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. The proposed Project entails the construction and maintenance of a new check structure and siphon. The proposed Project would have the same purpose as the existing Check structure. As the proposed Project is for replacement of existing water infrastructure and would not result in any new water demand, there would be no impact.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. The proposed Project does not require or propose any wastewater collection or treatment, and therefore would not create or increase any wastewater demand on any wastewater treatment provider. There would be no impact.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. There would be no solid waste associated with the operational phase of the proposed Project. Any solid waste associated with construction would be minimal and temporary and would be the responsibility of the contractor to remove and dispose of at a County-approved landfill or recycling facility. The amount of construction debris and waste would not exceed the capacity of local infrastructure. Therefore, any impact would be less than significant.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. The proposed Project is not expected to produce any solid waste during operations. However, the proposed Project is required to comply with any federal, State, and local

regulations regarding solid waste management during the construction period. As mentioned previously, any solid waste produced during the construction period would be the responsibility of the contractor to remove and dispose of it at a County-approved landfill or recycling facility. The impacts would be less than significant.

4.20 WILDFIRE

Table 4-28: Wildfire Impacts

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

4.20.1 BASELINE CONDITIONS

The Project site is located approximately two miles east of the nearest State Responsibility Area (SRA) and approximately four miles east of the nearest Very High Fire Hazard Severity Area according to Cal FIRE.[36][37] While the grassland, chaparral, woodland, and forest vegetation in areas of the County, coupled with hot, dry summers, present extreme fire hazards during critical fire periods, the Project site is situated in an area that has been developed for active irrigated farming operations and not within such vegetative areas. The closest fire station to the Project site is the Maxwell Fire Protection District situated 7.5 miles northeast of the proposed Project. The Project site is currently being used for an existing Check structure, which is part of District water conveyance infrastructure.

4.20.2 IMPACT ANALYSIS

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and

[36] (CalFIRE 2022)
[37] (CalFIRE 2022)

thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

a-d) No Impact. The Project site is not located in or near an SRA nor on lands classified as very high fire hazard severity zones. The nearest SRA Fire Hazard Zone is located more than two miles west of the Project site. Construction or implementation of the proposed Project would not impede any existing or future emergency response plans. The Project site and the surrounding lands consist of agricultural and related infrastructure on relatively flat and open land, as well as a canal access road. Additionally, the proposed Project does not include the construction of any residential components or habitable structures of any kind, nor would it require any employees to be stationed permanently at the site on a daily basis. There would be no impacts.

4.21 CEQA MANDATORY FINDINGS OF SIGNIFICANCE

Table 4-29: CEQA Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

4.21.1 STATEMENT OF FINDINGS

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant Impact with Mitigation Incorporated. The potential for impacts to biological resources and tribal cultural resources from the construction and operation of the proposed Project would be less than significant with the incorporation of the mitigation measures discussed above. Accordingly, the proposed Project would not involve any potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or eliminate important examples of the major periods of California history or prehistory. The analysis conducted in this IS/MND results in a determination that the proposed Project, with incorporation of mitigation measures discussed above, would have a less than significant effect on the environment.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact. CEQA Guidelines Section 15064(i) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The proposed Project would include the construction of a new check and siphon structure to replace an existing structure. No wetlands or agricultural land would be converted as a result of the Project. Air emissions would be minimal, temporary and below applicable thresholds of significance. No additional public roads would be constructed as a result of the proposed Project, nor would any additional public services be required. The proposed Project will not result in direct or indirect population growth. Therefore, implementation of the proposed Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact. The proposed Project would include the construction of a new check and siphon structure to replace an existing structure. The proposed Project would not create a significant hazard to the public or the environment. The analysis conducted in this IS/MND results in a determination that the proposed Project would have a less than significant effect on the environment. All potential impacts on human beings have been found to be unsubstantial and would be considered less than significant.

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Appendix A: CalEEMod Output Files

GCID Lurline Siphon - Colusa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

GCID Lurline Siphon

Colusa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	50.00	1000sqft	1.15	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	56
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction Schedule

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	60.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	10.00	4.00
tblConstructionPhase	PhaseEndDate	10/13/2025	3/27/2025
tblConstructionPhase	PhaseEndDate	12/27/2024	12/25/2024
tblConstructionPhase	PhaseEndDate	1/6/2025	1/2/2025

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	PhaseEndDate	10/27/2025	4/2/2025
tblConstructionPhase	PhaseEndDate	12/31/2024	12/27/2024
tblConstructionPhase	PhaseStartDate	1/7/2025	1/3/2025
tblConstructionPhase	PhaseStartDate	1/1/2025	12/28/2024
tblConstructionPhase	PhaseStartDate	10/14/2025	3/28/2025
tblConstructionPhase	PhaseStartDate	12/28/2024	12/26/2024
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0159	0.1510	0.1410	2.7000e-004	0.0161	6.7400e-003	0.0228	6.9900e-003	6.2800e-003	0.0133	0.0000	23.5688	23.5688	5.9100e-003	3.0000e-005	23.7260
2025	0.0462	0.3484	0.4224	8.2000e-004	0.0178	0.0129	0.0307	6.1400e-003	0.0124	0.0185	0.0000	68.9741	68.9741	0.0104	7.6000e-004	69.4587
Maximum	**0.0462**	**0.3484**	**0.4224**	**8.2000e-004**	**0.0178**	**0.0129**	**0.0307**	**6.9900e-003**	**0.0124**	**0.0185**	**0.0000**	**68.9741**	**68.9741**	**0.0104**	**7.6000e-004**	**69.4587**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0159	0.1510	0.1410	2.7000e-004	7.2900e-003	6.7400e-003	0.0140	3.0000e-003	6.2800e-003	9.2800e-003	0.0000	23.5688	23.5688	5.9100e-003	3.0000e-005	23.7260
2025	0.0462	0.3484	0.4224	8.2000e-004	0.0128	0.0129	0.0257	3.9800e-003	0.0124	0.0164	0.0000	68.9740	68.9740	0.0104	7.6000e-004	69.4587
Maximum	**0.0462**	**0.3484**	**0.4224**	**8.2000e-004**	**0.0128**	**0.0129**	**0.0257**	**3.9800e-003**	**0.0124**	**0.0164**	**0.0000**	**68.9740**	**68.9740**	**0.0104**	**7.6000e-004**	**69.4587**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.61**	**0.00**	**25.71**	**46.84**	**0.00**	**19.35**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-2-2024**	**3-1-2025**	0.4270	0.4270
2	**3-2-2025**	**6-1-2025**	0.1284	0.1284
		Highest	0.4270	0.4270

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0100e-003	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0100e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.9000e-004**	**8.9000e-004**	**0.0000**	**0.0000**	**9.5000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0100e-003	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0100e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.9000e-004**	**8.9000e-004**	**0.0000**	**0.0000**	**9.5000e-004**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/2/2024	12/25/2024	5	18	
2	Site Preparation	Site Preparation	12/26/2024	12/27/2024	5	2	
3	Grading	Grading	12/28/2024	1/2/2025	5	4	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	1/3/2025	3/27/2025	5	60	
5	Paving	Paving	3/28/2025	4/2/2025	5	4	

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 1.15

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	21.00	8.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0130	0.1250	0.1214	2.2000e-004		5.6800e-003	5.6800e-003		5.3100e-003	5.3100e-003	0.0000	18.9824	18.9824	4.8000e-003	0.0000	19.1025
Total	**0.0130**	**0.1250**	**0.1214**	**2.2000e-004**		**5.6800e-003**	**5.6800e-003**		**5.3100e-003**	**5.3100e-003**	**0.0000**	**18.9824**	**18.9824**	**4.8000e-003**	**0.0000**	**19.1025**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.0000e-004	3.6700e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0962	1.0962	2.0000e-005	3.0000e-005	1.1050
Total	**4.3000e-004**	**3.0000e-004**	**3.6700e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0962**	**1.0962**	**2.0000e-005**	**3.0000e-005**	**1.1050**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0130	0.1250	0.1214	2.2000e-004		5.6800e-003	5.6800e-003		5.3100e-003	5.3100e-003	0.0000	18.9824	18.9824	4.8000e-003	0.0000	19.1025
Total	**0.0130**	**0.1250**	**0.1214**	**2.2000e-004**		**5.6800e-003**	**5.6800e-003**		**5.3100e-003**	**5.3100e-003**	**0.0000**	**18.9824**	**18.9824**	**4.8000e-003**	**0.0000**	**19.1025**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.0000e-004	3.6700e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0962	1.0962	2.0000e-005	3.0000e-005	1.1050
Total	**4.3000e-004**	**3.0000e-004**	**3.6700e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0962**	**1.0962**	**2.0000e-005**	**3.0000e-005**	**1.1050**

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1100e-003	0.0118	6.6300e-003	2.0000e-005		4.8000e-004	4.8000e-004		4.4000e-004	4.4000e-004	0.0000	1.5113	1.5113	4.9000e-004	0.0000	1.5235
Total	**1.1100e-003**	**0.0118**	**6.6300e-003**	**2.0000e-005**	**6.2700e-003**	**4.8000e-004**	**6.7500e-003**	**3.0000e-003**	**4.4000e-004**	**3.4400e-003**	**0.0000**	**1.5113**	**1.5113**	**4.9000e-004**	**0.0000**	**1.5235**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0750	0.0750	0.0000	0.0000	0.0756
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0750**	**0.0750**	**0.0000**	**0.0000**	**0.0756**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.4400e-003	0.0000	2.4400e-003	1.1700e-003	0.0000	1.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1100e-003	0.0118	6.6300e-003	2.0000e-005		4.8000e-004	4.8000e-004		4.4000e-004	4.4000e-004	0.0000	1.5113	1.5113	4.9000e-004	0.0000	1.5235
Total	**1.1100e-003**	**0.0118**	**6.6300e-003**	**2.0000e-005**	**2.4400e-003**	**4.8000e-004**	**2.9200e-003**	**1.1700e-003**	**4.4000e-004**	**1.6100e-003**	**0.0000**	**1.5113**	**1.5113**	**4.9000e-004**	**0.0000**	**1.5235**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0750	0.0750	0.0000	0.0000	0.0756
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0750**	**0.0750**	**0.0000**	**0.0000**	**0.0756**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.1400e-003	0.0000	8.1400e-003	3.5400e-003	0.0000	3.5400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3000e-003	0.0138	8.7000e-003	2.0000e-005		5.7000e-004	5.7000e-004		5.3000e-004	5.3000e-004	0.0000	1.8104	1.8104	5.9000e-004	0.0000	1.8250
Total	**1.3000e-003**	**0.0138**	**8.7000e-003**	**2.0000e-005**	**8.1400e-003**	**5.7000e-004**	**8.7100e-003**	**3.5400e-003**	**5.3000e-004**	**4.0700e-003**	**0.0000**	**1.8104**	**1.8104**	**5.9000e-004**	**0.0000**	**1.8250**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0937	0.0937	0.0000	0.0000	0.0944
Total	**4.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0937**	**0.0937**	**0.0000**	**0.0000**	**0.0944**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	1.3800e-003	0.0000	1.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3000e-003	0.0138	8.7000e-003	2.0000e-005		5.7000e-004	5.7000e-004		5.3000e-004	5.3000e-004	0.0000	1.8104	1.8104	5.9000e-004	0.0000	1.8250
Total	**1.3000e-003**	**0.0138**	**8.7000e-003**	**2.0000e-005**	**3.1800e-003**	**5.7000e-004**	**3.7500e-003**	**1.3800e-003**	**5.3000e-004**	**1.9100e-003**	**0.0000**	**1.8104**	**1.8104**	**5.9000e-004**	**0.0000**	**1.8250**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.1000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0937	0.0937	0.0000	0.0000	0.0944
Total	**4.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0937**	**0.0937**	**0.0000**	**0.0000**	**0.0944**

3.4 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.1400e-003	0.0000	8.1400e-003	3.5400e-003	0.0000	3.5400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1900e-003	0.0124	8.4900e-003	2.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	1.8106	1.8106	5.9000e-004	0.0000	1.8252
Total	**1.1900e-003**	**0.0124**	**8.4900e-003**	**2.0000e-005**	**8.1400e-003**	**5.0000e-004**	**8.6400e-003**	**3.5400e-003**	**4.6000e-004**	**4.0000e-003**	**0.0000**	**1.8106**	**1.8106**	**5.9000e-004**	**0.0000**	**1.8252**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0905	0.0905	0.0000	0.0000	0.0912
Total	**3.0000e-005**	**2.0000e-005**	**2.9000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0905**	**0.0905**	**0.0000**	**0.0000**	**0.0912**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	1.3800e-003	0.0000	1.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1900e-003	0.0124	8.4900e-003	2.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	1.8106	1.8106	5.9000e-004	0.0000	1.8252
Total	**1.1900e-003**	**0.0124**	**8.4900e-003**	**2.0000e-005**	**3.1800e-003**	**5.0000e-004**	**3.6800e-003**	**1.3800e-003**	**4.6000e-004**	**1.8400e-003**	**0.0000**	**1.8106**	**1.8106**	**5.9000e-004**	**0.0000**	**1.8252**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0905	0.0905	0.0000	0.0000	0.0912
Total	**3.0000e-005**	**2.0000e-005**	**2.9000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0905**	**0.0905**	**0.0000**	**0.0000**	**0.0912**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0397	0.3124	0.3732	6.6000e-004		0.0118	0.0118		0.0114	0.0114	0.0000	54.4897	54.4897	8.9000e-003	0.0000	54.7121
Total	**0.0397**	**0.3124**	**0.3732**	**6.6000e-004**		**0.0118**	**0.0118**		**0.0114**	**0.0114**	**0.0000**	**54.4897**	**54.4897**	**8.9000e-003**	**0.0000**	**54.7121**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5000e-004	0.0115	3.8100e-003	4.0000e-005	1.4300e-003	8.0000e-005	1.5100e-003	4.1000e-004	7.0000e-005	4.9000e-004	0.0000	4.2918	4.2918	2.0000e-005	6.1000e-004	4.4742
Worker	2.1600e-003	1.4200e-003	0.0183	6.0000e-005	7.7800e-003	3.0000e-005	7.8100e-003	2.0700e-003	3.0000e-005	2.1000e-003	0.0000	5.7016	5.7016	1.2000e-004	1.4000e-004	5.7456
Total	**2.5100e-003**	**0.0129**	**0.0221**	**1.0000e-004**	**9.2100e-003**	**1.1000e-004**	**9.3200e-003**	**2.4800e-003**	**1.0000e-004**	**2.5900e-003**	**0.0000**	**9.9934**	**9.9934**	**1.4000e-004**	**7.5000e-004**	**10.2198**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0397	0.3124	0.3732	6.6000e-004		0.0118	0.0118		0.0114	0.0114	0.0000	54.4896	54.4896	8.9000e-003	0.0000	54.7120
Total	**0.0397**	**0.3124**	**0.3732**	**6.6000e-004**		**0.0118**	**0.0118**		**0.0114**	**0.0114**	**0.0000**	**54.4896**	**54.4896**	**8.9000e-003**	**0.0000**	**54.7120**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5000e-004	0.0115	3.8100e-003	4.0000e-005	1.4300e-003	8.0000e-005	1.5100e-003	4.1000e-004	7.0000e-005	4.9000e-004	0.0000	4.2918	4.2918	2.0000e-005	6.1000e-004	4.4742
Worker	2.1600e-003	1.4200e-003	0.0183	6.0000e-005	7.7800e-003	3.0000e-005	7.8100e-003	2.0700e-003	3.0000e-005	2.1000e-003	0.0000	5.7016	5.7016	1.2000e-004	1.4000e-004	5.7456
Total	**2.5100e-003**	**0.0129**	**0.0221**	**1.0000e-004**	**9.2100e-003**	**1.1000e-004**	**9.3200e-003**	**2.4800e-003**	**1.0000e-004**	**2.5900e-003**	**0.0000**	**9.9934**	**9.9934**	**1.4000e-004**	**7.5000e-004**	**10.2198**

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1500e-003	0.0107	0.0176	3.0000e-005		4.9000e-004	4.9000e-004		4.6000e-004	4.6000e-004	0.0000	2.3547	2.3547	7.5000e-004	0.0000	2.3734
Paving	1.5100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6600e-003**	**0.0107**	**0.0176**	**3.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.3547**	**2.3547**	**7.5000e-004**	**0.0000**	**2.3734**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	7.6000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2353	0.2353	0.0000	1.0000e-005	0.2371
Total	**9.0000e-005**	**6.0000e-005**	**7.6000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2353**	**0.2353**	**0.0000**	**1.0000e-005**	**0.2371**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1500e-003	0.0107	0.0176	3.0000e-005		4.9000e-004	4.9000e-004		4.6000e-004	4.6000e-004	0.0000	2.3547	2.3547	7.5000e-004	0.0000	2.3734
Paving	1.5100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6600e-003**	**0.0107**	**0.0176**	**3.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.3547**	**2.3547**	**7.5000e-004**	**0.0000**	**2.3734**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	6.0000e-005	7.6000e-004	0.0000	3.2000e-004	0.0000	3.2000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2353	0.2353	0.0000	1.0000e-005	0.2371
Total	**9.0000e-005**	**6.0000e-005**	**7.6000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2353**	**0.2353**	**0.0000**	**1.0000e-005**	**0.2371**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.517209	0.055018	0.175621	0.151901	0.035823	0.008450	0.007298	0.019187	0.000264	0.000184	0.024975	0.000699	0.003370

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

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

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.0100e-003	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Unmitigated	5.0100e-003	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.7400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Total	**5.0100e-003**	**0.0000**	**4.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**8.9000e-004**	**8.9000e-004**	**0.0000**	**0.0000**	**9.5000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.7400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Total	**5.0100e-003**	**0.0000**	**4.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**8.9000e-004**	**8.9000e-004**	**0.0000**	**0.0000**	**9.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

7.2 Water by Land Use

Unmitigated

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

GCID Lurline Siphon - Colusa County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

GCID Lurline Siphon

Colusa County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	50.00	1000sqft	1.15	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	56
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction Schedule

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	60.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	10.00	4.00
tblConstructionPhase	PhaseEndDate	10/13/2025	3/27/2025
tblConstructionPhase	PhaseEndDate	12/27/2024	12/25/2024
tblConstructionPhase	PhaseEndDate	1/6/2025	1/2/2025

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	PhaseEndDate	10/27/2025	4/2/2025
tblConstructionPhase	PhaseEndDate	12/31/2024	12/27/2024
tblConstructionPhase	PhaseStartDate	1/7/2025	1/3/2025
tblConstructionPhase	PhaseStartDate	1/1/2025	12/28/2024
tblConstructionPhase	PhaseStartDate	10/14/2025	3/28/2025
tblConstructionPhase	PhaseStartDate	12/28/2024	12/26/2024
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

GCID Lurline Siphon - Colusa County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	1.4947	13.9172	13.9822	0.0256	7.2103	0.6318	7.7831	3.4586	0.5901	3.9856	0.0000	2,472.7244	2,472.7244	0.6477	3.2000e-003	2,488.4634
2025	1.4194	12.4451	13.3027	0.0258	7.2103	0.4966	7.7069	3.4586	0.4569	3.9155	0.0000	2,390.2335	2,390.2335	0.6476	0.0272	2,406.6324
Maximum	**1.4947**	**13.9172**	**13.9822**	**0.0258**	**7.2103**	**0.6318**	**7.7831**	**3.4586**	**0.5901**	**3.9856**	**0.0000**	**2,472.7244**	**2,472.7244**	**0.6477**	**0.0272**	**2,488.4634**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	1.4947	13.9172	13.9822	0.0256	2.8899	0.6318	3.4628	1.3695	0.5901	1.8965	0.0000	2,472.7244	2,472.7244	0.6477	3.2000e-003	2,488.4634
2025	1.4194	12.4451	13.3027	0.0258	2.8899	0.4966	3.3865	1.3695	0.4569	1.8264	0.0000	2,390.2335	2,390.2335	0.6476	0.0272	2,406.6324
Maximum	**1.4947**	**13.9172**	**13.9822**	**0.0258**	**2.8899**	**0.6318**	**3.4628**	**1.3695**	**0.5901**	**1.8965**	**0.0000**	**2,472.7244**	**2,472.7244**	**0.6477**	**0.0272**	**2,488.4634**

GCID Lurline Siphon - Colusa County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	59.92	0.00	55.78	60.40	0.00	52.88	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0277	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0277**	**5.0000e-005**	**5.0900e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**	**0.0000**	**0.0117**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0277	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0277**	**5.0000e-005**	**5.0900e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**	**0.0000**	**0.0117**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/2/2024	12/25/2024	5	18	
2	Site Preparation	Site Preparation	12/26/2024	12/27/2024	5	2	
3	Grading	Grading	12/28/2024	1/2/2025	5	4	
4	Building Construction	Building Construction	1/3/2025	3/27/2025	5	60	
5	Paving	Paving	3/28/2025	4/2/2025	5	4	

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 1.15

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	21.00	8.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4397	13.8867	13.4879	0.0241		0.6311	0.6311		0.5895	0.5895		2,324.9459	2,324.9459	0.5884		2,339.6562
Total	**1.4397**	**13.8867**	**13.4879**	**0.0241**		**0.6311**	**0.6311**		**0.5895**	**0.5895**		**2,324.9459**	**2,324.9459**	**0.5884**		**2,339.6562**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0549	0.0305	0.4943	1.4600e-003	0.1661	7.4000e-004	0.1668	0.0440	6.8000e-004	0.0447		147.7785	147.7785	3.0000e-003	3.2000e-003	148.8072
Total	**0.0549**	**0.0305**	**0.4943**	**1.4600e-003**	**0.1661**	**7.4000e-004**	**0.1668**	**0.0440**	**6.8000e-004**	**0.0447**		**147.7785**	**147.7785**	**3.0000e-003**	**3.2000e-003**	**148.8072**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4397	13.8867	13.4879	0.0241		0.6311	0.6311		0.5895	0.5895	0.0000	2,324.9459	2,324.9459	0.5884		2,339.6562
Total	**1.4397**	**13.8867**	**13.4879**	**0.0241**		**0.6311**	**0.6311**		**0.5895**	**0.5895**	**0.0000**	**2,324.9459**	**2,324.9459**	**0.5884**		**2,339.6562**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0549	0.0305	0.4943	1.4600e-003	0.1661	7.4000e-004	0.1668	0.0440	6.8000e-004	0.0447		147.7785	147.7785	3.0000e-003	3.2000e-003	148.8072
Total	**0.0549**	**0.0305**	**0.4943**	**1.4600e-003**	**0.1661**	**7.4000e-004**	**0.1668**	**0.0440**	**6.8000e-004**	**0.0447**		**147.7785**	**147.7785**	**3.0000e-003**	**3.2000e-003**	**148.8072**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.1067	11.8407	6.6317	0.0172		0.4823	0.4823		0.4437	0.4437		1,665.8826	1,665.8826	0.5388		1,679.3521
Total	**1.1067**	**11.8407**	**6.6317**	**0.0172**	**6.2662**	**0.4823**	**6.7485**	**3.0041**	**0.4437**	**3.4478**		**1,665.8826**	**1,665.8826**	**0.5388**		**1,679.3521**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0338	0.0188	0.3042	9.0000e-004	0.1022	4.6000e-004	0.1026	0.0271	4.2000e-004	0.0275		90.9406	90.9406	1.8500e-003	1.9700e-003	91.5737
Total	**0.0338**	**0.0188**	**0.3042**	**9.0000e-004**	**0.1022**	**4.6000e-004**	**0.1026**	**0.0271**	**4.2000e-004**	**0.0275**		**90.9406**	**90.9406**	**1.8500e-003**	**1.9700e-003**	**91.5737**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4438	0.0000	2.4438	1.1716	0.0000	1.1716			0.0000			0.0000
Off-Road	1.1067	11.8407	6.6317	0.0172		0.4823	0.4823		0.4437	0.4437	0.0000	1,665.8826	1,665.8826	0.5388		1,679.3521
Total	**1.1067**	**11.8407**	**6.6317**	**0.0172**	**2.4438**	**0.4823**	**2.9261**	**1.1716**	**0.4437**	**1.6153**	**0.0000**	**1,665.8826**	**1,665.8826**	**0.5388**		**1,679.3521**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0338	0.0188	0.3042	9.0000e-004	0.1022	4.6000e-004	0.1026	0.0271	4.2000e-004	0.0275		90.9406	90.9406	1.8500e-003	1.9700e-003	91.5737
Total	**0.0338**	**0.0188**	**0.3042**	**9.0000e-004**	**0.1022**	**4.6000e-004**	**0.1026**	**0.0271**	**4.2000e-004**	**0.0275**		**90.9406**	**90.9406**	**1.8500e-003**	**1.9700e-003**	**91.5737**

GCID Lurline Siphon - Colusa County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.3015	13.8178	8.6998	0.0206		0.5722	0.5722		0.5265	0.5265		1,995.5803	1,995.5803	0.6454		2,011.7155
Total	**1.3015**	**13.8178**	**8.6998**	**0.0206**	**7.0826**	**0.5722**	**7.6548**	**3.4247**	**0.5265**	**3.9512**		**1,995.5803**	**1,995.5803**	**0.6454**		**2,011.7155**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0235	0.3802	1.1200e-003	0.1277	5.7000e-004	0.1283	0.0339	5.2000e-004	0.0344		113.6758	113.6758	2.3100e-003	2.4600e-003	114.4671
Total	**0.0423**	**0.0235**	**0.3802**	**1.1200e-003**	**0.1277**	**5.7000e-004**	**0.1283**	**0.0339**	**5.2000e-004**	**0.0344**		**113.6758**	**113.6758**	**2.3100e-003**	**2.4600e-003**	**114.4671**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7622	0.0000	2.7622	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.3015	13.8178	8.6998	0.0206		0.5722	0.5722		0.5265	0.5265	0.0000	1,995.5803	1,995.5803	0.6454		2,011.7155
Total	**1.3015**	**13.8178**	**8.6998**	**0.0206**	**2.7622**	**0.5722**	**3.3345**	**1.3357**	**0.5265**	**1.8621**	**0.0000**	**1,995.5803**	**1,995.5803**	**0.6454**		**2,011.7155**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0423	0.0235	0.3802	1.1200e-003	0.1277	5.7000e-004	0.1283	0.0339	5.2000e-004	0.0344		113.6758	113.6758	2.3100e-003	2.4600e-003	114.4671
Total	**0.0423**	**0.0235**	**0.3802**	**1.1200e-003**	**0.1277**	**5.7000e-004**	**0.1283**	**0.0339**	**5.2000e-004**	**0.0344**		**113.6758**	**113.6758**	**2.3100e-003**	**2.4600e-003**	**114.4671**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.1904	12.4243	8.4937	0.0206		0.4961	0.4961		0.4564	0.4564		1,995.7975	1,995.7975	0.6455		2,011.9345
Total	**1.1904**	**12.4243**	**8.4937**	**0.0206**	**7.0826**	**0.4961**	**7.5787**	**3.4247**	**0.4564**	**3.8811**		**1,995.7975**	**1,995.7975**	**0.6455**		**2,011.9345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0394	0.0209	0.3518	1.0900e-003	0.1277	5.4000e-004	0.1283	0.0339	5.0000e-004	0.0344		109.7779	109.7779	2.0700e-003	2.2900e-003	110.5110
Total	**0.0394**	**0.0209**	**0.3518**	**1.0900e-003**	**0.1277**	**5.4000e-004**	**0.1283**	**0.0339**	**5.0000e-004**	**0.0344**		**109.7779**	**109.7779**	**2.0700e-003**	**2.2900e-003**	**110.5110**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7622	0.0000	2.7622	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.1904	12.4243	8.4937	0.0206		0.4961	0.4961		0.4564	0.4564	0.0000	1,995.7975	1,995.7975	0.6455		2,011.9345
Total	**1.1904**	**12.4243**	**8.4937**	**0.0206**	**2.7622**	**0.4961**	**3.2583**	**1.3357**	**0.4564**	**1.7920**	**0.0000**	**1,995.7975**	**1,995.7975**	**0.6455**		**2,011.9345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0394	0.0209	0.3518	1.0900e-003	0.1277	5.4000e-004	0.1283	0.0339	5.0000e-004	0.0344		109.7779	109.7779	2.0700e-003	2.2900e-003	110.5110
Total	**0.0394**	**0.0209**	**0.3518**	**1.0900e-003**	**0.1277**	**5.4000e-004**	**0.1283**	**0.0339**	**5.0000e-004**	**0.0344**		**109.7779**	**109.7779**	**2.0700e-003**	**2.2900e-003**	**110.5110**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0120	0.3614	0.1246	1.5000e-003	0.0491	2.5000e-003	0.0516	0.0141	2.3900e-003	0.0165		157.5474	157.5474	6.4000e-004	0.0224	164.2345
Worker	0.0828	0.0438	0.7388	2.2800e-003	0.2682	1.1400e-003	0.2694	0.0711	1.0500e-003	0.0722		230.5336	230.5336	4.3500e-003	4.8000e-003	232.0731
Total	**0.0948**	**0.4052**	**0.8634**	**3.7800e-003**	**0.3173**	**3.6400e-003**	**0.3210**	**0.0853**	**3.4400e-003**	**0.0887**		**388.0810**	**388.0810**	**4.9900e-003**	**0.0272**	**396.3076**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0120	0.3614	0.1246	1.5000e-003	0.0491	2.5000e-003	0.0516	0.0141	2.3900e-003	0.0165		157.5474	157.5474	6.4000e-004	0.0224	164.2345
Worker	0.0828	0.0438	0.7388	2.2800e-003	0.2682	1.1400e-003	0.2694	0.0711	1.0500e-003	0.0722		230.5336	230.5336	4.3500e-003	4.8000e-003	232.0731
Total	**0.0948**	**0.4052**	**0.8634**	**3.7800e-003**	**0.3173**	**3.6400e-003**	**0.3210**	**0.0853**	**3.4400e-003**	**0.0887**		**388.0810**	**388.0810**	**4.9900e-003**	**0.0272**	**396.3076**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276		1,297.8096	1,297.8096	0.4114		1,308.0951
Paving	0.7533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3265**	**5.3259**	**8.7951**	**0.0136**		**0.2465**	**0.2465**		**0.2276**	**0.2276**		**1,297.8096**	**1,297.8096**	**0.4114**		**1,308.0951**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0513	0.0271	0.4574	1.4100e-003	0.1661	7.0000e-004	0.1668	0.0440	6.5000e-004	0.0447		142.7113	142.7113	2.6900e-003	2.9700e-003	143.6643
Total	**0.0513**	**0.0271**	**0.4574**	**1.4100e-003**	**0.1661**	**7.0000e-004**	**0.1668**	**0.0440**	**6.5000e-004**	**0.0447**		**142.7113**	**142.7113**	**2.6900e-003**	**2.9700e-003**	**143.6643**

GCID Lurline Siphon - Colusa County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276	0.0000	1,297.8096	1,297.8096	0.4114		1,308.0951
Paving	0.7533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3265**	**5.3259**	**8.7951**	**0.0136**		**0.2465**	**0.2465**		**0.2276**	**0.2276**	**0.0000**	**1,297.8096**	**1,297.8096**	**0.4114**		**1,308.0951**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0513	0.0271	0.4574	1.4100e-003	0.1661	7.0000e-004	0.1668	0.0440	6.5000e-004	0.0447		142.7113	142.7113	2.6900e-003	2.9700e-003	143.6643
Total	**0.0513**	**0.0271**	**0.4574**	**1.4100e-003**	**0.1661**	**7.0000e-004**	**0.1668**	**0.0440**	**6.5000e-004**	**0.0447**		**142.7113**	**142.7113**	**2.6900e-003**	**2.9700e-003**	**143.6643**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.517209	0.055018	0.175621	0.151901	0.035823	0.008450	0.007298	0.019187	0.000264	0.000184	0.024975	0.000699	0.003370

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0277	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Unmitigated	0.0277	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117

GCID Lurline Siphon - Colusa County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7000e-004	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Total	**0.0277**	**5.0000e-005**	**5.0900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0117**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7000e-004	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Total	**0.0277**	**5.0000e-005**	**5.0900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0117**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

GCID Lurline Siphon - Colusa County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

GCID Lurline Siphon

Colusa County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	50.00	1000sqft	1.15	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	56
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction Schedule

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	60.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	10.00	4.00
tblConstructionPhase	PhaseEndDate	10/13/2025	3/27/2025
tblConstructionPhase	PhaseEndDate	12/27/2024	12/25/2024
tblConstructionPhase	PhaseEndDate	1/6/2025	1/2/2025

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	PhaseEndDate	10/27/2025	4/2/2025
tblConstructionPhase	PhaseEndDate	12/31/2024	12/27/2024
tblConstructionPhase	PhaseStartDate	1/7/2025	1/3/2025
tblConstructionPhase	PhaseStartDate	1/1/2025	12/28/2024
tblConstructionPhase	PhaseStartDate	10/14/2025	3/28/2025
tblConstructionPhase	PhaseStartDate	12/28/2024	12/26/2024
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

GCID Lurline Siphon - Colusa County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	1.4902	13.9236	13.8913	0.0254	7.2103	0.6318	7.7831	3.4586	0.5901	3.9856	0.0000	2,455.2794	2,455.2794	0.6479	3.6300e-003	2,471.1522
2025	1.4124	12.4495	13.1739	0.0256	7.2103	0.4966	7.7069	3.4586	0.4569	3.9155	0.0000	2,363.4455	2,363.4455	0.6477	0.0279	2,380.0722
Maximum	**1.4902**	**13.9236**	**13.8913**	**0.0256**	**7.2103**	**0.6318**	**7.7831**	**3.4586**	**0.5901**	**3.9856**	**0.0000**	**2,455.2794**	**2,455.2794**	**0.6479**	**0.0279**	**2,471.1522**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	1.4902	13.9236	13.8913	0.0254	2.8899	0.6318	3.4628	1.3695	0.5901	1.8965	0.0000	2,455.2794	2,455.2794	0.6479	3.6300e-003	2,471.1522
2025	1.4124	12.4495	13.1739	0.0256	2.8899	0.4966	3.3865	1.3695	0.4569	1.8264	0.0000	2,363.4455	2,363.4455	0.6477	0.0279	2,380.0722
Maximum	**1.4902**	**13.9236**	**13.8913**	**0.0256**	**2.8899**	**0.6318**	**3.4628**	**1.3695**	**0.5901**	**1.8965**	**0.0000**	**2,455.2794**	**2,455.2794**	**0.6479**	**0.0279**	**2,471.1522**

GCID Lurline Siphon - Colusa County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	59.92	0.00	55.78	60.40	0.00	52.88	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0277	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0277**	**5.0000e-005**	**5.0900e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**	**0.0000**	**0.0117**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0277	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0277**	**5.0000e-005**	**5.0900e-003**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**	**0.0000**	**0.0117**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/2/2024	12/25/2024	5	18	
2	Site Preparation	Site Preparation	12/26/2024	12/27/2024	5	2	
3	Grading	Grading	12/28/2024	1/2/2025	5	4	
4	Building Construction	Building Construction	1/3/2025	3/27/2025	5	60	
5	Paving	Paving	3/28/2025	4/2/2025	5	4	

Acres of Grading (Site Preparation Phase): 1.88

Acres of Grading (Grading Phase): 4

Acres of Paving: 1.15

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	21.00	8.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4397	13.8867	13.4879	0.0241		0.6311	0.6311		0.5895	0.5895		2,324.9459	2,324.9459	0.5884		2,339.6562
Total	**1.4397**	**13.8867**	**13.4879**	**0.0241**		**0.6311**	**0.6311**		**0.5895**	**0.5895**		**2,324.9459**	**2,324.9459**	**0.5884**		**2,339.6562**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0369	0.4034	1.2900e-003	0.1661	7.4000e-004	0.1668	0.0440	6.8000e-004	0.0447		130.3335	130.3335	3.2200e-003	3.6300e-003	131.4961
Total	**0.0505**	**0.0369**	**0.4034**	**1.2900e-003**	**0.1661**	**7.4000e-004**	**0.1668**	**0.0440**	**6.8000e-004**	**0.0447**		**130.3335**	**130.3335**	**3.2200e-003**	**3.6300e-003**	**131.4961**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4397	13.8867	13.4879	0.0241		0.6311	0.6311		0.5895	0.5895	0.0000	2,324.9459	2,324.9459	0.5884		2,339.6562
Total	**1.4397**	**13.8867**	**13.4879**	**0.0241**		**0.6311**	**0.6311**		**0.5895**	**0.5895**	**0.0000**	**2,324.9459**	**2,324.9459**	**0.5884**		**2,339.6562**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0369	0.4034	1.2900e-003	0.1661	7.4000e-004	0.1668	0.0440	6.8000e-004	0.0447		130.3335	130.3335	3.2200e-003	3.6300e-003	131.4961
Total	**0.0505**	**0.0369**	**0.4034**	**1.2900e-003**	**0.1661**	**7.4000e-004**	**0.1668**	**0.0440**	**6.8000e-004**	**0.0447**		**130.3335**	**130.3335**	**3.2200e-003**	**3.6300e-003**	**131.4961**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2662	0.0000	6.2662	3.0041	0.0000	3.0041			0.0000			0.0000
Off-Road	1.1067	11.8407	6.6317	0.0172		0.4823	0.4823		0.4437	0.4437		1,665.8826	1,665.8826	0.5388		1,679.3521
Total	**1.1067**	**11.8407**	**6.6317**	**0.0172**	**6.2662**	**0.4823**	**6.7485**	**3.0041**	**0.4437**	**3.4478**		**1,665.8826**	**1,665.8826**	**0.5388**		**1,679.3521**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0311	0.0227	0.2483	7.9000e-004	0.1022	4.6000e-004	0.1026	0.0271	4.2000e-004	0.0275		80.2052	80.2052	1.9800e-003	2.2300e-003	80.9207
Total	**0.0311**	**0.0227**	**0.2483**	**7.9000e-004**	**0.1022**	**4.6000e-004**	**0.1026**	**0.0271**	**4.2000e-004**	**0.0275**		**80.2052**	**80.2052**	**1.9800e-003**	**2.2300e-003**	**80.9207**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4438	0.0000	2.4438	1.1716	0.0000	1.1716			0.0000			0.0000
Off-Road	1.1067	11.8407	6.6317	0.0172		0.4823	0.4823		0.4437	0.4437	0.0000	1,665.8826	1,665.8826	0.5388		1,679.3521
Total	**1.1067**	**11.8407**	**6.6317**	**0.0172**	**2.4438**	**0.4823**	**2.9261**	**1.1716**	**0.4437**	**1.6153**	**0.0000**	**1,665.8826**	**1,665.8826**	**0.5388**		**1,679.3521**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0311	0.0227	0.2483	7.9000e-004	0.1022	4.6000e-004	0.1026	0.0271	4.2000e-004	0.0275		80.2052	80.2052	1.9800e-003	2.2300e-003	80.9207
Total	**0.0311**	**0.0227**	**0.2483**	**7.9000e-004**	**0.1022**	**4.6000e-004**	**0.1026**	**0.0271**	**4.2000e-004**	**0.0275**		**80.2052**	**80.2052**	**1.9800e-003**	**2.2300e-003**	**80.9207**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.3015	13.8178	8.6998	0.0206		0.5722	0.5722		0.5265	0.5265		1,995.5803	1,995.5803	0.6454		2,011.7155
Total	**1.3015**	**13.8178**	**8.6998**	**0.0206**	**7.0826**	**0.5722**	**7.6548**	**3.4247**	**0.5265**	**3.9512**		**1,995.5803**	**1,995.5803**	**0.6454**		**2,011.7155**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0388	0.0284	0.3103	9.9000e-004	0.1277	5.7000e-004	0.1283	0.0339	5.2000e-004	0.0344		100.2566	100.2566	2.4800e-003	2.7900e-003	101.1508
Total	**0.0388**	**0.0284**	**0.3103**	**9.9000e-004**	**0.1277**	**5.7000e-004**	**0.1283**	**0.0339**	**5.2000e-004**	**0.0344**		**100.2566**	**100.2566**	**2.4800e-003**	**2.7900e-003**	**101.1508**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7622	0.0000	2.7622	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.3015	13.8178	8.6998	0.0206		0.5722	0.5722		0.5265	0.5265	0.0000	1,995.5803	1,995.5803	0.6454		2,011.7155
Total	**1.3015**	**13.8178**	**8.6998**	**0.0206**	**2.7622**	**0.5722**	**3.3345**	**1.3357**	**0.5265**	**1.8621**	**0.0000**	**1,995.5803**	**1,995.5803**	**0.6454**		**2,011.7155**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0388	0.0284	0.3103	9.9000e-004	0.1277	5.7000e-004	0.1283	0.0339	5.2000e-004	0.0344		100.2566	100.2566	2.4800e-003	2.7900e-003	101.1508
Total	**0.0388**	**0.0284**	**0.3103**	**9.9000e-004**	**0.1277**	**5.7000e-004**	**0.1283**	**0.0339**	**5.2000e-004**	**0.0344**		**100.2566**	**100.2566**	**2.4800e-003**	**2.7900e-003**	**101.1508**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.1904	12.4243	8.4937	0.0206		0.4961	0.4961		0.4564	0.4564		1,995.7975	1,995.7975	0.6455		2,011.9345
Total	**1.1904**	**12.4243**	**8.4937**	**0.0206**	**7.0826**	**0.4961**	**7.5787**	**3.4247**	**0.4564**	**3.8811**		**1,995.7975**	**1,995.7975**	**0.6455**		**2,011.9345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0364	0.0252	0.2879	9.6000e-004	0.1277	5.4000e-004	0.1283	0.0339	5.0000e-004	0.0344		96.8514	96.8514	2.2300e-003	2.5900e-003	97.6798
Total	**0.0364**	**0.0252**	**0.2879**	**9.6000e-004**	**0.1277**	**5.4000e-004**	**0.1283**	**0.0339**	**5.0000e-004**	**0.0344**		**96.8514**	**96.8514**	**2.2300e-003**	**2.5900e-003**	**97.6798**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7622	0.0000	2.7622	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.1904	12.4243	8.4937	0.0206		0.4961	0.4961		0.4564	0.4564	0.0000	1,995.7975	1,995.7975	0.6455		2,011.9345
Total	**1.1904**	**12.4243**	**8.4937**	**0.0206**	**2.7622**	**0.4961**	**3.2583**	**1.3357**	**0.4564**	**1.7920**	**0.0000**	**1,995.7975**	**1,995.7975**	**0.6455**		**2,011.9345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0364	0.0252	0.2879	9.6000e-004	0.1277	5.4000e-004	0.1283	0.0339	5.0000e-004	0.0344		96.8514	96.8514	2.2300e-003	2.5900e-003	97.6798
Total	**0.0364**	**0.0252**	**0.2879**	**9.6000e-004**	**0.1277**	**5.4000e-004**	**0.1283**	**0.0339**	**5.0000e-004**	**0.0344**		**96.8514**	**96.8514**	**2.2300e-003**	**2.5900e-003**	**97.6798**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785		2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**		**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0114	0.3917	0.1300	1.5000e-003	0.0491	2.5100e-003	0.0516	0.0141	2.4000e-003	0.0165		157.9051	157.9051	6.2000e-004	0.0225	164.6199
Worker	0.0764	0.0530	0.6045	2.0100e-003	0.2682	1.1400e-003	0.2694	0.0711	1.0500e-003	0.0722		203.3880	203.3880	4.6900e-003	5.4400e-003	205.1275
Total	**0.0878**	**0.4446**	**0.7345**	**3.5100e-003**	**0.3173**	**3.6500e-003**	**0.3210**	**0.0853**	**3.4500e-003**	**0.0887**		**361.2931**	**361.2931**	**5.3100e-003**	**0.0279**	**369.7474**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3246	10.4128	12.4393	0.0221		0.3925	0.3925		0.3785	0.3785	0.0000	2,002.1524	2,002.1524	0.3269		2,010.3248
Total	**1.3246**	**10.4128**	**12.4393**	**0.0221**		**0.3925**	**0.3925**		**0.3785**	**0.3785**	**0.0000**	**2,002.1524**	**2,002.1524**	**0.3269**		**2,010.3248**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0114	0.3917	0.1300	1.5000e-003	0.0491	2.5100e-003	0.0516	0.0141	2.4000e-003	0.0165		157.9051	157.9051	6.2000e-004	0.0225	164.6199
Worker	0.0764	0.0530	0.6045	2.0100e-003	0.2682	1.1400e-003	0.2694	0.0711	1.0500e-003	0.0722		203.3880	203.3880	4.6900e-003	5.4400e-003	205.1275
Total	**0.0878**	**0.4446**	**0.7345**	**3.5100e-003**	**0.3173**	**3.6500e-003**	**0.3210**	**0.0853**	**3.4500e-003**	**0.0887**		**361.2931**	**361.2931**	**5.3100e-003**	**0.0279**	**369.7474**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276		1,297.8096	1,297.8096	0.4114		1,308.0951
Paving	0.7533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3265**	**5.3259**	**8.7951**	**0.0136**		**0.2465**	**0.2465**		**0.2276**	**0.2276**		**1,297.8096**	**1,297.8096**	**0.4114**		**1,308.0951**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0473	0.0328	0.3742	1.2500e-003	0.1661	7.0000e-004	0.1668	0.0440	6.5000e-004	0.0447		125.9068	125.9068	2.9000e-003	3.3700e-003	126.9837
Total	**0.0473**	**0.0328**	**0.3742**	**1.2500e-003**	**0.1661**	**7.0000e-004**	**0.1668**	**0.0440**	**6.5000e-004**	**0.0447**		**125.9068**	**125.9068**	**2.9000e-003**	**3.3700e-003**	**126.9837**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5732	5.3259	8.7951	0.0136		0.2465	0.2465		0.2276	0.2276	0.0000	1,297.8096	1,297.8096	0.4114		1,308.0951
Paving	0.7533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3265**	**5.3259**	**8.7951**	**0.0136**		**0.2465**	**0.2465**		**0.2276**	**0.2276**	**0.0000**	**1,297.8096**	**1,297.8096**	**0.4114**		**1,308.0951**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0473	0.0328	0.3742	1.2500e-003	0.1661	7.0000e-004	0.1668	0.0440	6.5000e-004	0.0447		125.9068	125.9068	2.9000e-003	3.3700e-003	126.9837
Total	**0.0473**	**0.0328**	**0.3742**	**1.2500e-003**	**0.1661**	**7.0000e-004**	**0.1668**	**0.0440**	**6.5000e-004**	**0.0447**		**125.9068**	**125.9068**	**2.9000e-003**	**3.3700e-003**	**126.9837**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.517209	0.055018	0.175621	0.151901	0.035823	0.008450	0.007298	0.019187	0.000264	0.000184	0.024975	0.000699	0.003370

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

5.2 Energy by Land Use - NaturalGas

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0277	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Unmitigated	0.0277	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7000e-004	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Total	**0.0277**	**5.0000e-005**	**5.0900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0117**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7000e-004	5.0000e-005	5.0900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0109	0.0109	3.0000e-005		0.0117
Total	**0.0277**	**5.0000e-005**	**5.0900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0109**	**0.0109**	**3.0000e-005**		**0.0117**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B: Biological Evaluation Report

GLENN-COLUSA IRRIGATION DISTRICT

LURLINE CHECK AND SIPHON STRUCTURE REPLACEMENT PROJECT BIOLOGICAL EVALUATION

GLENN COUNTY
APRIL 2024

PREPARED FOR:
Glenn-Colusa Irrigation District
Glenn County

PREPARED BY:
PROVOST & PRITCHARD CONSULTING GROUP
455 W. FIR AVE, CLOVIS, CALIFORNIA 93612

Report Prepared for:

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Report Prepared by:

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Preparer: Shaylea Stark, Biologist
Project Manager: Briza Sholars, Senior Planner/Environmental Project Manager
QA/QC: Geoff Cline, Principal Biologist
Other personnel involved in report preparation: Ben Toews, GIS Specialist, and Jackie Lancaster, Project Administrator

Contact:

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

BMP ..... Best Management Practices
BUOW ..... Burrowing owl
Canal ..... Glenn-Colusa Canal
CDFW ..... California Department of Fish and Wildlife
CEQA ..... California Environmental Quality Act
CNDDB ..... California Natural Diversity Database
CNPS ..... California Native Plant Society
Creek ..... Lurline Creek
District ..... Glenn-Colusa Irrigation District
ECOS ..... U.S. Fish and Wildlife Service's Environmental Conservation Online System
EPA ..... Environmental Protection Agency
HUC ..... Hydrologic Unit Code
IPaC ..... U.S. Fish and Wildlife Service's Information for Planning and Consultation system
MBTA ..... Migratory Bird Treaty Act
NEPA ..... National Environmental Policy Act
NRCS ..... Natural Resources Conservation Service
NPT ..... Northwestern pond turtle
Project ..... Lurline Check and Siphone Strucutre Replacement Project
Provost & Pritchard ..... Provost & Pritchard Consulting Group
RWQCB ..... Regional Water Quality Control Board
Site ..... Project site
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
USACE ..... United States Army Corps of Engineers
USC ..... United States Code
USDA ..... United States Department of Agriculture
USFWS ..... United States Fish and Wildlife Service
USGS ..... United States Geological Survey

1 INTRODUCTION

This Biological Evaluation report, prepared by Provost & Pritchard Consulting Group (Provost & Pritchard) in compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), includes a description of the biological resources present or with potential to occur within the proposed Glenn-Colusa Irrigation District (District) Lurline Check and Siphon Structure Replacement Project (or "project"), and evaluates potential project-related impacts to those resources.

1.1 PROJECT DESCRIPTION

The project site (or "site") and a soil borrow area are located northwest of the City of Williams and west/southwest of the census-designated place Maxwell, in Colusa County, California (see Figure 1). The approximately 5-acre project site includes the structure footprint, construction staging, and access areas at the junction of the Glenn-Colusa Canal (Canal) and Lurline Creek (Creek) and along the Canal, and an approximately 5-acre soil borrow area located to the north along the Canal (see Figure 2 and Figure 3).

The project involves the construction of a new check structure and siphon to replace the existing check structure and siphon, as well as their associated facilities, in their approximate current location along the Canal. The initial phase would involve clearing and grubbing any vegetation present within the project site and constructing a bypass for the Creek around the Canal and existing structures. While the Canal would be dry during construction, the proposed construction window is during the Creek's peak flows. The temporary bypass channel will consist of an earthen channel with a high-density polyethylene lining to divert flows around the work site and back into Lurline Creek so as to not impact the Creek's water flow. The next phase would include the demolition and removal of the existing check, siphon, and outlet structures, as well as the two existing maintenance bridges and overflow spill. The existing overflow spill is no longer used at the site, and a replacement overflow spill is not included in the proposed structure. If any additional soil is needed for construction activities, it will be transported from the borrow area to the project site.

1.2 REPORT OBJECTIVES

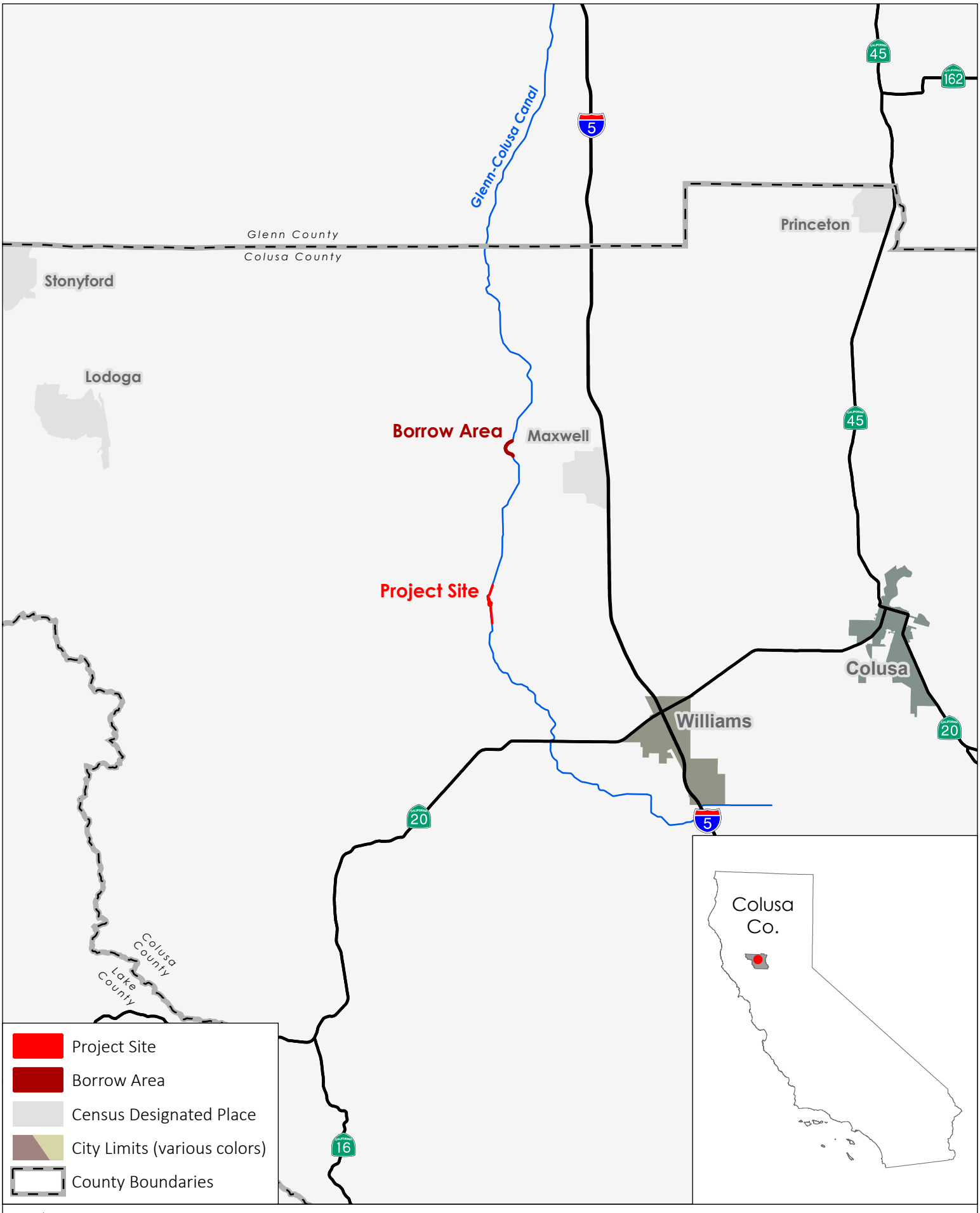
Construction activities such as those proposed by the project could potentially modify biological resources or habitats that are crucial for sensitive plant and wildlife species. In cases such as these, development may be regulated by state or federal agencies, and/or addressed by local regulatory agencies.

This report addresses issues related to the following:

- The presence of sensitive biological resources onsite, or with the potential to occur on the site and borrow area.
- The federal, state, and local regulations regarding these resources.
- Mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies.

Therefore, the objectives of this report are:

- Summarize all project site- and borrow area-specific information related to existing biological resources.
- Make reasonable inferences about the biological resources that could occur on the project site and borrow area based on habitat suitability and the proximity of the project site and borrow area to a species' known range.
- Summarize all state and federal natural resource protection laws that may be relevant to implementation of the project.



Regional Vicinity Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

PROVOST& PRITCHARD

Fig. 1 Page 1-2

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Aerial Overview Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

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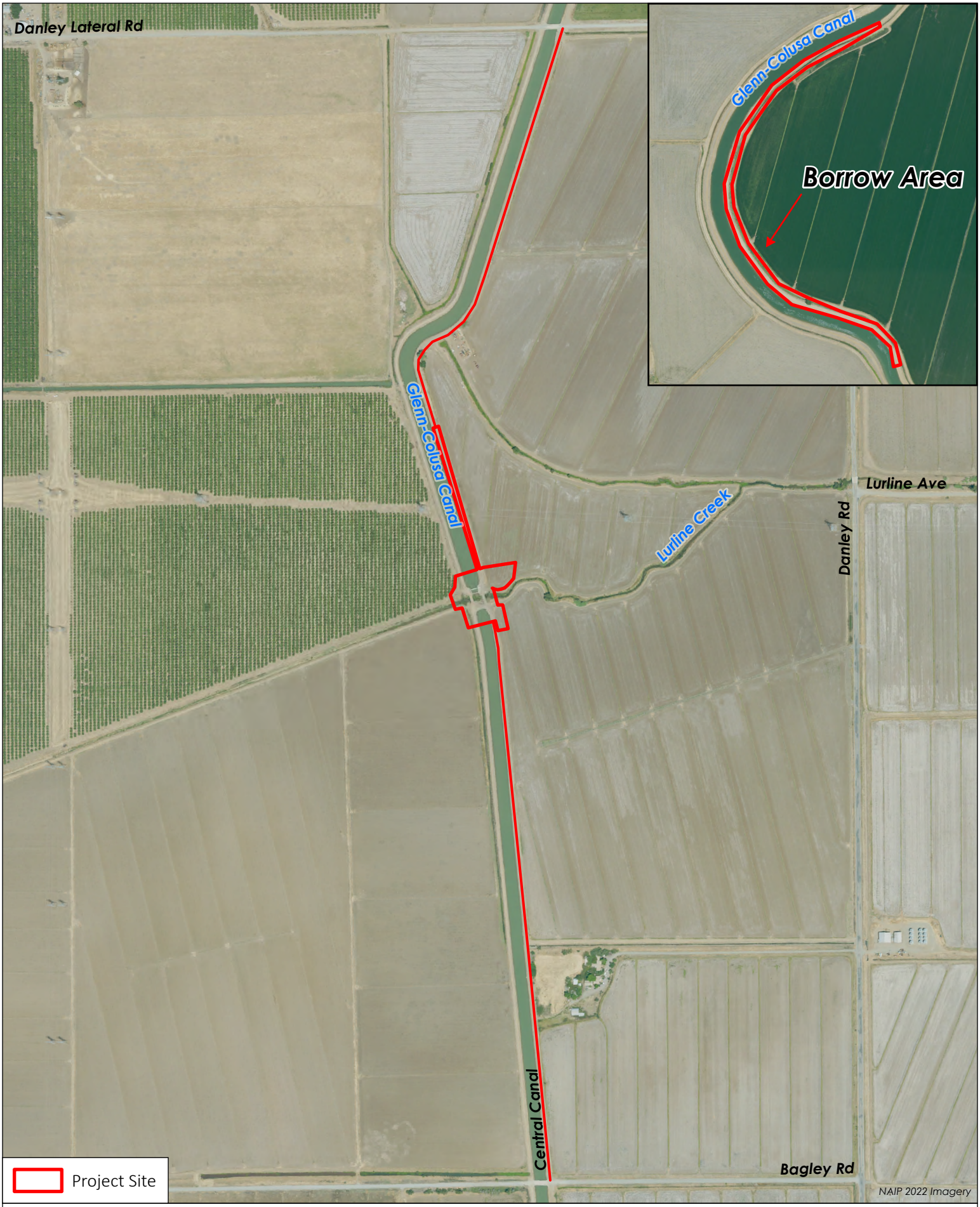
Fig. 2 Page 1-3



Aerial Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

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Fig. 3 Page 1-4

- Identify and discuss project impacts and effects to biological resources likely to occur onsite within the context of CEQA, NEPA, and/or state or federal laws.
- Identify and prescribe a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) or avoid and minimize effects (as identified by NEPA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the project site and borrow area was conducted on January 29 and 30, 2024, by Provost & Pritchard biologist, Shaylea Stark. The survey consisted of walking and driving throughout the site while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Habitats were also assessed for potential suitability for various rare or protected plant and animal species. Representative photographs of the site were taken and are presented in Appendix A.

Ms. Stark then utilized the results of the field survey to analyze potential project-related impacts to biological resources based on the resources known to occur or with potential to occur within the site and borrow area. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; see Appendix B for the species list) and California Wildlife Habitat Relationships (CWHR) database; California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; Jepson Herbarium's online database (i.e., Jepson eFlora); United States Fish and Wildlife Service's (USFWS) Environmental Conservation Online System (ECOS), Information for Planning and Consultation (IPaC; see Appendix C for the species list) system, and National Wetlands Inventory (NWI); iNaturalist; NatureServe Explorer's online database; United States Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey (see Appendix D for the Web Soil Survey Report); California Herps website; and various manuals, reports, and references related to plants and animals in the vicinity of the site and borrow area.

The field survey did not include focused surveys for special status species. The field survey conducted included the appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from implementing the project. Furthermore, the field survey was sufficient to generally describe those features of the project that could be subject to the jurisdiction of federal and/or state agencies, such as the United States Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB) and the State Water Resources Control Board (SWRCB).

2 EXISTING CONDITIONS

2.1 REGIONAL SETTINGS

2.1.1 TOPOGRAPHY

The project site is located within the U.S. Geological Survey (USGS) *Manor Slough* 7.5-minue quadrangle, within the east quadrat of section 24 and 25, Township 16 north, Range 4 west (see Figure 4). The borrow area is located within the USGS *Maxwell* 7.5-minute quadrangle, within the west quadrat of section 30 and 31, Township 17 north, Range 3 west (see Figure 5). The topography of the site and borrow area is relatively flat with elevations ranging from approximately 118 to 124 feet above mean sea level.

2.1.2 CLIMATE

Like most of California, the site and borrow area experience a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 80- and 95-degrees Fahrenheit (°F). Winter temperatures are often below 60 °F during the day and rarely exceed 65 °F. On average, Glenn County receives approximately 13 inches of precipitation in the form of rain yearly, most of which occurs between November and March, (Timeanddate, 2023) and the site and borrow area would be expected to receive similar amounts of precipitation.

2.1.3 HYDROLOGY

The nearest surface water to the project is the Creek and the Canal, which run through the site, and the Canal, which runs adjacent to the borrow area. Small ditches also occur within and adjacent to the site and borrow area.

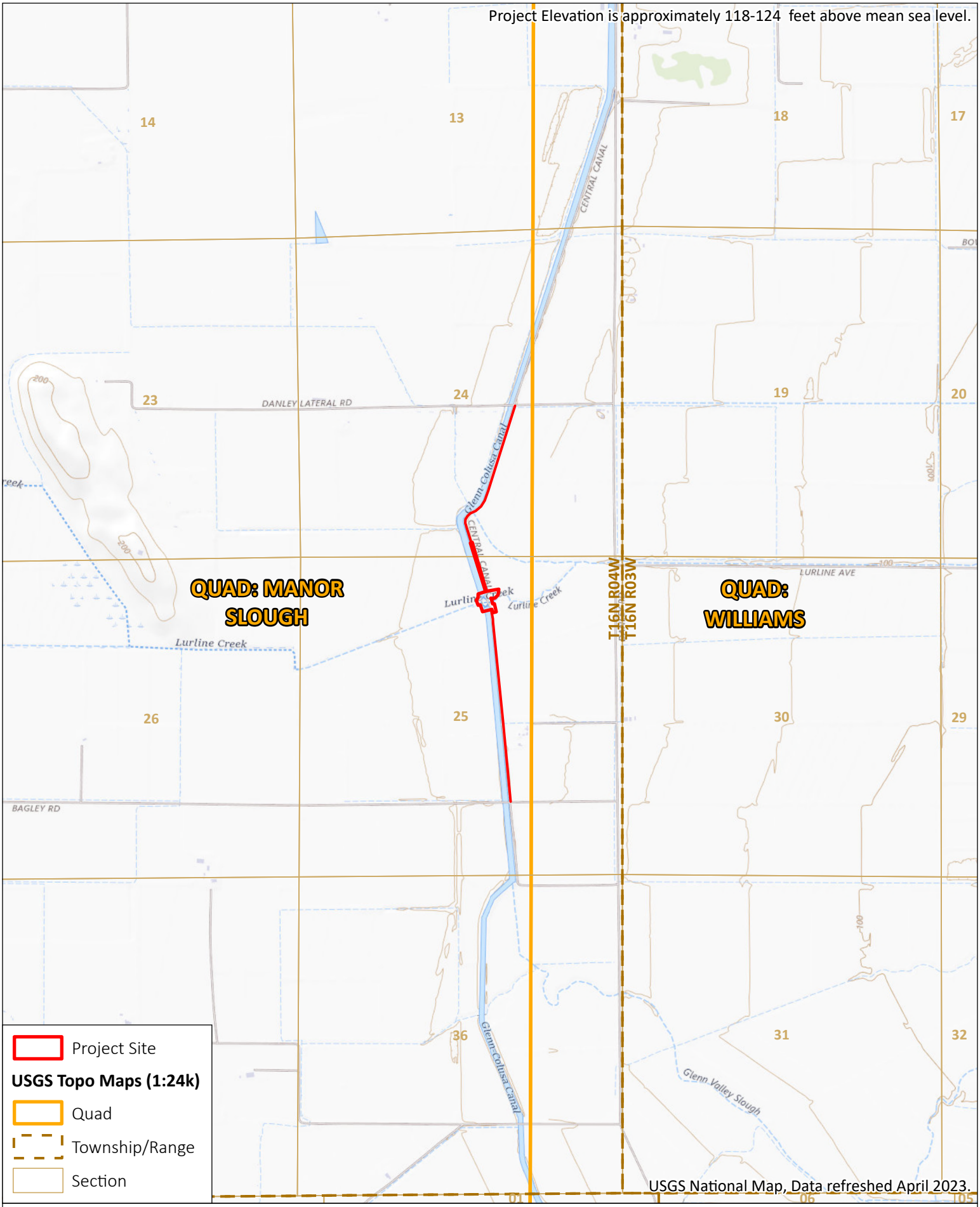
2.1.4 SOILS

Two soil mapping units representing two soil types were identified within the project site and borrow area and are listed in Table 1 (see Appendix D for the Web Soil Survey Report). The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California. Both soils are primarily used as irrigated pastures.

Table 1: List of Soils Located Onsite and Their Basic Properties

Soil	Soil Map Unit	Percent of Site	Hydric Soil Category	Drainage	Permeability	Runoff
Capay	Clay loam, 0 percent slopes	19.2%	Predominantly Nonhydric	Moderately well drained	Very slow	Very low
Hillgate	Clay loam, 0 to 2 percent slopes	32.6%	Predominantly Nonhydric	Well drained	Very slow	Low
Water	-	48.2%		-	-	-

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported. The soils within the site and borrow area are considered predominantly nonhydric.



Project Site Topographic Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

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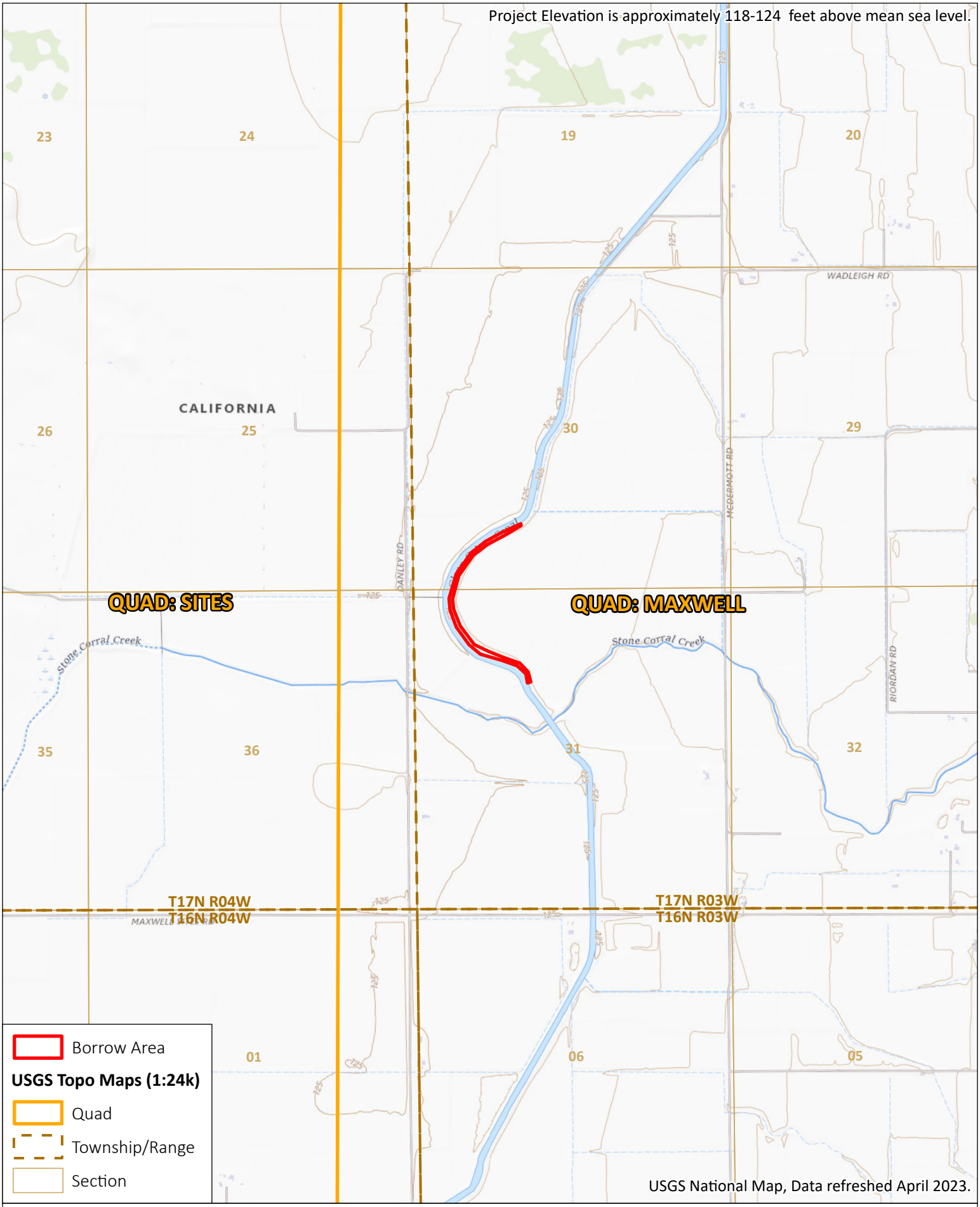
Fig. 4 Page 2-2



0 750 1,500

Feet

Borrow Area Topographic Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

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Fig. 5 Page 2-3

2.2 BIOTIC HABITATS

Four biotic habitats were observed within the project site and borrow area and included ruderal, riverine/riparian, canal/ditch, and agricultural (see Figure 6 and Figure 7). Bird species observed throughout the project site and borrow area include red-tailed hawk (Buteo jamaicensis), white-crowned sparrow (Zonotrichia leucophrys), great blue heron (Ardea herodias), American pipit (Anthus rubescens), savannah sparrow (Passerculus sandwichensis), house sparrow (Passer domesticus), greater yellowlegs (Tringa melanoleuca), great egret (Ardea alba), snowy egret (Egretta thula), song sparrow (Melospiza melodia), black phoebe (Sayornis nigricans), Eurasian collared dove (Streptopelia decaocto), Brewer's blackbird (Euphagus cyanocephalus), and northern harrier (Circus hudsonius). These habitats and their constituent plant and animal species are described in more detail in the following sections.

2.2.1 RUDERAL

The ruderal habitat within the site and borrow area included dirt roads between the Canal and ditches. Vegetation within the ruderal habitat included non-native grasses, common groundsel (*Senecio vulgaris*), milk thistle (Sil*ybum marianum*), lupine (*Lupinus* sp.), mustard (*Brassica* spp.), moss (*Bryophyta* sp.), redstem filaree (*Erodium cicutarium*), common sow-thistle (*Sonchus oleraceus*), great mullein (*Verbascum thapsus*), Johnson grass (*Sorghum halepense*), poison hemlock (*Conium maculatum*), white horehound (*Marrubium vulgare*), cheese weed mallow (*Malva parviflora*), and Shepherd's-purse (*Capsella bursa-pastoris*).

Wildlife species or sign observed in the ruderal habitat that were not observed in other habitats included Pacific tree frogs (*Pseudacris regilla*), raccoon (*Procyon lotor*) tracks, deer (*Cervidae* sp.) tracks, unidentified mammal bones, and small mammal burrows along the bank and at top of the bank.

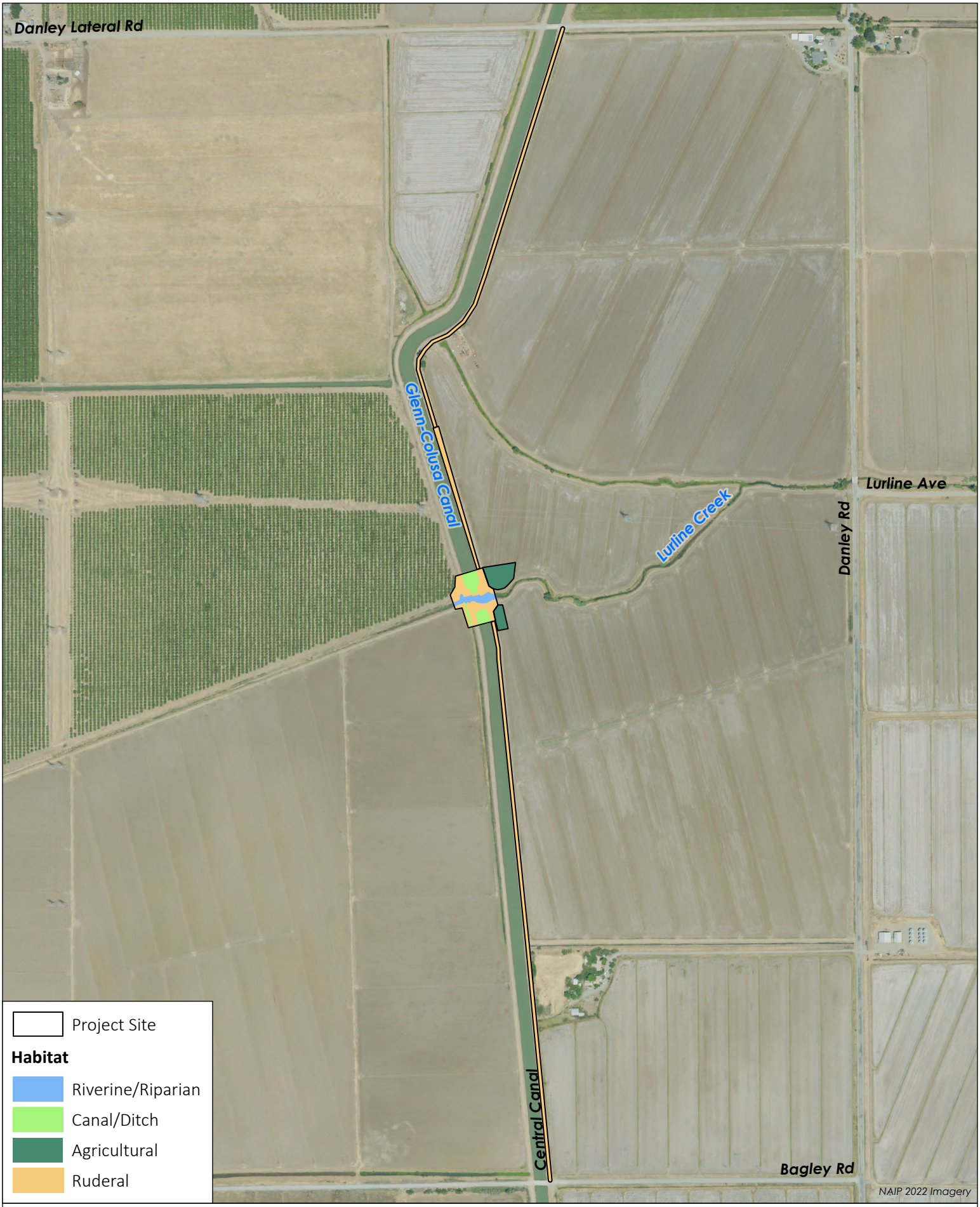
2.2.2 RIVERINE/RIPARIAN

The site contains riverine/riparian habitat in the form of the Creek, which contained water at the time of the field survey and concrete structures associated with the siphon. Vegetation within the creek included invasive grasses, Johnson grass, Himalayan blackberry (*Rubus armeniacus*), curly dock (*Rumex crispus*), poison hemlock, common duckweed (*Lemna minor*), broadleaf cattail (*Typha latifolia*), common cocklebur (*Xanthium strumarium*), and horsetail (*Equisetum hyemale*).

Wildlife species or sign observed in the riverine/riparian habitat that were not observed in other habitats included cliff swallow (*Petrochelidon pyrrhonota*) nests on the concrete structures around the siphon. The riverine/riparian habitat within the site is disturbed by the existing siphon but provides habitat to a variety of wildlife, year-round. Birds, including raptors, could forage in this habitat during the day, as well as bats, coyotes, and other nocturnal animals at night.

2.2.3 CANAL/DITCH

The site contains canal/ditch habitat in the form of the Canal and an irrigation ditch. The borrow area contains canal/ditch habitat in the form of the Canal and a different irrigation ditch. No vegetation was observed in the Canal, however emergent aquatic vegetation and other plant species observed within the ditches included non-native grasses, broadleaf cattail, milk thistle, bristly oxtongue (*Helminthotheca echioides*), watercress (*Nasturtium officinale*), stinging nettle (*Urtica dioica*), Himalayan blackberry, common duckweed, curly dock, mustard species, and poison hemlock.



Project Site Habitats Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

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Fig. 6 Page 2-5

0 200 400
Feet

Borrow Area Habitats Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

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Fig. 7 Page 2-6

Wildlife species observed in the canal/ditch habitat that were not observed in other habitats included red-winged blackbird (*Agelaius phoeniceus*), western mosquitofish (*Gambusia affinis*) within the ditch in the borrow area, and coyote (*Canis latrans*) dens and tracks along the banks of the Canal and ditches.

2.2.4 AGRICULUTRAL

The site contained agricultural habitat which included rice fields that had been harvested prior to the survey. No other vegetation was found within this habitat. The fields were partially inundated but a few small mammal burrows were observed in dry areas. Wildlife species observed in the agricultural habitat that were not observed in other habitats included sandhill crane (*Antigone canadensis*).

2.3 NATURAL COMMUNITIES OF SPECIAL CONCERN AND RIPARIAN HABITAT

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW has classified and mapped all-natural communities in California. Just as the special status plant and animal species, these natural communities of special concern can be found within the CNDDB. No natural communities of special concern were found on the CNDDB, and none were observed during the field survey.

Riparian habitat is composed of plant communities that occur along the banks, and sometimes over the banks, of most waterways and is an important habitat for numerous wildlife species. CDFW has jurisdiction over most riparian habitat in California. The Creek located within the project site contained riparian habitat.

2.4 DESIGNATED CRITICAL HABITAT

The USFWS often designates areas of “critical habitat” when it lists species as threatened or endangered. Critical habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species, which may require special management and protection. According to the IPaC, designated critical habitat is absent from the site, borrow area, and within ten miles of the site and borrow area.

2.5 WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. The Creek and canal/ditch habitat within the site and/or borrow area are likely to function as wildlife movement corridors. Aquatic species may use the Creek and canal/ditch to travel, and numerous wildlife tracks, including deer, were observed on the roads and within the canal/ditch habitat during the field survey.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place. The Creek and the ditches within the site would be considered native wildlife nursery sites that could be used by Pacific tree frogs, western toad (*Anaxyrus boreas*), and other amphibians to raise their young.

2.6 SPECIAL STATUS PLANTS AND ANIMALS

California contains several rare plant and animal species. In this context, “rare” is defined as a species known to have low populations or limited distributions. Conversion of high-quality habitat to accommodate human population growth in turn reduces the already-limited suitable habitat for rare species. This results in rare and sensitive species becoming increasingly more vulnerable to extirpation. State and federal

regulations have provided the CDFW and USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under state and federal endangered species legislation. Other formal designations include "candidate" for listing or "species of special concern" by CDFW. The CNPS has its list of native plants considered rare, threatened, or endangered. Collectively these animals and plants are referred to as "special status species."

A query of the CNDDB for occurrences of special status plant and animal species was conducted for the *Manor Slough* and *Maxwell* 7.5-minute U.S. Geological Survey (USGS) quadrangles that contain the project site and borrow area, and for the twelve surrounding USGS quadrangles: *Colusa*, *Cortina Creek*, *Leesville*, *Lodoga*, *Logan Ridge*, *Logandale*, *Moulton Weir*, *Princeton*, *Salt Canyon*, *Sites*, *Wilbur Springs*, and *Williams* (see Appendix B). A query of the IPaC was also completed for the site and borrow area (see Appendix C). These species, and their potential to occur within the site or borrow area, are listed in Table 2 and Table 3 on the following pages. Other special status species that did not show up in the CNDDB query, but have the potential to occur in the vicinity, are also included in Table 3. All relevant sources of information, as discussed in the Study Methodology section of this report, as well as field observations, were used to determine if any special status species have the potential to occur within the site and borrow area.

Table 2: List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
Adobe-lily (*Fritillaria pluriflora*)	CNPS 1B	Found in chaparral, cismontane woodland, and valley and foothill grasslands. Usually on clay soils; sometimes serpentine. Found at elevations between 145 and 3,100 feet. Blooms February – April.	**Unlikely.** While the site and borrow area contained clay soils, suitable habitat was absent. The nearest recorded observation of this species within the vicinity was approximately 12 miles southwest of the site in 2008.
Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*)	CNPS 1B	Found in meadows, seeps, vernal pools and swales within cismontane woodland, valley and foothill grassland, and lower montane coniferous forest with adobe or alkaline soils at elevations between 10 and 5,510 feet. Blooms April – July.	**Unlikely.** While the site and borrow area contained swales, adobe and alkaline soils were absent. The nearest recorded observation of this species within the vicinity was approximately 1.5 miles northwest of the borrow area in 1985.
Bent-flowered fiddleneck (*Amsinckia lunaris*)	CNPS 1B	Found in cismontane woodland, valley and foothill grassland, and coastal bluff scrub at elevations between 10 and 2,600 feet. Blooms March – June.	**Absent.** Suitable habitat was absent within the site and borrow area.
Big-scale balsamroot (*Balsamorhiza macrolepis*)	CNPS 1B	Found in open, grassy, or rocky slopes within chaparral, grassland, and cismontane woodland habitats at elevations less than 5,000 feet. Blooms March – June.	**Absent.** Suitable habitat was absent within the site and borrow area.
Bolander's horkelia (Horkelia bolanderi)	CNPS 1B	Found in lower montane coniferous forests, chaparral, meadows and seeps, and valley and foothill grasslands between	**Absent.** The site and borrow area are outside of the elevation range for this species.

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
		1,500 and 2,800 feet. Blooms June – August.	
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the Central Valley in alkaline or clay soils, typically in meadows or annual grasslands at elevations below 1,100 feet. Sometimes associated with vernal pools. Blooms June – October.	**Unlikely.** While the site and borrow area contained clay soils, suitable habitat was absent. The nearest recorded observation of this species within the vicinity was approximately 2 miles northwest of the borrow area in 1985.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	Found in the Central Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3,000 feet. Blooms March – May.	**Absent.** Suitable habitat, in the form of saline flats and mineral springs, was absent within the site and borrow area.
Cobb Mountain lupine (Lupinus sericatus)	CNPS 1B	Found in chaparral, cismontane woodland, lower montane coniferous forest, and broadleaved upland forest. Generally occurs in stands of knobcone pine-oak woodland on open wooded slopes in gravelly soils; sometimes on serpentine soils at elevations between 400 and 4,500 feet. Blooms March – June.	**Absent.** The site and borrow area are outside of the elevation range for this species and suitable habitats and soils were absent.
Colusa layia (Layia septentrionalis)	CNPS 1B	Found in chaparral, cismontane woodland, and valley and foothill grasslands. Generally occurs on grassy slopes in sandy or serpentine soils at elevations between 50 and 3,600 feet. Blooms April – May.	**Absent.** Sandy soils, serpentine soils, and suitable habitat were absent within the site and borrow area.
Colusa grass (*Neostapfia colusana*)	FT, CE, CNPS 1B	Found in vernal pools within the Central Valley at elevations below 450 feet. Blooms May – August.	**Absent.** Suitable habitats including vernal pools were absent within the site and borrow area.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CNPS 1B	Found on alkaline and saline soils in vernal pools and playas in grasslands at elevations below 4,500 feet. Blooms April – May.	**Absent.** Suitable habitats, including vernal pools and playas, were absent within the site and surrounding areas.
Deep-scarred cryptantha (*Cryptantha excavata*)	CNPS 1B	Found in cismontane woodlands in sandy, gravelly, dry streambanks at elevations between 600 and 1,200 feet. Blooms April – May.	**Absent.** The site is outside of the elevation range for this species.
Diamond petaled California poppy (*Eschscholzia rhombipetala*)	CNPS 1B	Found in alkaline and clay soils on slopes and flats in valley and foothill grasslands. The range of this species includes the	**Unlikely.** While the site and borrow area contained clay soils, suitable habitat was absent. The site and borrow area are outside of the

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
		southern portion of the San Joaquin valley and the inner coastal range, as well as portions of the San Francisco Bay area at elevations below 2,100 feet. Blooms March – April.	current known populations of this species. The nearest recorded observation of this species within the vicinity was approximately 11.5 miles northwest of the site prior to 1889.
Drymaria-like western flax (*Hesperolinon drymarioides*)	CNPS 1B	Found in closed-cone coniferous forest, chaparral, cismontane woodland, and valley and foothill grassland. Often occurs on serpentine soils within chaparral at elevations between 1,300 and 3,600 feet. Blooms May – August.	**Absent.** The site is outside of the elevation range for this species.
Ferris' milk-vetch (Astragalus tener var. ferrisiae)	CNPS 1B	Found in meadows, seeps, and valley and foothill grasslands. Often occurs on subalkaline flats on overflow land in the Central Valley; usually seen in dry, adobe soil at elevations below 260 feet. Blooms April – May.	**Absent.** Adobe soils and suitable habitat were absent within the site and borrow area.
Greene's tuctoria (*Tuctoria greenei*)	FE, CNPS 1B	Found in the Central Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3,500 feet. Blooms May – September.	**Absent.** Suitable habitats, including vernal pools, were absent within the site and borrow area.
Greene's narrow-leaved daisy (*Erigeron greenei*)	CNPS 1B	Found in chaparral. Often occurs in serpentine soils and volcanic substrates at elevations between 300 and 2,700 feet. Blooms May – September.	**Absent.** The site and borrow area are outside of the elevation range for this species and suitable habitats and soils were absent.
Hairy Orcutt grass (*Orcuttia pilosa*)	FE, CE, CNPS 1B	Found in vernal pools in valley grassland, wetland, and riparian communities at elevations below 650 feet. Blooms May – September.	**Absent.** Suitable habitats, including vernal pools, were absent within the site and borrow area.
Hall's harmonia (*Harmonia hallii*)	CNPS 1B	Grows on serpentine soils within chaparral. Often on hills and ridges with open, rocky areas at elevations between 1,100 and 3,100 feet. Blooms April – June.	**Absent.** The site and borrow area are well outside of the elevation range for this species.
Heartscale (*Atriplex cordulata* var. *cordulata*)	CNPS 1B	Found in the Central Valley in saline or alkaline soils within shadscale scrub, valley grassland, and wetland-riparian communities at elevations below 250 feet. Blooms June – July.	**Absent.** Saline or alkaline soils and suitable habitat were absent within the site and borrow area.
Heckard's pepper-grass	CNPS 1B	This facultative wetland plant species is found in alkaline soils	**Absent.** Alkaline soils and suitable aquatic habitat with pools were

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
(*Lepidium latipes* var. *heckardii*)		in valley and foothill grassland communities. It may occur in wetlands and vernal pools. Found at elevations below 2,300 feet. Blooms March – June.	absent within the site and borrow area.
Hoover's spurge (*Euphorbia hooveri*)	FT, CNPS 1B	Found in vernal pools within valley grassland, freshwater wetland, and riparian communities at elevations below 800 feet. Blooms July – September.	**Absent.** Suitable habitats, including vernal pools, were absent within the site and borrow area.
Indian Valley brodiaea (*Brodiaea rosea*)	CE, CNPS 3	Found in closed-cone coniferous forest, chaparral, cismontane woodland, and valley and foothill grasslands. Occurs in serpentine soils in areas with gravelly creek bottoms, and in meadows and swales at elevations between 1,100 and 3,900 feet. Blooms May – June.	**Absent.** The site and borrow area are outside of the elevation range for this species.
Jepson's milk-vetch (*Astragalus rattanii* var. *jepsonianus*)	CNPS 1B	Found in cismontane woodland, valley and foothill grassland, and chaparral. Commonly on serpentine soils in grassland or openings in chaparral at elevations between 580 and 3,300 feet. Blooms March – June.	**Absent.** The site and borrow area are outside of the elevation range for this species and suitable habitats and soils were absent.
Keck's checkerbloom (*Sidalcea keckii*)	FE, CNPS 1B	Occurs in cismontane woodland, and valley and foothill grassland communities, typically on grassy slopes in clay soils at elevations between 250 and 1,700 feet. Blooms April – May.	**Absent.** The site and borrow area are outside of the elevation range for this species and suitable habitats and soils were absent.
Milo Baker's lupine (Lupinus milo-bakeri)	CT, CNPS 1B	Found in cismontane woodland, and valley and foothill grasslands. Occurs in roadside ditches, dry gravelly areas along roads, and along small streams at elevations between 1,250 and 1,400 feet. Blooms June – September.	**Absent.** The site and borrow area are well outside of the elevation range for this species.
Palmate-bracted bird's beak (*Chloropyron palmatum*)	FE, CE, CNPS 1B	Found in the Central Valley in alkaline soils (usually Pescadero silty clay) in chenopod scrub, as well as valley and foothill grassland communities at elevations below 500 feet. Blooms June – August.	**Absent.** Alkaline soils and suitable habitats were absent within the site and borrow area.

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
Pappose tarplant (*Centromadia parryi* ssp. *Parryi*)	CNPS 1B	Found in chaparral, coastal prairie, meadows and seeps, coastal salt marsh, and valley and foothill grassland. Occurs in vernally mesic, often alkaline sites at elevations below 1,640 feet. Blooms May – November.	**Absent.** Alkaline soils and suitable habitat were absent within the site and borrow area.
Pink creamsacs (*Castilleja rubicundula* var. *rubicundula*)	CNPS 1B	Found in chaparral, cismontane woodland, meadows and seeps, and valley and foothill grasslands. Often found on serpentine soil at elevations from 65 and 3,000 feet. Blooms April – June.	**Absent.** Serpentine soils and suitable habitat were absent within the site and borrow area.
Porter's navarretia (*Navarretia paradoxinota*)	CNPS 1B	Found in meadows and seeps on serpentinite soils, in vernally mesic areas and often in drainages, at elevations between 580 and 2,870 feet. Blooms May – July.	**Absent.** The site and borrow area are outside of the elevation and geographic range for this species.
Red-flowered bird's-foot trefoil (*Acmispon rubriflorus*)	CNPS 1B	Found in oak woodlands and valley and foothill grasslands. This species range includes the northern inner coastal range of California and the San Francisco Bay area at elevations between 600 and 1,600 feet. This species has been found growing in volcanic mudflow deposits. Blooms April – May.	**Absent.** The site and borrow area are outside of the elevation and geographic range for this species.
San Joaquin spearscale (*Extriplex joaquinana*)	CNPS 1B	Found in alkali wetlands, sinks, and scrublands in the Central Valley and Delta-Bay region of California. Associated with desert saltgrass, sea heath, and other scrub species at elevations below 1,200 feet. Blooms April – September.	**Absent.** Alkali wetlands and suitable habitat were absent within the site and borrow area.
Serpentine cryptantha (Cryptantha dissita)	CNPS 1B	Found in chaparral on serpentine soil outcrops between 440 and 2,400 feet. Blooms March – June.	**Absent.** The site and borrow area are outside of the elevation range for this species and suitable habitats and soils were absent.
Shining navarretia (*Navarretia nigelliformis* ssp. *radians*)	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 and 3,200 feet. Blooms May – July.	**Absent.** The site and borrow area are outside of the elevation range for this species and suitable habitats and soils were absent.

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
Snow Mountain buckwheat (Eriogonum nervulosum)	CNPS 1B	Found in chaparral on dry serpentine soil outcrops, balds, and barrens at elevations between 1,460 and 6,900 feet. Blooms June – September.	**Absent.** The site and borrow area are well outside of the elevation range for this species.
Three-fingered morning-glory (*Calystegia collina* ssp. *tridactylosa*)	CNPS 1B	Found in chaparral and cismontane woodland on rocky, gravelly openings in serpentine soils at elevations between 1,980 and 2,300 feet. Blooms April – June.	**Absent.** The site and borrow area are well outside of the elevation range for this species.
Two-carpellate western flax (Hesperolinon bicarpellatum)	CNPS 1B	Found on serpentine barrens at the edge of chaparral at elevations between 570 and 2,700 feet. Blooms May – July.	**Absent.** The site and borrow area are outside of the elevation range for this species and suitable habitats and soils were absent.
Vernal pool smallscale (*Atriplex persistens*)	CNPS 1B	Occurs in the Central Valley in alkaline vernal pools at elevations below 400 feet. Blooms June – September.	**Absent.** Suitable habitats including vernal pools were absent within the site and borrow area.
Water star-grass (*Heteranthera dubia*)	CNPS 2B	Found in marshes and swamps in alkaline soils, still, or slow-moving water. Requires a pH of 7 or higher, usually in slightly eutrophic waters. Found at elevations between 50 and 5,000 feet. Blooms July – August.	**Possible.** The site and borrow area contained canal/ditch habitat that included irrigation ditches with water. On top of the water within the ditch's duckweed was observed, which is often associated with eutrophic water. The nearest recorded observation of this species within the vicinity was approximately 3.5 miles southeast of the site in 2013.
Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*)	CNPS 1B	Occurs in marshes and swamps in moist, freshwater-soaked riverbanks and low peat islands in sloughs. Can also occur on riprap and levees. In California, known from the delta watershed at elevations below 500 feet. Blooms July – November.	**Possible.** The site contained riverine/riparian habitat and canal/ditch habitat that included creekbanks and riprap where this species could occur. The nearest recorded observation of this species within the vicinity was approximately 10 miles northeast of the borrow area in 2012.

Table 3: List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
American badger (*Taxidea taxus*)	CSSC	Occurs most abundantly in drier open stages of shrub, forest, and herbaceous habitats with friable soils to burrow, but can be found within numerous habitats throughout California, including the margins of agricultural lands.	**Possible.** Multiple large dens were observed along the canal bank in the borrow site. This species could travel through, forage, or den within the various habitats in the site or borrow area. The nearest recorded observation of this species within

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
		Needs a sufficient prey base of burrowing rodents.	the vicinity was approximately 8 miles southwest of the site in 2016.
Bald eagle (*Haliaeetus leucocephalus*)	CE, CFP	Resides in old growth forests as well as lower montane coniferous forests. Can also be found in open uplands in the winter. Nests are generally found in large trees within a mile of water. Nests and winters along ocean shores, lake margins, and rivers.	**Unlikely.** This species could fly over the site and borrow area but would not be expected to forage or breed within or adjacent to the site or borrow area. The nearest recorded observation of this species within the vicinity was approximately 14.5 miles northwest of the site in 1997.
Bank swallow (*Riparia riparia*)	CT	Nests colonially in burrows constructed along vertical banks and bluffs near waterbodies. This disturbance tolerant species is also known to nest in human-made sites, such as quarries, mounds of gravel or dirt, and road cuts.	**Unlikely.** This species could forage within the site and borrow area, but banks and bluffs that could serve as nesting habitat are absent within the site, borrow area, and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 11.5 miles east of the site and borrow area in 2009.
Burrowing owl (*Athene cunicularia*)	CSSC	Resides in open, dry grasslands, deserts, scrublands, and other areas with low growing vegetation. Nests and roosts underground in existing burrows created by mammals, most often by ground squirrels, and human-made structures.	**Possible.** Multiple large burrows were observed along the canal bank in the borrow site. This species could travel through, forage, roost, or nest within the various habitats in the site or borrow area. The nearest recorded observation of this species within the vicinity was approximately 0.1 miles west of the site and borrow area in 1992.
Conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Found in large, turbid freshwater vernal pools in the Central Valley, from Tehama County in the north to Merced County in the south, with one outlying population in Ventura County's Interior Coast Ranges.	**Absent.** Vernal pools were absent within the site and borrow area.
Foothill yellow-legged frog – north coast DPS (*Rana boylii*)	FPT, CSSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Unlikely.** The site and borrow area lacked suitable habitat for this species. The nearest recorded observation of this species within the vicinity was approximately 11 miles southwest of the site in 1997.
Giant garter snake (*Thamnophis gigas*)	FT, CT	Occurs in marshes, sloughs, canals, ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open	**Possible.** The site, borrow area, and surrounding areas contained suitable aquatic habitat for this species and small mammal burrows were present throughout the site

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
		areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	and borrow area. This species could be found within all habitats. The nearest recorded observation of this species within the vicinity was approximately 0.5 miles east of the site and borrow area in 1986.
Golden eagle (*Aquila chrysaetod*)	CFP	This species typically nests on cliff ledges or large trees, rarely on the ground. They prefer an expanse of open terrain and are found over tundra, prairie, rangeland, desert, and grassland habitats.	**Unlikely.** This species could fly over the site and borrow area but would not be expected to forage or breed within or adjacent to the site or borrow area. The nearest recorded observation of this species within the vicinity was approximately 8.5 miles southwest of the site in 1986.
Green sturgeon (A*cipenser medirostris*)	FT	Spawning occurs primarily in cool (51- 59 °F) sections of mainstem rivers in deep pools (26- 30 feet) with substrate containing small to medium sized sand, gravel, cobble, or boulders, such as the Sacramento, Feather, and Yuba Rivers. Presence in upper Stanislaus and San Joaquin Rivers may indicate spawning. Non-spawning adults occupy marine/estuarine waters. The Delta Estuary is important for rearing juveniles.	**Absent.** An Initial Study/ Environmental Assessment by the Bureau of Reclamation states "there is no evidence of special-status fish species presence" within the Creek.
Longfin smelt (*Spirinchus thaleichthys*)	FC, CT	Found in open waters of estuaries, mostly in middle or bottom of water column. This anadromous fish can survive a variety of salinities and prefers salinities of 15-30 parts per thousand but can be found in completely freshwater to almost pure seawater.	**Absent.** An Initial Study/ Environmental Assessment by the Bureau of Reclamation states "there is no evidence of special-status fish species presence" within the Creek.
Monarch butterfly (*Danaus plexippus*)	FC	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.). Winter roost sites extend along the Pacific coast from northern Mendocino to Baja California, Mexico.	**Unlikely.** The site and borrow area do not provide suitable habitat to support this species. No milkweeds were observed, and these areas are maintained for irrigation purposes. There are no recorded observations of this species on CNDDB within the regional vicinity of the project.
Northern spotted owl (*Strix occidentalis caurina*)	FT, CT	Found in old-growth forests or mixed stands of old-growth and mature trees. Occurs in areas with many trees with cavities or	**Absent.** The site and borrow area lack suitable habitat for this species.

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
		broken tops, woody debris, and space under canopy.	
Northwestern pond turtle (*Actinemys marmorata*)	FPT, CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Possible.** This species could occur within the riverine/riparian habitat and the canal/ditch habitat within the site and borrow area. The nearest recorded observation of this species within the vicinity was approximately 12 miles southwest of the site in 2004.
Song sparrow ("Modesto" population) (*Melospiza melodia*)	CSSC	Occurs from Colusa County south to Stanislaus County and east of Suisun Marshes. Breeds chiefly below 200 feet elevation. Found in freshwater marshes, riparian thickets, sparsely vegetated irrigation canals, and Valley Oak restoration sites. Cover consists of willow and nettle thickets, growths of tules and cattails, and riparian oak forests with a sufficient understory of blackberry.	**Possible.** The site and borrow area contained suitable foraging habitat and nesting habitat within the riverine/riparian habitat and canal/ditch habitat. The nearest recorded observation of this species within the vicinity was approximately 12 miles east of the site in 1923.
Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11)	FT	This winter-run fish begins migration to fresh water during peak flows in December through February. The spawning season is typically from February to April. After hatching, this species will move to deeper, mid-channel habitats in late summer and fall. In general, both juveniles and adults prefer complex habitat with boulders, undercut banks, and large woody debris.	**Absent.** An Initial Study/ Environmental Assessment by the Bureau of Reclamation states "there is no evidence of special-status fish species presence" within the Creek.
Swainson's hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible.** One large tree within the borrow area provides suitable nesting habitat. The nearest recorded observation of this species within the vicinity was approximately 2.5 miles northeast of the borrow area in 2006.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSSC	Occurs in a variety of habitats, but prefers cool, dark roost sites, and are often found in caves and mines. They roost in the open, hanging from walls and ceilings. Western populations typically forage on moths in areas of dense foliage.	**Unlikely.** This species could forage within the site and borrow area, but suitable roosting habitat is absent. The nearest recorded observation of this species within the vicinity was approximately 15 miles southwest of the site in 2014.

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
Tricolored blackbird (*Agelaius tricolor*)	CT, CSSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found foraging in dairy farm feed fields.	**Possible.** The Creek within the riverine/riparian habitat and the ditches within the canal/ditch habitat in the site and borrow area contained cattails where this species could nest. The nearest recorded observation of this species within the vicinity was approximately 1.5 miles northeast of the borrow area in 2014.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs in the Central Valley and adjacent foothills from Tehama County south through Merced and Mariposa Counties with two scattered populations in Madera and Fresno Counties. Adults are active from March to June.	**Absent.** Elderberry shrubs were absent within the site and borrow area.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal and seasonal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Vernal pools were absent within the site and borrow area.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Vernal pools were absent within the site and borrow area.
Western red bat (*Lasiurus blossevillii*)	CSSC	Roosts primarily in trees, 2–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Unlikely.** This species could forage within the site and borrow area, but large trees and suitable roosting habitat were absent. The nearest recorded observation of this species within the vicinity was approximately 13 miles east of the site in 1999.
Western spadefoot (*Spea hammondii*)	FPT, CSSC	The majority of the time this species is terrestrial and occurs in small mammal burrows and soil cracks, sometimes in the bottom of dried pools. Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal or seasonal pools, that hold water for a	**Possible.** The site and borrow area contained slow moving waterways within the riverine/riparian habitat and the canal/ditch habitat which this species could use for breeding. Small mammal burrows were also observed throughout the site and borrow area. The nearest recorded observation of this species within the vicinity was approximately 15.5 miles south of the site in 2017.

Species	Status*	Habitat	Occurrence within the Site and Borrow Area
		minimum of three weeks, are necessary for breeding.	
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once common in the Central Valley, as well as coastal valleys and riparian habitats east of the Sierra Nevada, habitat loss now constrains the California breeding population to small numbers of birds.	**Unlikely.** This species could forage within the site and borrow area, but large trees and suitable nesting habitat were absent within the site and borrow area. The nearest recorded observation of this species within the vicinity was approximately 13 miles east of the site and borrow area in 2013 along the Sacramento River.
White-tailed kite (*Elanus leucurus*)	CFP	Occurs in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Uses isolated, dense-topped trees for nesting and perching. Often occurs in open grasslands, meadows, or marshes for foraging.	**Unlikely.** This species could forage within the site and borrow area, but large trees and suitable nesting habitat were absent within the site and borrow area. The nearest recorded observation of this species within the vicinity was approximately 2.5 miles northwest of the borrow area in 1985.

***EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES**

Present: Species observed on the site at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the site and precluded from occurring there due to absence of suitable habitat.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPT	Federally Threatened (Proposed)	CFP	California Fully Protected
FC	Federal Candidate	CSSC	California Species of Special Concern

CNPS LISTING

1B	Plants rare, threatened, or endangered in California and elsewhere.
2B	Plants rare, threatened, or endangered in California, but more common elsewhere.
3	Plants that lack the necessary information to assign them to one of the other ranks or to reject them.

3 IMPACTS AND MITIGATION

3.1 SIGNIFICANCE CRITERIA

3.1.1 CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are rare may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either "significant" or "less than significant" under CEQA. According to *CEQA Statute and Guidelines* (AEP 2023), "significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered "significant" if they would:

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

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory finding of significance" if the project has the potential to:

> "Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory."

3.1.2 NEPA

Federal projects are subject to the provisions of NEPA. The purpose of NEPA is to assess the effects of a proposed action on the human environment, assess the significance of those effects, and recommend measures that if implemented would mitigate those effects. As used in NEPA, a determination that certain

effects on the human environment are "significant" requires considerations of both context and intensity (40 Code of Federal Regulations (CFR) 1508.27).

For the purposes of assessing effects of an action on biological resources, the relevant context is often local. The analysis may, however, require a comparison of the action area's biological resources with the biological resources of an entire region. Project activities must have a federal nexus and discuss federally listed species, and/or designated critical habitat that may be affected in the action area.

Federal agencies are required to determine whether their actions may affect listed or proposed species and designated critical habitat. The primary role of this document is to provide agencies conclusion and the rationale to support those conclusions regarding the effects of any proposed actions of the project on protected resources. Document content and recommended elements are identified in 50 CFR 402.12(f).

Under section 7 of the Endangered Species Act, federal agencies must consult with NOAA Fisheries or the USFWS, depending on the species, through an informal or formal consultation when any action the agency carries out, funds, or authorizes may affect either a species listed as threatened or endangered under the Act, or any critical habitat designated for it.

Once resources are assessed an Endangered Species Act Section 7 finding needs to be made regarding proposed or listed species and/or designated critical habitat that may be present in the project area. This report will provide the necessary information for the lead federal agency to make a determination on affects. This finding may result in one of the following determinations:

- "No effect" - means there will be no impacts, positive or negative, to listed or proposed resources. Generally, this means no listed resources will be exposed to action and its environmental consequences. Concurrence from the Service is not required.
- "May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. These determinations require written concurrence from the Service.
- "May affect, likely to adversely affect" means that listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 COLUSA COUNTY GENERAL PLAN

The Colusa County General Plan Policy Document (Colusa County, 2012) contains the following goals and policies related to the project:

3.2.1.1.1 CONSERVATION ELEMENT

Goal CON-1: Conserve and protect Colusa County's ecosystem.

Policy CON 1-3: Lands that are actively managed or placed under conservation easement for habitat, wetlands, species, or other natural resource or open space preservation or conservation shall be limited to lands designated Resource Conservation (RC).

Policy CON 1-4: Encourage conservation, rather than preservation, through the active management of natural resources, including wildlife, water, air, minerals, forests, and land. Conservation and management techniques include replacing trees, crops, and other renewable resources at a pace that ensures they are not consumed more quickly than they can be replaced; use of non-renewable resources in a manner that ensures the resources are not depleted but available to future generations for use; strategic forest thinning and fuels management to prevent wildfires; making resource areas accessible to the public while protecting resources from being diminished to non-recoverable levels; reducing incompatible wildlife/agricultural interface; and increasing public understanding and responsible use of resource conservation areas

Policy CON 1-5: Attempt to resolve conflicts between resource conservation areas and adjoining agricultural or recreation lands on a case-by-case basis in a manner which recognizes the public interests in both resource protection and the sound management of agricultural and recreational resources.

Policy CON 1-6: Focus conservation efforts on high priority conservation areas that contain suitable habitat for endangered, threatened, migratory or special-status species and that can be managed with minimal interference with nearby agricultural activities.

Policy CON 1-7: Conserve and enhance those biological communities that contribute to the County's rich biodiversity including, but not limited to, blue oak woodlands, annual grasslands, mixed chaparral, pine woodlands, wetlands, riparian areas, aquatic habitat, and agricultural lands.

Policy CON 1-8: Conserve existing native vegetation where possible and integrate existing native vegetation into new development if appropriate.

Policy CON 1-11: Protect wetlands and riparian habitat areas from encroachment by development to the greatest extent feasible.

Policy CON 1-12: Require new development to include maintained and managed setbacks and buffers along riparian corridors and adjacent to sensitive habitat.

Policy CON 1-13: Sensitive habitats include oak woodlands, wetlands, vernal pools, riparian areas, wildlife and fish migration corridors, native plant nursery sites, waters of the U.S., and other habitats designated by state and federal agencies and laws.

Policy CON 1-14: Require any proposed project that may affect special-status species, their habitat, or other sensitive habitat to submit a biological resources evaluation as part of the development review process. Evaluations shall be carried out under the direction of the Colusa County Department of Planning and Building and consistent with applicable state and federal guidelines. Additional focused surveys shall be conducted during the appropriate season (e.g., nesting season, flowering season, etc.), if necessary.

Policy CON 1-15: Require that impacts to wetlands and riparian habitat protected by State or Federal regulations be avoided to the greatest extent feasible. If avoidance is not possible, fully mitigate impacts consistent with applicable local, State and Federal requirements.

Policy CON 1-17: All discretionary public and private projects that identify special-status species or sensitive habitats in a biological resources evaluation shall avoid impacts to special-status species and their habitat to the maximum extent feasible. Where impacts cannot be avoided, projects shall include the implementation of site-specific or project-specific effective mitigation strategies developed by a qualified professional in consultation with state or federal resource agencies with jurisdiction (if applicable) including, but not limited to, the following strategies:

a. Preservation of habitat and connectivity of adequate size, quality, and configuration to support the special-status species. Connectivity shall be determined based on the specifics of the species' needs.
b. Project design measures, such as clustering of structures or locating project features to avoid known locations of special-status species and/or sensitive habitats.
c. Provision of supplemental planting and maintenance of grasses, shrubs, and trees of similar quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife.
d. Protection for habitat and the known locations of special-status species through adequate buffering or other means.
e. Provision of replacement habitat of like quantity and quality on- or off-site for special status species.
f. Enhancement of existing special-status species habitat values through restoration and replanting of native plant species.
g. Provision of temporary or permanent buffers of adequate size (based on the specifics of the special-status species) to avoid nest abandonment by nesting migratory birds and raptors associated with construction and site development activities.
h. Incorporation of the provisions or demonstration of compliance with applicable recovery plans for federally listed species.
i. Monitoring of construction activities by a qualified biologist to avoid impacts to on-site special status species.

Policy CON 1-18: Where sensitive biological habitats have been identified on or immediately adjacent to a project site, the following measures shall be implemented:
a. Pre-construction surveys for species listed under the State or Federal Endangered Species Acts, or species identified as special-status by the resource agencies, shall be conducted by a qualified biologist;
b. Construction barrier fencing shall be installed around sensitive resources and areas identified for avoidance or protection; and
c. Employees shall be trained by a qualified biologist to identify and avoid protected species and habitat.

Policy CON 1-22: Maintain lakes, rivers, streams, creeks, and waterways in a natural state whenever possible. These water features may be actively managed and/or improved or modified in order to function as natural flood protection and storm water management features during storms and flooding events.

Policy CON 1-23: Protect and enhance streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat and vernal pools through sound land use planning, community design, and site planning.

3.2.2 THREATENED AND ENDANGERED SPECIES

Permits may be required from CDFW and/or USFWS if activities associated with a project have the potential to result in the "take" of a species listed as threatened or endangered under the California Endangered Species Act (CESA) and/or Endangered Species Act (ESA), respectively. Take is defined by CESA as, "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). Take is more broadly defined by the ESA to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). CDFW and USFWS are responsible agencies under CEQA and NEPA. Both agencies review CEQA and NEPA documents in order to determine the adequacy of the treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.3 DESIGNATED CRITICAL HABITAT

When species are listed as threatened or endangered, the USFWS often designates areas of "critical habitat" as defined by section 3(5)(A) of the ESA. Critical habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify critical habitat will be affected.

3.2.4 MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it covers almost all bird's native to the United States, even those that are non-migratory. The MBTA encompasses whole birds, parts of birds, and bird nests and eggs. Additionally, California Fish and Game Code makes it unlawful to take or possess any non-game birds covered by the MBTA (Section 3513), as well as any other native non-game birds (Section 3800).

3.2.5 BIRDS OF PREY

Birds of prey are protected in California under provisions of California Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs, or take feathers or nests, without a permit issued by the U.S. Secretary of the Interior.

3.2.6 NESTING BIRDS

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) 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 adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

3.2.7 WETLANDS AND OTHER "JURISDICTIONAL WATERS"

The definition of "waters of the United States" (WOTUS) often changes from one presidential administration to the next. The current definition, established under the Biden Administration that became effective on March 20, 2023 (i.e., "new rule"), has adopted much of the same WOTUS designations as the pre-2015 rules, but has incorporated the most recent science and court case rulings. Traditional navigable waters, territorial seas, and interstate waters remain covered under the new rule. Natural drainage channels and adjacent wetlands may be considered "waters of the United States" or "jurisdictional waters" subject to the jurisdiction of the USACE based on the "relatively permanent standard," which is defined in the new rule as "relatively permanent, standing or continuously flowing waters connected to paragraph Traditional Navigable Waters, and waters with a continuous surface connection to such relatively permanent waters or to Traditional Navigable Waters. The extent of jurisdiction has been defined in the Code of Federal Regulations but is also subject to interpretation by the federal courts. Jurisdictional waters generally include the following categories:

1) *Traditional Navigable Waters, the territorial seas, or interstate waters (not including interstate wetlands);*
2) *Impoundments of waters of the United States;*
3) *Tributaries of:*
    a. *Traditional Navigable Waters, territorial seas, or interstate waters (not including interstate wetlands); or*
    b. *Impoundments of water of the United States when the tributaries meet the relatively permanent standard.*
4) *Wetlands:*
    a. *Adjacent to Traditional Navigable Waters, the territorial seas, or interstate waters;*
    b. *Adjacent to and with a continuous surface connection to relatively permanent impoundments of waters of the United States*
    c. *Adjacent to and with a continuous surface connection to relatively permanent jurisdictional tributaries.*
5) *Intrastate lakes and ponds not identified in items 1 through 4 of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in items 1 or 3 above.*

Exclusions under the new definition include the following:

1) *Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the CWA;*
2) *Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA;*
3) *Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;*
4) *Artificially irrigated areas that would revert to dry land if the irrigation ceased;*
5) *Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;*
6) *Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;*

7) *Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and*
8) *Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.*

The new rule has incorporated the best available science, relevant supreme court cases, public comment, technical expertise, and experience gained from more than 45 years of implementing the Pre-2015 "waters of the United States" framework to inform jurisdictional limits.

One significant court case involves the U.S. Supreme Court in its *2001 Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers (SWANCC)* decision. It was determined that channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds.

Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the United States Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered jurisdictional waters. The Supreme Court heard *Sackett v. United States Environmental Protection Agency (EPA)* in May 2023, to determine governing standards of a significant nexus between waters of the United States and adjacent wetlands. The court decided that adjacent wetlands would be protected under the CWA only if it maintained a continuous surface water connection with a federal water body. This decision has limited protection for networks of wetlands connected to navigable waters through subsurface flow. The final decision was enacted in September 2023.

The USACE regulates the filling or grading of waters of the United States. under the authority of Section 404 of the CWA. The extent of jurisdiction within drainage channels is defined by "ordinary high-water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the United States are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that results in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the SWRCB has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("Waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the United States require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the United States, require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one acre or more of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the United States may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a notification of a Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.3 POTENTIALLY SIGNIFICANT PROJECT-RELATED IMPACTS AND MITIGATION

Species protected by California Fish and Game Code, CDFW, USFWS, CEQA, or NEPA that have the potential to be impacted by project activities include: water star-grass, woolly rose-mallow, American badger, burrowing owl, giant garter snake, northwestern pond turtle, song sparrow, Swainson's hawk, tricolored blackbird, western spadefoot, and nesting migratory birds. Other sensitive resources that have the potential to be impacted by the project include wildlife movement corridors and native wildlife nursery sites, riparian habitat, and regulated waters, wetlands, and water quality. Corresponding mitigation measures can be found below.

3.3.1 GENERAL PROJECT-RELATED IMPACTS

The project has the potential to impact a number of sensitive resources, as described in more detail in the following sections. Impacts to these resources would be a violation of state and federal laws or considered a potentially significant impact under CEQA and NEPA. Implementation of the following measures will help reduce potential impacts to these resources to a less than significant level under CEQA and NEPA and will help with complying with state and federal laws protecting these resources:

> Mitigation Measure BIO-1a (*WEAP Training*): Prior to initiating construction activities (including staging and mobilization), all personnel associated with project construction will attend a mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources that may occur in the site and borrow area. The specifics of this program will include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. This training will discuss special status species, describe the laws and regulations in place to provide protection of these species, identify the penalties for violation of applicable environmental laws and regulations, and include a list of required protective measures to avoid "take." A fact sheet summarizing this information, along with photographs or illustrations of sensitive species with potential to occur on the site and borrow area, will also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the project. All trainees will sign a form documenting that they have attended WEAP training and understand the information presented to them.
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> Mitigation Measure BIO-1b (*BMPs*): The project proponent will ensure that all workers employ the following best management practices (BMPs) in order to avoid and minimize potential impacts to special status species:
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> - Vehicles will observe a 15-mph speed limit while on unpaved access routes.
> - Workers will inspect areas beneath parked vehicles, equipment, and materials prior to mobilization. If special status species are detected, the individual will either be allowed to leave

of its own volition or will be captured by a qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the project work area. "Take" of a state or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited.

- The presence of any special status species will be reported to a qualified biologist, who will submit the occurrence to the CNDDB. If necessary, the biologist will report the occurrence to CDFW and/or USFWS.

3.3.2 PROJECT-RELATED IMPACTS TO SPECIAL STATUS PLANT SPECIES

The following special status plant species were identified to potentially occur within or adjacent to the site and borrow area: water star-grass and woolly rose-mallow. Projects that adversely affect special status plants or result in the mortality of special status plants would be considered a significant impact under CEQA and NEPA and may be a violation of state and/or federal laws.

Implementation of the following measures will reduce potential impacts to special status plants to a less than significant level under CEQA and NEPA will help the project comply with state and federal laws protecting these plant species.

Mitigation Measure BIO-2a (*Focused Survey*): A qualified botanist/biologist (someone who is able to identify these species) will conduct focused botanical surveys during the appropriate blooming seasons for water star-grass (July – August) and woolly rose-mallow (July – November), according to CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (2018) for areas where ground disturbance will occur and prior to the start of construction.

Mitigation Measure BIO-2b (*Avoidance*): If special status plants are identified during a survey, an avoidance buffer and, if necessary, use of exclusion fencing, will be placed around the area to avoid disturbance to the plants and its root system.

Mitigation Measure BIO-2c (*Formal Consultation*): If rare plant individuals or populations or sensitive natural communities are detected within project work areas during the focused botanical survey(s), and the plants cannot be avoided, the project proponent will initiate consultation with CNPS, CDFW, and/or USFWS to determine next steps for relocation.

3.3.3 PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO AMERICAN BADGER

The project site and borrow area contained ruderal habitat and canal banks that could potentially be used by American badger. Multiple large dens were observed along the canal bank in the borrow site. American badgers denning within the project site and borrow area during construction have the potential to be injured or killed by project-related activities. Projects that result in the mortality of individuals would be considered a potentially significant impact under CEQA and NEPA.

Implementation of the following measures will reduce potential impacts to American badgers to a less than significant level under CEQA and NEPA. The following measures will be implemented prior to the start of construction:

Mitigation Measure BIO-3a (*Pre-construction Take Avoidance Survey*): A qualified biologist (someone familiar with the identification and sign of this species) will conduct a pre-construction survey of the project site and borrow area within seven (7) days prior to vegetation clearing or ground disturbing activities. The goal of this survey is to search for potentially active badger dens.

Mitigation Measure BIO-3b (*Remote Cameras*): If potential dens for American badger are detected during the pre-construction survey, each potential den will be monitored with remote cameras for a period of three consecutive nights. If there is no activity at the den location recorded for three consecutive nights, the den can be deemed "inactive" or "unoccupied" and closed or excavated.

Mitigation Measure BIO-3c (*Den Avoidance*): If an American badger is denning on or within 50 feet of the project site and borrow area, the project proponent shall avoid the den by a minimum 50-foot buffer.

Mitigation Measure BIO-3d (*Timed Den Excavation*): If an American badger is denning on or within 50 feet of the project site and borrow area and it cannot be avoided, the badger may be evicted, and the den excavated outside of the natal season (generally March 15 – June 15) or if it is determined that there are no cubs in the den. Prior to the planned eviction and den excavation a remote camera will be placed at the den entrance for a minimum of three consecutive nights to record the general time when the badger leaves the den. If it is outside of the natal season or it is determined by a qualified biologist that there are no cubs present in the den the badger will be evicted from the den and the den excavated by hand, with the assistance of machinery, after it has left the den for that night. Should any cubs be discovered during the excavation the work will stop and the crew will leave the site or borrow area immediately so the female can rescue her cubs and relocate them.

3.3.4 PROJECT-RELATED MORTALITY AND/OR DISTURBANCE TO BURROWING OWL

The site and borrow area contained suitable nesting, roosting, and foraging habitat for burrowing owls (BUOW). Burrows this species could use occurred within the canal/ditch habitat. Construction activities that adversely affect the nesting success of burrowing owls or result in the mortality of individuals constitute a violation of state and federal laws and would be considered a significant impact under CEQA and NEPA. While the project site and borrow area may impact some potential foraging habitat for BUOW, there is abundant foraging habitat adjacent to the site and borrow area that could be used, and implementation of the project would not significantly reduce potential foraging habitat for this species. Therefore, no mitigation measures are warranted for loss of BUOW foraging habitat.

Implementation of the following measures would reduce potential impacts to nesting or roosting BUOW to a less than significant level under CEQA and NEPA and help the project comply with state and federal laws protecting this avian species.

Mitigation Measure BIO-4a (*Pre-construction Take Avoidance Survey*): A qualified biologist (someone familiar with the identification and sign of this species) will conduct a pre-construction take avoidance survey for BUOW and suitable burrows, in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (2012), within seven (7) days prior to the start of construction activities. The survey shall include the proposed work area and surrounding lands up to 500 feet. If no BUOW individuals or active burrows are observed, no further mitigation is required.

Mitigation Measure BIO-4b (*Avoidance*): If an active BUOW burrow is detected avoidance buffers will be implemented. A qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW guidelines, the biology of the species, conditions of the burrow(s), and the level of project disturbance. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged and all BUOW have left the site or borrow area.

Mitigation Measure BIO-4c (*Passive Relocation*): If avoidance of an active BUOW burrow is not feasible, passive relocation during the non-breeding season (September 1 through January 31) could be utilized or during the breeding season (February 1 through August 31) if a qualified biologist determines that there are no young in the burrow. Prior to completion a qualified biologist will prepare a passive relocation plan that will detail the methods to be used. It would include the tools to exclude the BUOW from its burrow (i.e., one-way doors or other devices) and excavate the burrow (hand tools and machinery, if needed). Following completion of passive relocation, a report will be prepared that documents the methods and results of these efforts.

3.3.5 PROJECT-RELATED MORTALITY AND/OR NEST ABANDONMENT OF MIGRATORY BIRDS, RAPTORS, AND SPECIAL STATUS BIRDS

The site and borrow area contained suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds, raptors, and special status birds. It is anticipated that during the nesting bird season, protected birds could nest on the ground or in shrubs, trees, or structures within the site and borrow area and forage within the site and borrow area. Song sparrow, Swainson's hawk, and tricolored blackbird could nest or forage within or immediately adjacent to the site and borrow area. Burrowing owl could also nest, roost, or forage within the project site and borrow area, however potential impacts to this species and mitigation measures are described in Section 3.3.4, above. Protected birds located within or adjacent to the site and borrow area during construction have the potential to be injured or killed by project-related activities. In addition to the direct "take" of protected birds within the site and borrow area or adjacent areas, these birds nesting in these areas could be disturbed by project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of protected birds or result in the mortality of these birds would be a violation of state and federal laws and considered a potentially significant impact under CEQA and NEPA.

While foraging habitat for protected birds is present on the site and borrow area, suitable foraging habitat is located adjacent to the site and borrow area and within the vicinity of the site and borrow area. Loss of the foraging habitat from implementation of the project is not considered a significant impact.

Implementation of the following measures will reduce potential impacts to protected nesting birds to a less than significant level under CEQA and NEPA and will ensure compliance with state and federal laws protecting these bird species.

Mitigation Measure BIO-5a (*Avoidance*): The project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.

Mitigation Measure BIO-5b (*Pre-construction Surveys*): If activities must occur within the nesting bird season (February 1 to September 15), a qualified biologist (someone familiar with the identification and sign of this species) will conduct a single pre-construction take avoidance survey for Swainson's hawk nests on the site and borrow area and within a 0.5-mile radius within five calendar days prior to the start of construction. The Swainson's hawk survey will not be completed between April 21 and June 10 due to the difficulty of identifying nests during this time of year. The survey would also include a single pre-construction take avoidance survey for song sparrow and tricolored blackbird and other nesting migratory birds within and up to 100 feet outside of the site and borrow area and for other nesting raptors within and up to 500 feet outside of the site and borrow area. All raptor nests would be considered "active" upon the nest-building stage. If work stops for more than 7 days during nesting bird season a follow-up nesting bird survey will be conducted. If no active nests are observed, no further mitigation is required.

Mitigation Measure BIO-5c (*Avoidance Buffers*): On discovery of any active nests or breeding colonies near work areas, a qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of project disturbance. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.

3.3.6 PROJECT-RELATED MORTALITY AND/OR DISTURBANCE OF GIANT GARTER SNAKE

The project site and borrow area contained suitable giant garter snake aquatic habitat for foraging and upland habitat with small mammal burrows for overwintering. This species is known to occur in the area along creeks and in rice fields. Giant garter snakes occurring within the project site and borrow area during construction have the potential to be injured or killed by project-related activities. Projects that adversely affect the success of giant garter snakes or result in the mortality of individuals would be considered a potentially significant impact under CEQA and NEPA and a violation of state and federal laws.

Implementation of the following measures will reduce potential impacts to giant garter snake to a less than significant level under CEQA and NEPA will help the project comply with state and federal laws protecting this species.

Mitigation Measure BIO-6a (*Pre-Construction Surveys*): If work will occur during the active season for giant garter snake (between May 1 and September 30), a qualified biologist (someone familiar with garter snake species) will conduct two giant garter snake pre-construction surveys with the first occurring within 15 days and the second occurring within 24-hours of the onset of construction. The information collected from the first pre-construction survey will serve primarily to alert the biologist and construction crews of the general level of giant garter snake activity at the site and borrow area, and the second survey will serve to minimize potential for take of giant garter snake.

Mitigation Measure BIO-6b (*Exclusion*): If work will occur during the inactive season for giant garter snake (between October 1 and April 30), an exclusion fence will be installed around the work areas prior to the start of the inactive season. The design of the fence will be approved by the CDFW and USFWS prior to installation. Fence installation will be supervised by a qualified biologist.

Mitigation Measure BIO-6c (*Monitor*): An inspection of the exclusion fence each day by the contractor would be completed to ensure it is functional for the intended purpose. The contractor would be instructed during the WEAP training on how to inspect the exclusion fence. If a garter snake is observed within the project site or borrow area, the contractor will stop work and allow the species to leave the site and borrow area of its own volition or will be captured by a qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the project work area. "Take" of a state or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited without appropriate take permits from the USFWS and CDFW.

Consultation with CDFW is warranted to discuss how to implement the project and avoid take of giant garter snake. If take cannot be avoided, take authorization through the acquisition of an ITP pursuant to Fish and Game Code section 2081, subdivision (b) is recommended to comply with CESA.

3.3.7 PROJECT-RELATED IMPACTS TO NORTHWESTERN POND TURTLE

The riverine/riparian habitat and the canal/ditch habitat on the site and borrow area contained suitable habitat features for northwestern pond turtle (NPT) dispersal and basking. NPT occurring within the project site and borrow area during construction have the potential to be injured or killed by project-related activities. Projects that adversely affect the success of NPT or result in the mortality of individuals would be considered a potentially significant impact under CEQA and NEPA.

Implementation of the following measures will reduce potential impacts to northwestern pond turtle to a less than significant level under CEQA and NEPA.

> Mitigation Measure BIO-7a (*Pre-Construction Survey and Avoidance Buffers*): Within seven (7) days prior to the start of construction within the site and borrow area, a qualified biologist (someone who is able to identify this species) will conduct a pre-construction survey for NPT and within the site and borrow area, and all accessible areas within up to 330 feet. Pre-construction surveys will be conducted in accordance with the draft *Western Pond Turtle (Emys marmorata) Visual Survey Protocol for the Southcoast Ecoregion* (United States Geological Survey 2006). If no NPTs are observed during the pre-construction survey, then construction activities may begin. If construction is delayed or halted for more than seven (7) days, another pre-construction survey for NPTs will be conducted. If the surveys result in the identification of a NPT, or an individual is found within the site or borrow area during construction activities, it will be allowed to leave the site or borrow area on its own and the qualified biologist will determine appropriate buffers to be implemented to avoid impacts to the individual(s).
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> Mitigation Measure BIO-7b (*Monitor*): If NPTs are observed within the site or borrow area, a qualified biologist will conduct a pre-activity clearance survey each day and remain onsite to oversee all vegetation clearing and ground disturbing activities until the individual(s) has vacated the work areas. If NPTs are detected, the biologist will stop work and allow the species to leave the site or borrow area of its own volition or will be captured by the qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the project work area. "Take" of a state or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited.

3.3.8 PROJECT-RELATED IMPACTS TO WESTERN SPADEFOOT

The project site and borrow area also contained suitable aquatic and upland habitats for western spadefoot. This species may breed within the canal/ditch habitat and aestivate within burrows or soil cracks in the site and borrow area. Western spadefoot occurring within the site or borrow area during construction have the potential to be injured or killed by project-related activities. Projects that adversely affect the success of western spadefoot or result in the mortality of individuals would be considered a potentially significant impact under CEQA and NEPA.

Implementation of the following measures will reduce potential impacts to western spadefoot to a less than significant level under CEQA and NEPA.

> Mitigation Measure BIO-8a (*Focused Survey*): A qualified biologist (someone familiar with the identification and sign of this species) will conduct a focused survey prior to the start of construction. Transects will be walked throughout the site, borrow area, and surrounding lands within up to 50 feet. All waterways within the site will be visually surveyed for western spadefoot adults, eggs, and larvae. If no western spadefoot adults, eggs, or larvae are observed during these

surveys, then construction activities may begin. If the survey results in the identification of this species monitoring will be required.

Mitigation Measure BIO-8b (*Monitor*): If western spadefoot is observed within the site or borrow area, a qualified biologist will conduct a pre-activity clearance survey each day and remain onsite to oversee all vegetation clearing and ground disturbing activities until the individual(s) have vacated the work areas. If western spadefoot is detected, the biologist will stop work and allow the species to leave the site or borrow area of its own volition or will be captured by the qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the project work area. "Take" of a state or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited.

3.3.9 PROJECT-RELATED IMPACTS TO WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

Rivers and canals can function as wildlife movement corridors through highly disturbed areas and can be sensitive resources for various species. Anthropogenic activities would deter wildlife from using these corridors during the day, though these deterrents are likely absent at night. The Creek and the canals/ditches within the site and borrow area contained many animal tracks and would be considered wildlife movement corridors.

The site and borrow area contained the Creek and two ditches that could be used by amphibians to lay eggs. When these waterways are flowing, they would not be considered native wildlife nursery sites, however, when they are not flowing, and areas are ponded they could provide suitable habitat which would be considered native wildlife nursery sites. It is unlikely other native species would utilize any other features of the site or borrow area as a wildlife nursery site. Additional mitigation measures are not warranted.

Implementation of the following measures will reduce potential impacts to wildlife movement corridors and native wildlife nursery sites to a less than significant level under CEQA.

Mitigation Measure BIO-9a (*Operational Hours*): Construction activities should be limited to a half hour after sunrise through a half hour before sunset to reduce potential impacts to wildlife movement corridors.

Mitigation Measure BIO-9b (*Wildlife Access*): Access should not be blocked outside of construction hours or during overnight hours or weekends. If construction must block both sides of a wildlife access route, an alternative route through the construction area should be identified by a qualified biologist and maintained throughout the construction schedule timeframe.

Mitigation Measure BIO-9c (*Cover Excavations*): Pipeline/culvert/siphon excavations and vertical pipes should include wildlife ramps (not to exceed a one-to-one slope) or be covered each night to prevent wildlife from falling in and becoming trapped or injured during migratory or dispersal movements.

Mitigation Measure BIO-9d (*Pre-Construction Survey*): Within seven (7) days prior to the start of construction within the site and borrow area, a qualified biologist (someone who is able to identify this habitat) will conduct a pre-construction survey for native wildlife nursery sites within the site and borrow area, and all accessible areas within up to 50 feet. If native wildlife nursery sites are observed a buffer will be required.

Mitigation Measure BIO-9e (*Avoidance*): Native wildlife nursery sites identified during the pre-construction survey will be avoided by 50 feet until a qualified biologist has determined they are no longer being used and any young have dispersed.

3.3.10 PROJECT-RELATED IMPACTS TO REGULATED WATERS, WETLANDS, WATER QUALITY, AND RIPARIAN HABITAT

The project involves the construction of a new siphon under the Creek, which is considered jurisdictional and contained riparian habitat during the field survey. Project-related impacts to this water would be considered a potentially significant impact under CEQA and NEPA. Impacts to waters of the U.S. are also subject to the permit requirements of Section 404 and 401 of the Clean Water Act and impacts to CDFW jurisdictional waters are subject to the permit requirements of California Fish and Game Code. The placement of fill within any wetlands or other jurisdictional features will require a 404 permit from the USACE, a 401 Water Quality Certification from the RWQCB and a Lake or Streambed Alteration Agreement from CDFW. An aquatic resource delineation was performed on the Creek and ditches within the site and borrow area (see Appendix E).

There are no designated wild and scenic rivers within the site or borrow area; therefore, the project would not result in direct impacts to wild and scenic rivers.

Implementation of the following measures will reduce potential impacts to waters and riparian habitat to a less than significant level under CEQA and NEPA and will help the project comply with state and federal laws protecting this habitat.

Mitigation Measure BIO-10a (*Permits*): If the Creek onsite cannot be avoided, permits with USACE, RWQCB, and CDFW will be obtained, if needed. These permits, certifications, and agreements would ensure there are no direct or indirect effects to jurisdictional waters or riparian habitat.

Mitigation Measure BIO-10b (*Diversion Plan*): If the Creek will be diverted out of the original channel for construction, a detailed diversion plan will be approved by agencies (USACE, RWQCB, and CDFW) if required, prior to any construction activities taking place.

3.4 SECTION 7 DETERMINATIONS

In addition to the effects analysis performed in Table 2 and Table 3 of this document, Table 4 summarizes project effect determinations for federally-listed species found on the CNDDB list generated on January 25, 2024, and the USFWS IPaC list generated on April 11, 2024 (see Appendix B and Appendix C, respectively), in accordance with Section 7 of the Endangered Species Act.

Table 4: Section 7 Determinations

Species	Determination	Rationale for Determination
Colusa grass (*Neostapfia colusana*)	No effect	**Habitat absent**. Vernal pool habitat required by this species were absent from the site and borrow area.
Conservancy fairy shrimp *(Branchinecta conservatio)*	No effect	**Habitat absent**. Vernal pool habitat was absent within the site and borrow area.
Foothill yellow-legged frog – north coast DPS (*Rana boylii*)	No effect	**Habitat absent**. Suitable habitats for this species are absent from the site and borrow area.
Giant garter snake *(Thamnophis gigas)*	May affect, but not likely to adversely affect	**Habitat present.** The site and borrow area contained suitable aquatic habitat for this species and small mammal burrows were present throughout the site and borrow area. Implementation of **BIO-6a**, **BIO-6b**, and **BIO-6c** will avoid and minimize effects to this species.
Greene's tuctoria *(Tuctoria greenei)*	No effect	**Habitat absent**. Suitable habitats, including vernal pools, were absent within the site and borrow area.
Green sturgeon (Acipenser medirostris)	No effect	**Suitable habitats and aquatic connections absent.** Suitable aquatic habitat within the site and borrow area and an aquatic connection to waterbodies where this species occurs are absent.
Hairy Orcutt grass (*Orcuttia pilosa*)	No effect	**Habitat absent**. Suitable habitats, including vernal pools, were absent within the site and borrow area.
Hoover's spurge (*Euphorbia hooveri*)	No effect	**Habitat absent**. Suitable habitats, including vernal pools, were absent within the site and borrow area.
Keck's checkerbloom (*Sidalcea keckii*)	No effect	**Habitat absent**. The site and borrow area are outside of the elevation range for this species and suitable habitats and soils were absent.
Longfin smelt (*Spirinchus thaleichthys*)	No effect	**Suitable habitats and aquatic connections absent.** Suitable aquatic habitat within the site and borrow area and an aquatic connection to waterbodies where this species occurs are absent.
Monarch butterfly (*Danaus plexippus*)	No effect	**Habitat absent**. The site and borrow area do not provide suitable habitat to support this species. No milkweeds were observed, and these areas are maintained for irrigation purposes.

Species	Determination	Rationale for Determination
Northern spotted owl (*Strix occidentalis caurina*)	No effect	**Habitat absent**. Suitable habitats, including old-growth forests, were absent within the site and borrow area.
Northwestern pond turtle (*Actinemys marmorata*)	May affect, but not likely to adversely affect	**Habitat present.** This species could occur within the riverine/riparian habitat and the canal/ditch habitat within the site and borrow area. Implementation of **BIO-7a**, and **BIO-7b** will avoid and minimize effects to this species.
Palmate-bracted bird's beak (*Chloropyron palmatum*)	No effect	**Habitat absent**. Alkaline soils and suitable habitats were absent within the site and borrow area.
Steelhead – Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11)	No effect	**Suitable habitats and aquatic connections absent.** Suitable aquatic habitat within the site and borrow area and an aquatic connection to waterbodies where this species occurs are absent.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	No effect	**Habitat absent**. Elderberry shrubs that are required by this species were absent from the project site, borrow area, and surrounding area.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	No effect	**Habitat absent**. Vernal pool habitat was absent within the site and borrow area.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	No effect	**Habitat absent**. Vernal pool habitat was absent within the site and borrow area.
Western spadefoot (*Spea hammondii*)	May affect, but not likely to adversely affect	**Habitat present.** The site and borrow area contained suitable aquatic habitat for this species and small mammal burrows were present throughout the site and borrow area. Implementation of **BIO-8a** and **BIO-8b** will avoid and minimize effects to this species.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	No effect	**Habitat absent**. Suitable nesting habitat consisting of dense riparian willow-cottonwood and mesquite habitats were absent from the site and borrow area.

3.5 LESS THAN SIGNIFICANT PROJECT-RELATED IMPACTS

3.5.1 PROJECT-RELATED IMPACTS TO SPECIAL STATUS PLANT SPECIES ABSENT FROM, OR UNLIKELY TO OCCUR ON, THE PROJECT SITE

Of the 40 regionally occurring special status plant species, 38 are considered absent from or unlikely to occur within the site and borrow area due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: adobe-lily, Baker's navarretia, bent-flowered fiddleneck, big-scale balsamroot, Bolander's horkelia, brittlescale, California alkali grass, Cobb Mountain lupine, Colusa layia, Colusa grass, Coulter's goldfields, deep-scarred cryptantha, diamond petaled California poppy, drymaria-like western flax, Ferris' milk-vetch, Greene's tuctoria, Greene's narrow-leaved daisy, hairy Orcutt grass, Hall's harmonia, heartscale, Heckard's pepper-grass, Hoover's spurge, Indian Valley brodiaea, Jepson's milk-vetch, Keck's checkerbloom, Milo Baker's lupine, palmate-bracted bird's beak, Pappose tarplant, pink

creamsacs, Porter's navarretia, red-flowered bird's-foot trefoil, San Joaquin spearscale, serpentine cryptantha, shining navarretia, Snow Mountain buckwheat, three-fingered morning-glory, two-carpellate western flax, and vernal pool smallscale.

Since it is unlikely that these species would occur onsite, implementation of the project should have no impact on these 38 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

3.5.2 PROJECT-RELATED IMPACTS TO SPECIAL STATUS ANIMAL SPECIES ABSENT FROM, OR UNLIKELY TO OCCUR ON, THE PROJECT SITE

Of the 25 regionally occurring special status animal species, 17 are considered absent from or unlikely to occur within the site and borrow area due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: bald eagle, bank swallow, conservancy fairy shrimp, foothill yellow-legged frog, golden eagle, green sturgeon, longfin smelt, monarch butterfly, northern spotted owl, steelhead, Townsend's big-eared bat, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western red bat, western yellow-billed cuckoo, and white-tailed kite. Some of these species may pass through the site but could move out of harms way during implementation of the project.

Since it is unlikely that these species would occur on the site and borrow area or be impacted should they pass through the site and borrow area, implementation of the project should have no impact on these 17 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

3.5.3 PROJECT-RELATED IMPACTS TO NATURAL COMMUNITIES OF SPECIAL CONCERN

There are no CNDDB-designated "natural communities of special concern" recorded within the site, borrow area, or surrounding lands. Additional mitigation is not warranted.

3.5.4 PROJECT-RELATED IMPACTS TO CRITICAL HABITAT

Designated critical habitat is absent from the site, borrow area, and surrounding lands. Therefore, there would be no impact to critical habitat, and mitigation measures are not warranted.

3.5.5 LOCAL POLICIES OR HABITAT CONSERVATION PLANS

The project appears to be consistent with the goals and policies of the Colusa County General Plan. There are no known HCPs or NCCPs in the project vicinity. Mitigation measures are not warranted.

3.5.6 COASTAL ZONE AND COASTAL BARRIERS RESOURCES ACT

The project would not be located within the coastal zone. The project would not impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters. Mitigation measures are not warranted.

3.5.7 PROJECT-RELATED IMPACT TO ESSENTIAL FISH HABITAT

Habitat Areas of Particular Concern (HAPC) are absent from the site, borrow area, and surrounding lands. While Essential Fish Habitat (EFH) for Pacific salmon occurred in the report the site and borrow area are within the same watershed as the Sacramento River where Pacific salmon migrate. While the site and borrow area are in the same watershed it is not a part of the same system and Pacific salmon would not occur within Lurline Creek or the irrigation Canal or ditches within the site or borrow area, and consultation with the National Marine Fisheries (NMFS) Service would not be required. Query results of the NMFS EHF Mapper can be found in Appendix F at the end of this document. Mitigation measures are not warranted.

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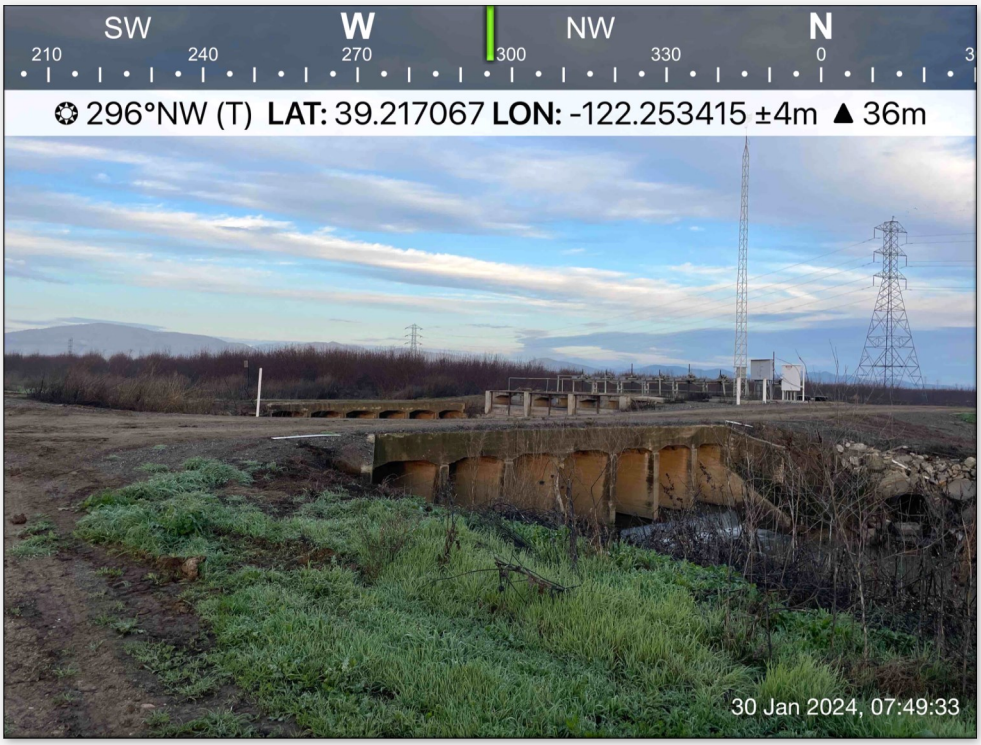
APPENDIX A: REPRESENTATIVE PHOTOS OF THE PROJECT SITE

Photograph 1

Overview of the project site.



Photograph 2

Another overview of the project site.

Photograph 3

Overview of Lurline Creek.

Photograph 4

One view of the siphon along Lurline Creek.

Photograph 5

Overview of Lurline Creek east of the siphon.

Photograph 6

Another view of the siphon along Lurline Creek.

Photograph 7

Overview of Lurline Creek west of the siphon.

Photograph 8

Overview of Lurline Creek looking towards the siphon.

Photograph 9

Overview of the irrigation ditch south of Lurline Creek and the siphon.

Photograph 10

Overview of the canal road where work will occur north of the siphon.

Photograph 11

Overview of the canal roads around the siphon.

Photograph 12

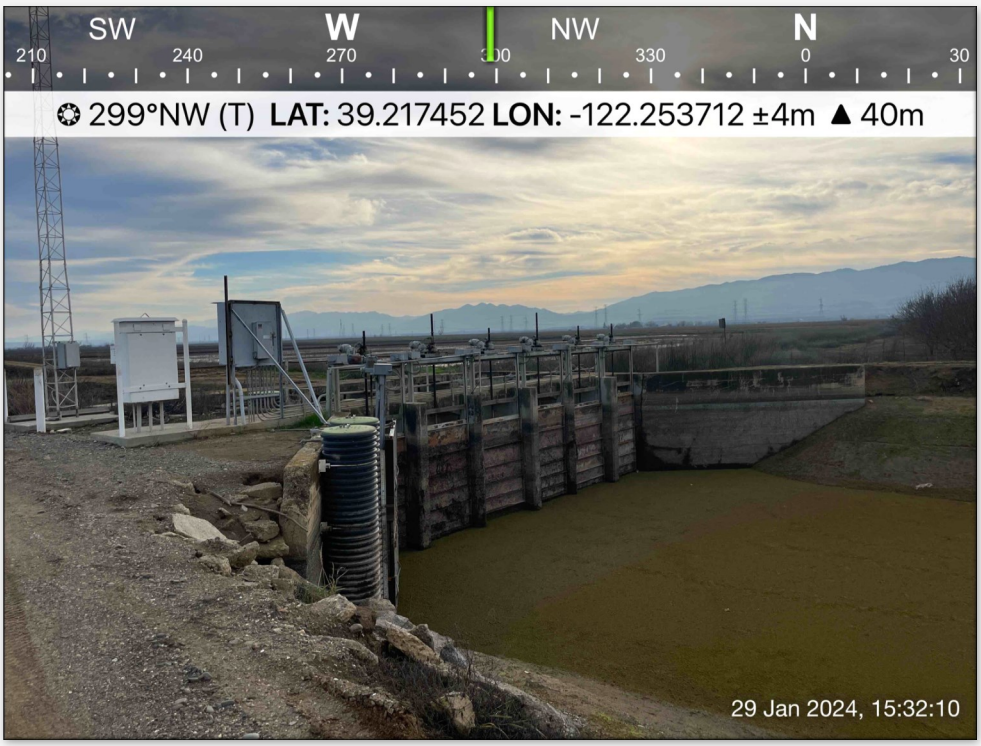
Another overview of the canal roads around the siphon.

Photograph 13

Another overview of the canal roads around the siphon.

Photograph 14

Another overview of the canal roads around the siphon.



Photograph 15

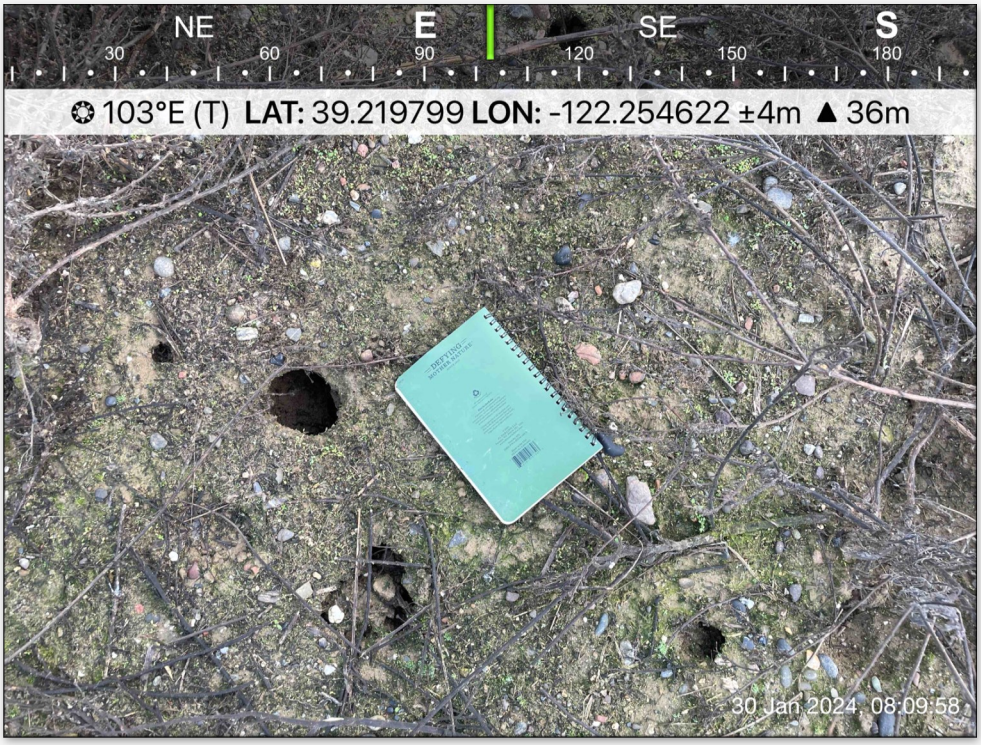
Overview of the siphon.

Photograph 16

Overview of the Glenn-Colusa Canal south of the siphon.

Photograph 17

Overview of small mammal burrows within the site.



Photograph 18

Another overview of small mammal burrows within the site.

Photograph 19

Overview of deer and coyote tracks within the site.

Photograph 20

Example of a Pacific tree frog within the site.

Photograph 21

Overview of a staging area within the site.

Photograph 22

Overview of the other staging area within the site.

Photograph 23

Overview of an access road leading to the siphon.

Photograph 24

Overview of another access road leading to the siphon.

Photograph 25

Overview of the borrow area.

Photograph 26

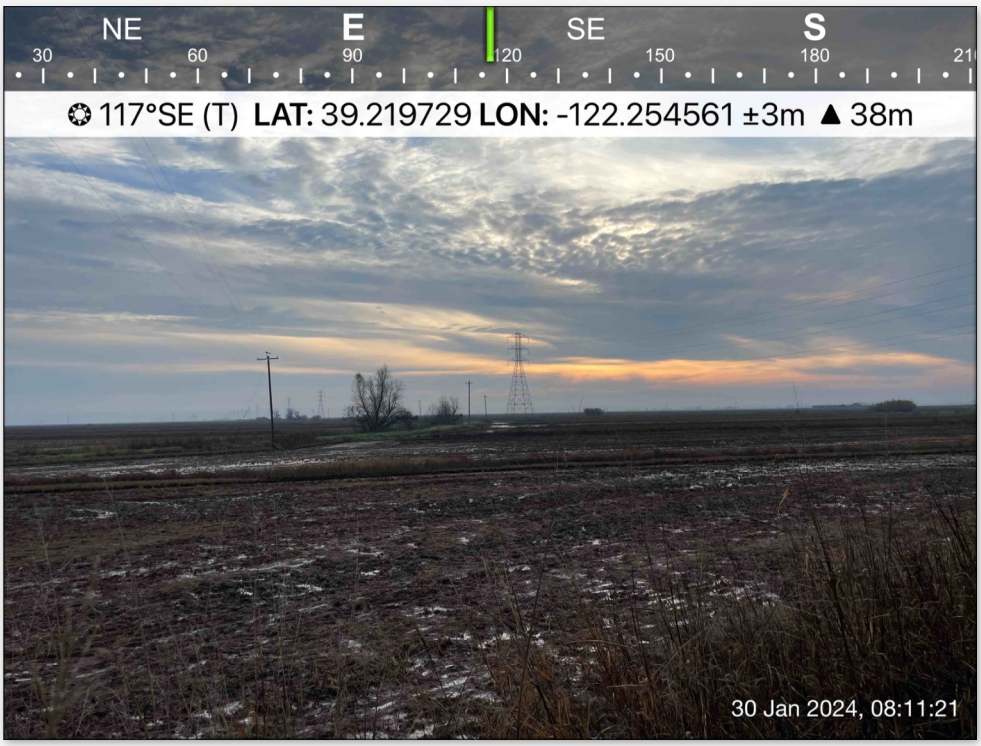
Another overview of the borrow area.

Photograph 27

Another overview of the borrow area.

Photograph 28

Example of potential coyote dens along the borrow area.

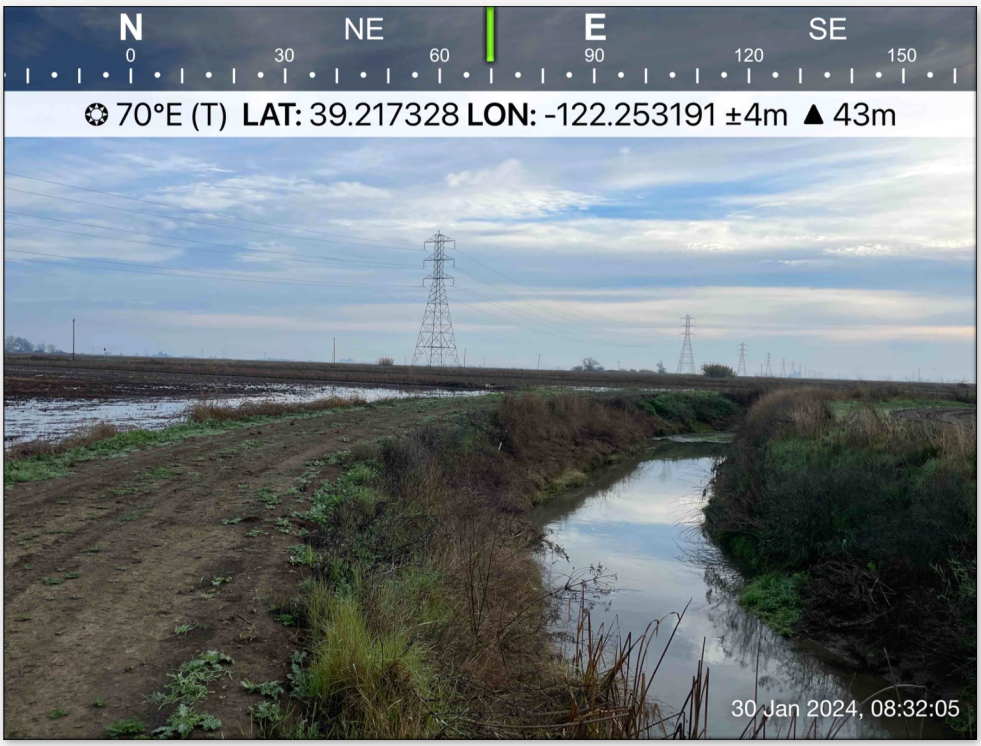


Photograph 29

Surrounding land to the east of the site contained agricultural rice fields.

Photograph 30

Surrounding land to the west contained agricultural rice fields.



Photograph 31

Surrounding land to the east along Lurline Creek.

Photograph 32

Surrounding land to the west also contained agricultural orchards.

APPENDIX B: CNDDB 9-QUAD SPECIES LIST

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Logan Ridge (3912243) OR Logandale (3912242) OR Princeton (3912241) OR Moulton Weir (3912231) OR Maxwell (3912232) OR Sites (3912233) OR Lodoga (3912234) OR Leesville (3912224) OR Manor Slough (3912223) OR Williams (3912222) OR Colusa (3912221) OR Cortina Creek (3912212) OR Salt Canyon (3912213) OR Wilbur Springs (3912214))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
adobe-lily *Fritillaria pluriflora*	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	PDPLM0C0E1	None	None	G4T2	S2	1B.1
bald eagle *Haliaeetus leucocephalus*	ABNKC10010	Delisted	Endangered	G5	S3	FP
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S3	
bent-flowered fiddleneck *Amsinckia lunaris*	PDBOR01070	None	None	G3	S3	1B.2
big-scale balsamroot *Balsamorhiza macrolepis*	PDAST11061	None	None	G2	S2	1B.2
black-crowned night heron *Nycticorax nycticorax*	ABNGA11010	None	None	G5	S4	
Bolander's horkelia *Horkelia bolanderi*	PDROS0W011	None	None	G1	S1	1B.2
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S2	SSC
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G2	S2	1B.2
Coastal and Valley Freshwater Marsh *Coastal and Valley Freshwater Marsh*	CTT52410CA	None	None	G3	S2.1	
Cobb Mountain lupine *Lupinus sericatus*	PDFAB2B3J0	None	None	G2?	S2?	1B.2
Colusa grass *Neostapfia colusana*	PMPOA4C010	Threatened	Endangered	G1	S1	1B.1
Colusa layia *Layia septentrionalis*	PDAST5N0F0	None	None	G2	S2	1B.2
Conservancy fairy shrimp *Branchinecta conservatio*	ICBRA03010	Endangered	None	G2	S2	
Cooper's hawk *Accipiter cooperii*	ABNKC12040	None	None	G5	S4	WL

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
deep-scarred cryptantha *Cryptantha excavata*	PDBOR0A0W0	None	None	G1	S1	1B.1
diamond-petaled California poppy *Eschscholzia rhombipetala*	PDPAP0A0D0	None	None	G1	S1	1B.1
dimorphic snapdragon *Antirrhinum subcordatum*	PDSCR2S070	None	None	G3	S3	4.3
drymaria-like western flax *Hesperolinon drymarioides*	PDLIN01090	None	None	G2	S2	1B.2
Ferris' milk-vetch *Astragalus tener var. ferrisiae*	PDFAB0F8R3	None	None	G2T1	S1	1B.1
foothill yellow-legged frog - north coast DPS *Rana boylii pop. 1*	AAABH01051	None	None	G3T4	S4	SSC
giant gartersnake *Thamnophis gigas*	ARADB36150	Threatened	Threatened	G2	S2	
golden eagle *Aquila chrysaetos*	ABNKC22010	None	None	G5	S3	FP
Great Valley Cottonwood Riparian Forest *Great Valley Cottonwood Riparian Forest*	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest *Great Valley Mixed Riparian Forest*	CTT61420CA	None	None	G2	S2.2	
Great Valley Willow Scrub *Great Valley Willow Scrub*	CTT63410CA	None	None	G3	S3.2	
green sturgeon - southern DPS *Acipenser medirostris pop. 1*	AFCAA01031	Threatened	None	G2T1	S1	
Greene's narrow-leaved daisy *Erigeron greenei*	PDAST3M5G0	None	None	G3	S3	1B.2
Greene's tuctoria *Tuctoria greenei*	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
hairy Orcutt grass *Orcuttia pilosa*	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
Hall's harmonia *Harmonia hallii*	PDAST650A0	None	None	G2?	S2?	1B.2
heartscale *Atriplex cordulata var. cordulata*	PDCHE040B0	None	None	G3T2	S2	1B.2
Heckard's pepper-grass *Lepidium latipes var. heckardii*	PDBRA1M0K1	None	None	G4T1	S1	1B.2
hoary bat *Lasiurus cinereus*	AMACC05032	None	None	G3G4	S4	
Hoover's spurge *Euphorbia hooveri*	PDEUP0D150	Threatened	None	G1	S1	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Indian Valley brodiaea *Brodiaea rosea*	PMLIL0C0K3	None	Endangered	G2Q	S2	3.1
Jepson's milk-vetch *Astragalus rattanii var. jepsonianus*	PDFAB0F7E1	None	None	G4T3	S3	1B.2
Keck's checkerbloom *Sidalcea keckii*	PDMAL110D0	Endangered	None	G2	S2	1B.1
longfin smelt *Spirinchus thaleichthys*	AFCHB03010	Candidate	Threatened	G5	S1	
Milo Baker's lupine *Lupinus milo-bakeri*	PDFAB2B4E0	None	Threatened	G1Q	S1	1B.1
North American porcupine *Erethizon dorsatum*	AMAFJ01010	None	None	G5	S3	
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
osprey *Pandion haliaetus*	ABNKC01010	None	None	G5	S4	WL
palmate-bracted bird's-beak *Chloropyron palmatum*	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
pappose tarplant *Centromadia parryi ssp. parryi*	PDAST4R0P2	None	None	G3T2	S2	1B.2
pink creamsacs *Castilleja rubicundula var. rubicundula*	PDSCR0D482	None	None	G5T2	S2	1B.2
Porter's navarretia *Navarretia paradoxinota*	PDPLM0C160	None	None	G2	S2	1B.3
prairie falcon *Falco mexicanus*	ABNKD06090	None	None	G5	S4	WL
red-flowered bird's-foot trefoil *Acmispon rubriflorus*	PDFAB2A150	None	None	G2	S2	1B.1
Sacramento Valley tiger beetle *Cicindela hirticollis abrupta*	IICOL02106	None	None	G5TH	SH	
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin spearscale *Extriplex joaquinana*	PDCHE041F3	None	None	G2	S2	1B.2
serpentine cryptantha *Cryptantha dissita*	PDBOR0A0H2	None	None	G3	S3	1B.2
serpentine cypress wood-boring beetle *Trachykele hartmani*	IICOLX6010	None	None	G1	S1	
shining navarretia *Navarretia nigelliformis ssp. radians*	PDPLM0C0J2	None	None	G4T2	S2	1B.2
Snow Mountain buckwheat *Eriogonum nervulosum*	PDPGN08440	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
snowy egret *Egretta thula*	ABNGA06030	None	None	G5	S4	
song sparrow ("Modesto" population) *Melospiza melodia pop. 1*	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	AFCHA0209K	Threatened	None	G5T2Q	S2	
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
three-fingered morning-glory *Calystegia collina ssp. tridactylosa*	PDCON04036	None	None	G4T1	S1	1B.2
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G4	S2	SSC
Tracy's eriastrum *Eriastrum tracyi*	PDPLM030C0	None	Rare	G3Q	S3	3.2
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
two-carpellate western flax *Hesperolinon bicarpellatum*	PDLIN01020	None	None	G2	S2	1B.2
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T3	S3	
Valley Needlegrass Grassland *Valley Needlegrass Grassland*	CTT42110CA	None	None	G3	S3.1	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool smallscale *Atriplex persistens*	PDCHE042P0	None	None	G2	S2	1B.2
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G3	S3	
water star-grass *Heteranthera dubia*	PMPON03010	None	None	G5	S2	2B.2
western pond turtle *Emys marmorata*	ARAAD02030	Proposed Threatened	None	G3G4	S3	SSC
western red bat *Lasiurus frantzii*	AMACC05080	None	None	G4	S3	SSC
western small-footed myotis *Myotis ciliolabrum*	AMACC01230	None	None	G5	S3	
western spadefoot *Spea hammondii*	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
white-faced ibis *Plegadis chihi*	ABNGE02020	None	None	G5	S3S4	WL

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Elanus leucurus						
Wilbur Springs minute moss beetle	IICOL5S030	None	None	G1	S1	
Ochthebius recticulus						
Wilbur Springs shore fly	IIDIP13010	None	None	G1	S1	
Paracoenia calida						
Wilbur Springs shorebug	IIHEM07010	None	None	G2	S2	
Saldula usingeri						
Wildflower Field	CTT42300CA	None	None	G2	S2.2	
Wildflower Field						
woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hibiscus lasiocarpos var. occidentalis						

Record Count: 87

APPENDIX C: IPAC SPECIES LIST

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: 04/11/2024 14:55:28 UTC
Project Code: 2024-0043207
Project Name: Lurline Check & Siphon Replacement

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, 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 U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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 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 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:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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 Code 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

Project Code: 2024-0043207
Project Name: Lurline Check & Siphon Replacement
Project Type: Water Supply Facility - New Constr
Project Description: The project includes construction of a check structure and siphon to replace the existing check structure and siphon, as well as associated facilities along the Glenn-Colusa Canal.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.290187450000005,-122.2445912018734,14z

Counties: Colusa County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 10 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 Fisheries[1], 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.

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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
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

REPTILES

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Western Spadefoot *Spea hammondii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

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

CRUSTACEANS

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat.	Endangered

NAME	STATUS

Species profile: https://ecos.fws.gov/ecp/species/2246

FLOWERING PLANTS

NAME	STATUS
Keck's Checker-mallow *Sidalcea keckii*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/5704

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Shaylea Stark
Address: 455 W Fir Ave
City: Clovis
State: CA
Zip: 93612
Email sstark@ppeng.com
Phone: 5594492700

APPENDIX D: NRCS WEB SOIL SURVEY REPORT

United States Department of Agriculture

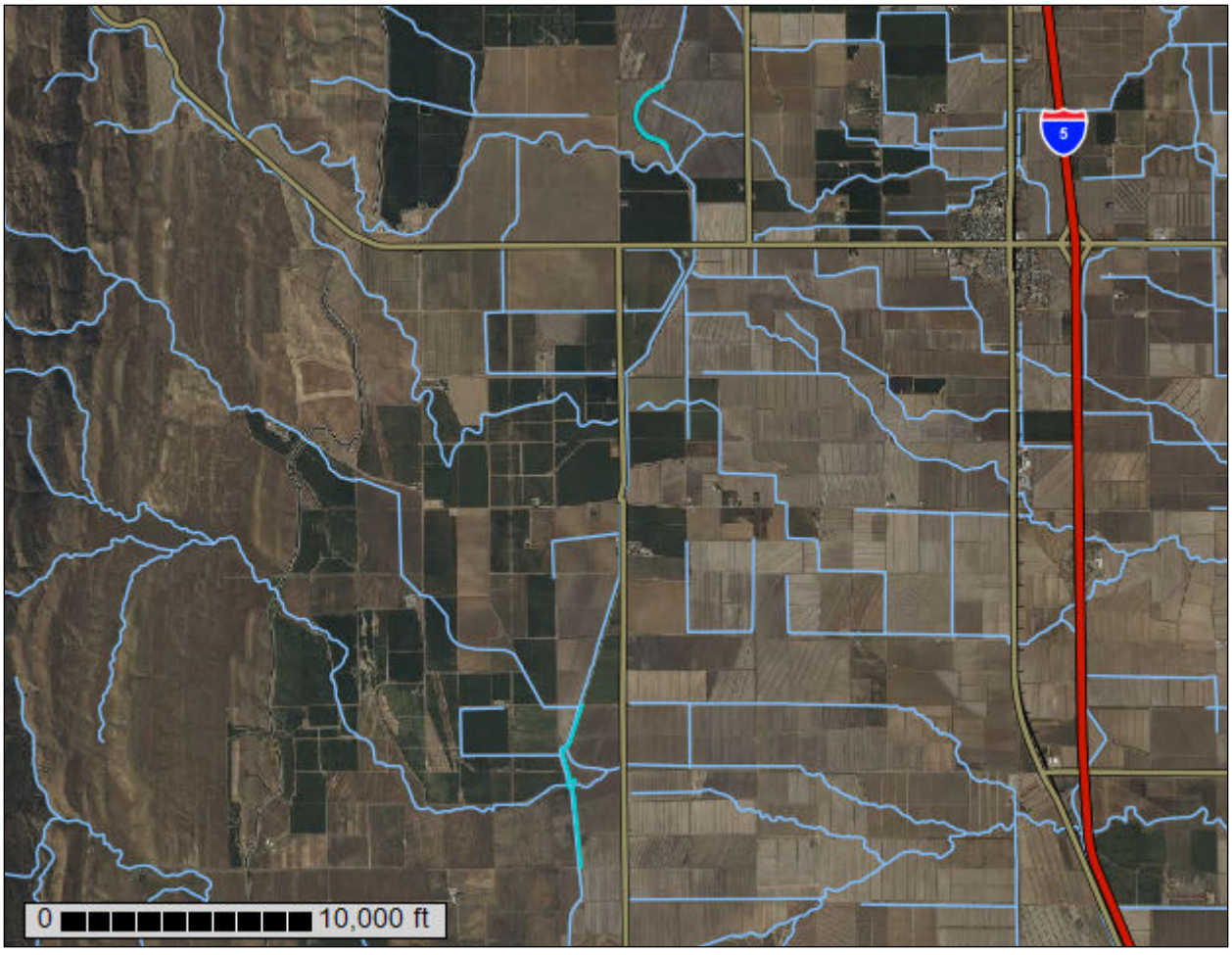
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Colusa County, California

Lurline Check and Replacement Structure Project



January 31, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

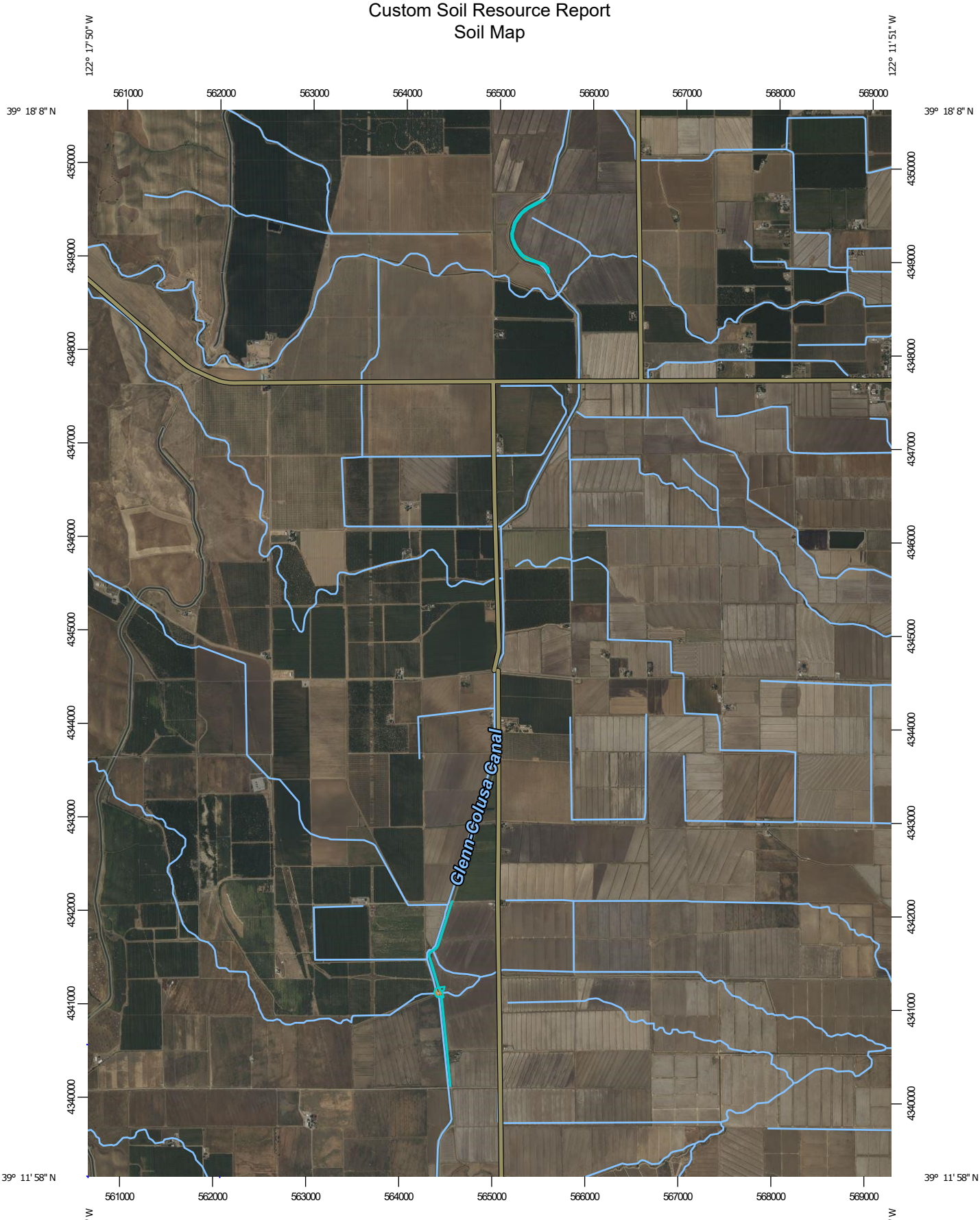
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Colusa County, California
Survey Area Data: Version 19, Aug 28, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 7, 2022—May 31, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102	Capay clay loam, 0 percent slopes, low precip, MLRA 17	2.0	19.2%
144	Hillgate clay loam, 0 to 2 percent slopes	3.4	32.6%
652	Water	4.9	48.2%
Totals for Area of Interest		**10.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Colusa County, California

102—Capay clay loam, 0 percent slopes, low precip, MLRA 17

Map Unit Setting

National map unit symbol: 2xc8x
Elevation: 50 to 190 feet
Mean annual precipitation: 18 to 20 inches
Mean annual air temperature: 62 to 62 degrees F
Frost-free period: 312 to 323 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Capay, clay loam, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Capay, Clay Loam

Setting

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 15 inches: clay loam
A - 15 to 33 inches: clay loam
Bss1 - 33 to 39 inches: clay
Bss2 - 39 to 46 inches: clay
Bkss - 46 to 64 inches: clay

Properties and qualities

Slope: 0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 39 to 60 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 1 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R017XY901CA - Clayey Basin Group

Hydric soil rating: No

Minor Components

Capay, clay

Percent of map unit: 5 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R017XY901CA - Clayey Basin Group
Hydric soil rating: No

Unnamed

Percent of map unit: 2 percent
Landform: Channels on basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Capay, clay loam, occasionally flooded

Percent of map unit: 1 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Westfan, loam

Percent of map unit: 1 percent
Landform: Alluvial fans
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Willows, silty clay

Percent of map unit: 1 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

144—Hillgate clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hh9d
Elevation: 130 to 450 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 225 to 250 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hillgate, clay loam, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hillgate, Clay Loam

Setting

Landform: Fan remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 10 inches: clay loam
ABt - 10 to 19 inches: clay loam
Bt - 19 to 50 inches: clay
C - 50 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 19 inches to abrupt textural change
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.06 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s

Hydrologic Soil Group: C
Ecological site: R017XY905CA - Dry Alluvial Fans and Terraces
Hydric soil rating: No

Minor Components

Capay, clay loam
Percent of map unit: 10 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R017XY901CA - Clayey Basin Group
Hydric soil rating: No

Arand, very gravelly sandy loam
Percent of map unit: 3 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Riverwash
Percent of map unit: 1 percent
Landform: Channels
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Unnamed
Percent of map unit: 1 percent
Landform: Channels
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

652—Water

Map Unit Composition
Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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APPENDIX E: AQUATIC RESOURCES DELIENEATION REPORT

GLENN-COLUSA IRRIGATION DISTRICT

LURLINE CHECK AND SIPHONS REPLACEMENT PROJECT

AQUATIC RESOURCES DELINEATION REPORT
COLUSA COUNTY
APRIL 2024

PREPARED FOR:
Glenn-Colusa Irrigation District
Colusa County

PREPARED BY:
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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

ARD ..... Aquatic Resources Delineation
Canal ..... GCID Central Canal
CDFW ..... California Department of Fish and Wildlife
CFR ..... Code of Federal Regulations
Creek ..... Lurline Creek
CWA ..... Clean Water Act
ECOS ..... U.S. Fish and Wildlife Service's Environmental Conservation Online System
°F ..... degrees Fahrenheit
GCID ..... Glenn-Colusa Irrigation District
HUC ..... Hydrologic Unit Code
IPaC ..... U.S. Fish and Wildlife Service's Information for Planning and Consultation system
NPDES ..... National Pollution Discharge Elimination System
NRCS ..... Natural Resources Conservation Service
NWPR ..... Navigable Waters Protection Rule
OHWM ..... Ordinary High-Water Mark
Project ..... Lurline Check and Siphon Replacement Project
P&P ..... Provost & Pritchard Consulting Group
RWQCB ..... Regional Water Quality Control Board
SWANCC ..... Solid Waste Agency of Northern Cook County v. Corps of Engineers
SWPPP ..... Storm Water Pollution Prevention Plan
USACE ..... United States Army Corps of Engineers
USDA ..... United States Department of Agriculture
USEPA ..... United States Environmental Protection Agency
USFWS ..... United States Fish and Wildlife Service
USGS ..... United States Geological Survey
WDR ..... waste discharge requirements
WOTUS ..... waters of the United States

EXECUTIVE SUMMARY

Provost & Pritchard Consulting Group conducted a survey for aquatic resources that meet the technical criteria for wetlands and jurisdictional waterways within the Glenn-Colusa Irrigation District (GCID) Lurline Check and Siphon Replacement Project (Project) area. This Aquatic Resources Delineation report summarizes the results of the survey and will be used to evaluate the jurisdictional determination of waters of the United States located on the Project site (or "site").

The site is located approximately nine miles northwest of the City of Williams within Colusa County, California. The Project proposes to replace an existing check structure, siphon, and associated facilities in their approximate current locations along the GCID Central Canal (Canal) where it intersects Lurline Creek (Creek). Project activities would have the potential to alter jurisdictional areas. The Project site is approximately 7.6 acres, and is comprised of the existing Canal infrastructure, the Creek crossing, existing dirt access roads, and a soil borrow site located approximately five miles north of the existing infrastructure.

Provost & Pritchard Consulting Group biologist, Shaylea Stark, surveyed the Project site for features exhibiting an Ordinary High-Water Mark and/or wetland characteristics and identified and delineated the boundaries of aquatic resources. The survey was conducted in accordance with the most recent United States Army Corps of Engineers guidelines, and information collected was recorded on *Wetland Determination Data Forms for the Arid West Region* and/or the *Interim Draft Rapid Ordinary High-Water Mark (OHWM) Field Identification Data Sheet*.

Aquatic resource boundaries delineated during the field survey total 2.88 acres. Aquatic resources within the site fell into three categories: riverine, canal, and ditch.

1 INTRODUCTION

The approximately 7.6-acre Glenn-Colusa Irrigation District (GCID) Lurline Check and Siphon Replacement Project (Project) sites (or "sites") are located in Colusa County, California, approximately nine to fourteen miles northwest of the City of Williams (See Figure 1). The Project sites consist of two separate sites: the GCID Central Canal (Canal) where it intersects with Lurline Creek (Creek) and a borrow site located approximately 5 miles north of the Canal and Creek intersection along the Canal (see Figure 2 and Figure 3).

The Project proposes to remove existing check, siphon, and outlet infrastructure, which is approaching the end of its useful lifetime, and replace it in approximately the same location with updated inlet and outlet structures, updated hydraulic check gates, and improved electrical service and controls with supervisory control and data acquisition integration. The Project would also include the removal of two existing drive bank bridges across the Creek and the construction of a single vehicle crossing through the Creek. A temporary water diversion channel would be excavated around the siphon to keep the work area dry during siphon replacement, and a soil borrow site approximately 5 miles north of the siphon would be utilized if soil is needed to build the embankments of the temporary diversion channel.

Provost & Pritchard Consulting Group (P&P) biologist, Shaylea Stark conducted an Aquatic Resources Delineation (ARD) of the Project sites. The purpose of this ARD was to identify and delineate aquatic resources within and adjacent to the sites and collect information to evaluate the potential for waters of the United States in these areas. This resulting ARD report describes the Project location, regulatory definitions, survey methods, existing conditions, and survey results, and facilitates efforts to: 1) avoid or minimize impacts to aquatic resources during the Project design process, 2) document aquatic resource boundary determinations for review by regulatory authorities, and 3) provide background information. Ultimately, this report would be used in determining the extent of waters of the United States within the Project sites.

Waters of the United States include relatively permanent, standing or continuously flowing bodies of water such as streams, rivers, and lakes, including impoundments of jurisdictional waters. Wetlands may be jurisdictional if there exists a relatively permanent, continuous surface connection to traditional navigable waters, or other jurisdictional waters, as defined by the United States Army Corps of Engineers (USACE). Such wetlands must be characterized by the presence of wetland hydrology (i.e., surface inundation or saturated soils), hydric soils (i.e., soils which have developed under the anaerobic conditions imposed by soil saturation), and hydrophytic vegetation (i.e., an association of plants adapted to saturated soils).

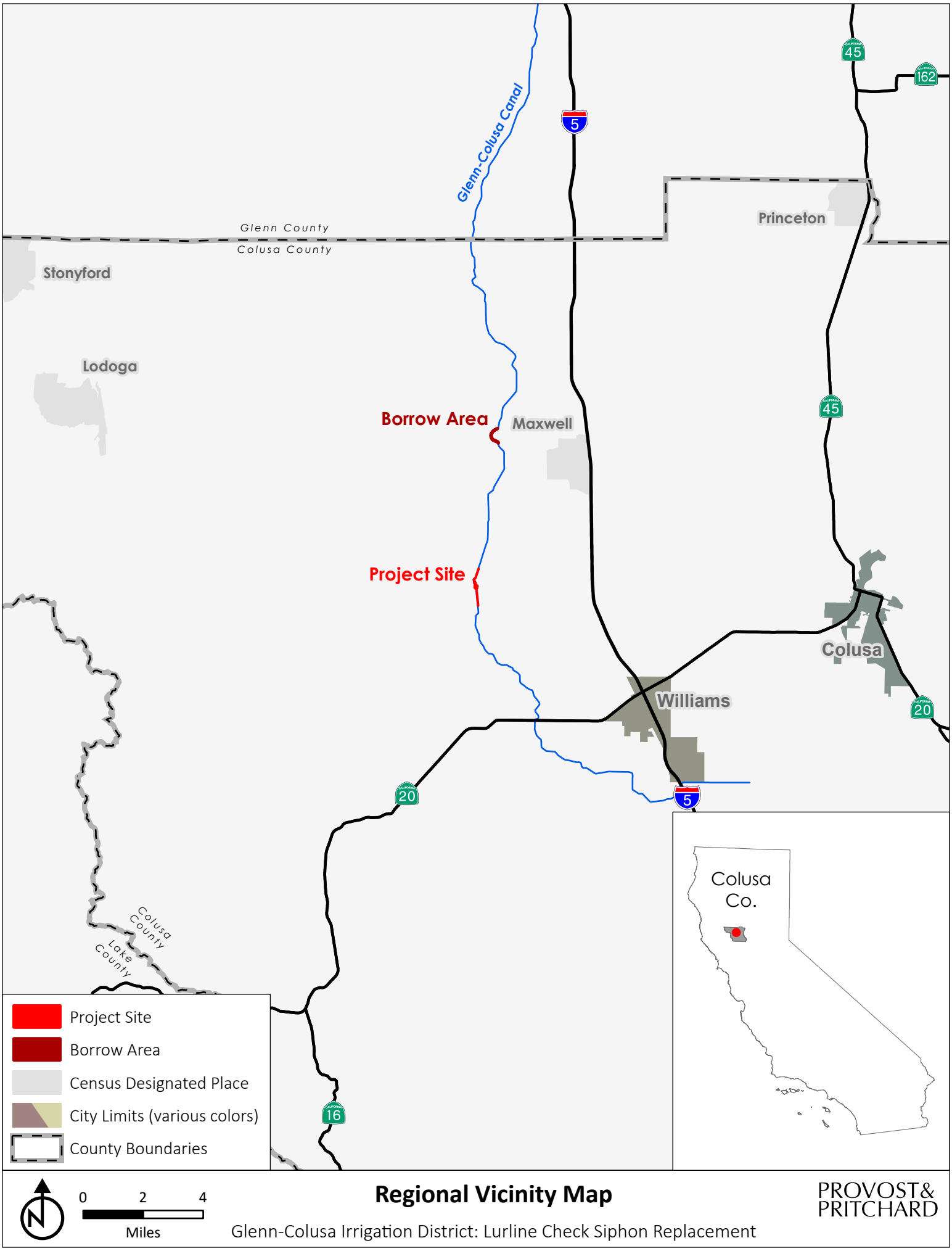
The Department of the Army, acting through the USACE, is authorized to issue permits for the filling, grading, and excavation of waters of the United States under Section 404 of the Clean Water Act (CWA). This determination was established by the Solid Waste Agency of Northern Cook County v. Corps of Engineers (SWANCC), Rapanos v. United States, and Carabell v. United States Army Corps of Engineers (referred together as the Rapanos decision), and the Sackett v. U.S. Environmental Protection Agency (USEPA) decision. Additional details about these decisions and regulatory definitions are described in section three.

2 LOCATION

The Project sites are located within Colusa County approximately nine to fourteen miles northwest of the City of Williams (see Figure 1). The Project sites include irrigation canals and ditches, dirt access roads, the Canal, the Creek, and agricultural fields used for staging areas for a total of 7.6 acres. The surrounding area contains orchards, rice fields, and agricultural facilities.

2.1 DRIVING DIRECTIONS

The Project site is accessible from the City of Sacramento by driving on Interstate 5 north towards Redding/Yuba City. After approximately 60 miles, take exit 578 and turn left on California State Route 20 toward Clear Lake/Colusa. After approximately 0.2 miles, turn right onto Old Highway 99 W. Turn left at the first cross street onto Freshwater Road. After approximately 4.5 miles, turn right onto Danley Road. After approximately 2.3 miles, turn left onto Bagley Road, and turn left at the Central Canal onto the adjacent dirt access road. The Canal and Creek Intersection Project site is located where Lurline Creek intersects the Central Canal. To access the Project, borrow site drive north from the Canal and Creek Intersection Project site along the Canal for approximately 5.2 miles.



Regional Vicinity Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

PROVOST& PRITCHARD

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Miles

Aerial Overview Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

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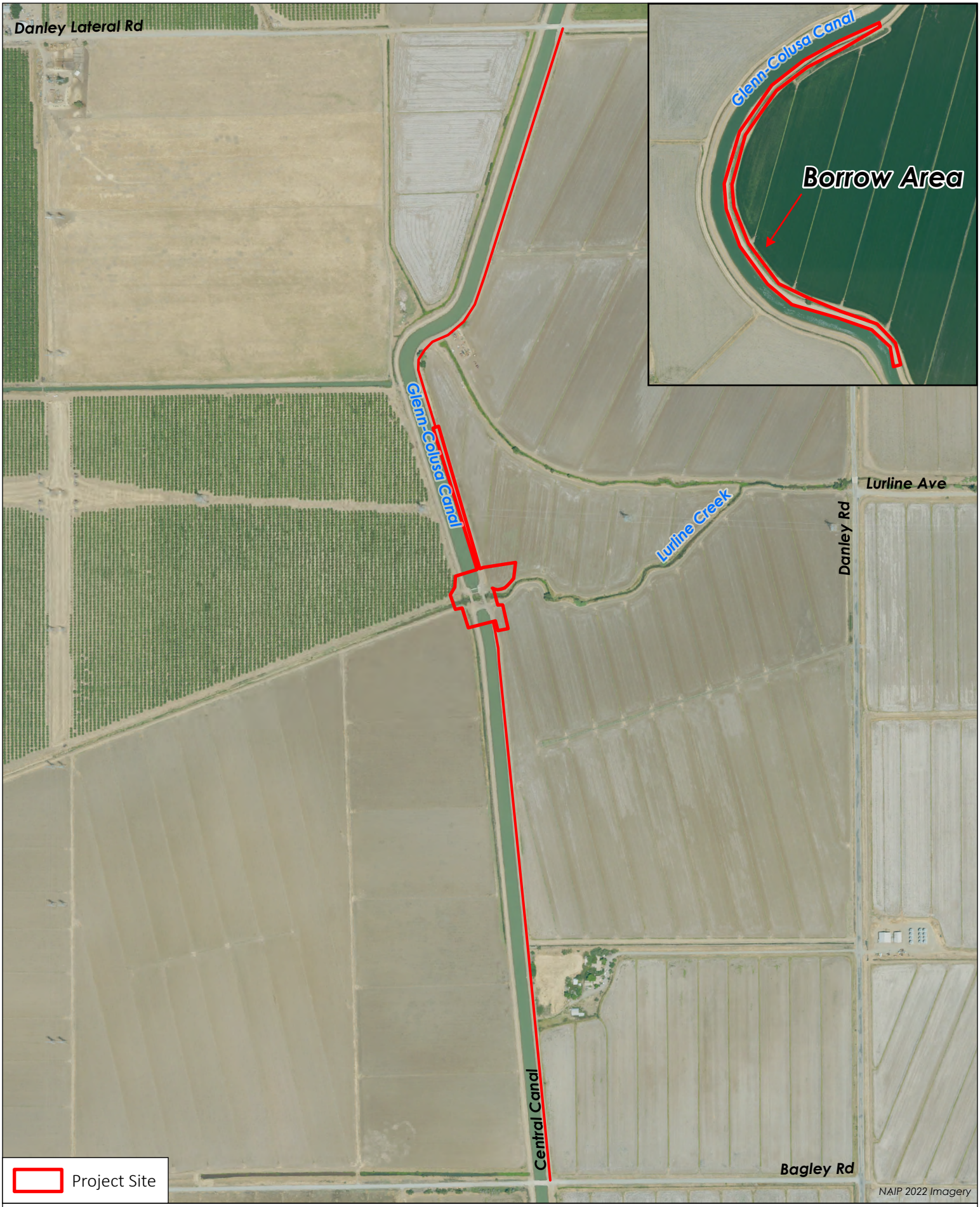
Fig. 2 Page 1-3



Aerial Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

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Fig. 3 Page 1-4

3 REGULATORY DEFINITIONS

3.1 WATERS OF THE UNITED STATES

The definition of "waters of the United States" (WOTUS) often changes from one presidential administration to the next and can also be affected by the outcomes of court cases involving federal jurisdiction of waters. The current definition (i.e. "Conforming Rule") was adopted under the Biden Administration in early 2023 and was subsequently revised in September 2023 to incorporate the U.S. Supreme Court's May 25, 2023, decision in the case of Sackett v. Environmental Protection Agency (USEPA). The Conforming Rule has adopted much of the same WOTUS designations as the pre-2015 rules but has incorporated the most recent science and court case rulings. The extent of jurisdiction has been defined in the Code of Federal Regulations (CFR) but is also subject to interpretation by the federal courts. Jurisdictional waters generally include the following categories:

1. *Traditional Navigable Waters, the territorial seas, or interstate waters (not including interstate wetlands);*
2. *Impoundments of waters of the United States;*
3. *Tributaries of:*
    a. *Traditional navigable waters, territorial seas, or interstate waters (not including interstate wetlands); or*
    b. *Impoundments of water of the United States when the tributaries meet the relatively permanent standard.*
4. *Wetlands:*
    a. *Adjacent to Traditional Navigable Waters, the territorial seas, or interstate waters;*
    b. *Adjacent to and with a continuous surface connection to relatively permanent impoundments of waters of the United States*
    c. *Adjacent to and with a continuous surface connection to relatively permanent jurisdictional tributaries.*
5. *Intrastate lakes and ponds not identified in items 1 through 4 of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in items 1 or 3 above.*

Exclusions under the Conforming Rule include the following:

1. *Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the CWA;*
2. *Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA;*
3. *Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;*
4. *Artificially irrigated areas that would revert to dry land if the irrigation ceased;*
5. *Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;*
6. *Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;*
7. *Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or*

excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

8. *Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.*

The Conforming Rule has incorporated the best available science, relevant supreme court cases, public comment, technical expertise, and experience gained from more than 45 years of implementing the pre-2015 "waters of the United States" framework to inform jurisdictional limits.

The USACE regulates the filling or grading of jurisdictional waters of the United States under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction is defined by an "ordinary high-water mark" on opposing channel banks. All activities that involve the discharge of dredge or fill material into waters of the United States are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that results in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB) issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

3.2 COURT DECISIONS AFFECTING THE DEFINITIONS OF WATERS OF THE UNITED STATES

The reach and extent of USACE and USEPA jurisdiction over aquatic features has been the subject of several United States Supreme Court decisions in: *United States v. Riverside Bayview Homes (Riverside)*, the SWANCC decision, the Rapanos decision, and *Sackett vs. US EPA*. In general, these decisions address the jurisdictional status of aquatic features that are not hydrologically connected to navigable waters or their tributaries, or that have such an insubstantial hydrologic connection that destruction or modification of the aquatic feature would have little effect on downstream waters of the United States. The most relevant and influential cases are described in more detail below.

3.2.1 PASQUA YAQUI TRIBE V. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND UNITED STATES ARMY CORPS OF ENGINEERS

On April 21, 2020, under the Trump Administration, the Navigable Waters Protection Rule (NWPR) was published to streamline the definition of WOTUS and provide a clear distinction between federal waters and waters controlled by states, local governments, and tribes. On August 30, 2021, the United States District Court of the District of Arizona found "fundamental, substantive flaws that cannot be cured without revising or replacing the NWPR's definition" and accordingly remanded and vacated the 2020 Navigable Waters Protection Rule.

3.2.2 EXECUTIVE ORDER 13990 PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT AND RESTORING SCIENCE TO TACKLE THE CLIMATE CRISIS

President Biden's Executive Order 13990 on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (Jan. 20, 2021) directed federal agencies to review regulations issued by the Trump administration, including the NWPR. On June 9, 2021, USEPA and the USACE announced their intention to revise the NWPR's definition of WOTUS and restore the pre-2015 regulations, amended to be consistent with United States Supreme Court decisions. On November 18, 2021, the USEPA and USACE announced the signing of a proposed rule revising the definition of "waters of the United States" implementing the regulatory process announced in June 2021. The agencies propose to put back into place the pre-2015 definition of "waters of the United States," updated to reflect consideration of Supreme Court decisions while the agencies continue to consult with states, Tribes, local governments, and a broad array of stakeholders in both the implementation of waters of the United States and future regulatory actions.

3.2.3 UNITED STATES V. RIVERSIDE BAYVIEW HOMES, INC. (RIVERSIDE)

In Riverside (1985), the Supreme Court unanimously ruled that adjacent wetlands are "inseparably bound up" with the waters that they are adjacent to. Therefore, wetlands, including intrastate wetlands, adjacent to waters of the United States were, themselves, waters of the United States (80 Fed. Reg. 37076, 2015).

3.2.4 SWANCC DECISION

In January of 2001, the United States Supreme Court ruled in *Solid Waste Agency of Northern Cook County* v. *United States Army Corps of Engineers* (the SWANCC decision) that "non-navigable, isolated, intrastate waters" could not be claimed as jurisdictional by the USACE on the basis of their use, hypothetical or observed, by migratory birds. Although the Court did not specifically address the meaning of the word "isolated," it upheld the jurisdictional status of "adjacent" wetlands (and other waters), which are by definition wetlands that are "bordering, contiguous, or neighboring" other jurisdictional waters. Therefore, the term "isolated wetland" has implicitly been defined as "wetlands that are not bordering, contiguous, or neighboring" other jurisdictional waters. This definition does not, however, address the degree of proximity necessary to establish that one wetland (or other water) is "adjacent" to a known jurisdictional water. As established by the Supreme Court in their Riverside (1985) decision, "wetlands separated from other waters by man-made dikes or barriers, natural river berms, beach dunes, and the like are 'adjacent wetlands.'"

3.2.5 CONSOLIDATED CARABELL/RAPANOS DECISION

In June of 2006, the United States Supreme Court ruled in the consolidated cases of June Carabell v. United States Army Corps of Engineers and John Rapanos v. United States that wetlands are waters of the United States if they meet the "significant nexus standard," defined as a wetland that "either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable.'" In contrast, when a wetland's effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term "navigable waters."

On June 5, 2007, the USEPA and the USACE jointly issued guidance in interpreting the Carabell/Rapanos cases as they apply to the extent of federal jurisdiction covered by Section 404 of the CWA. The agencies revised this guidance memorandum on December 2, 2008, ruling that a "significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered jurisdictional waters. The key points of this guidance are that the USEPA and the USACE:

1) *will assert jurisdiction over traditional navigable waters and adjacent wetlands, relatively permanent non-navigable tributaries which typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months), and wetlands that directly abut such tributaries;*
2) *will decide jurisdiction over relatively impermanent non-navigable tributaries of navigable waters and their adjacent wetlands, and wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary, based on a fact-specific analysis to determine whether they have a "significant nexus" with a traditional navigable water; and*
3) *generally will not assert jurisdiction over swales or erosional features or ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.*

In applying the "significant nexus standard," the USEPA and USACE will assess the flow characteristics of the tributary or wetland itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters."

3.2.6 SACKETT VS. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

The Supreme Court heard *Sackett v. US EPA* in May 2023, removing the "significant nexus standard" and clarifying and revising the definition of "adjacent" as it relates to wetlands. The court decided that adjacent wetlands would be protected under the CWA only if it maintained a relatively permanent and continuous surface water connection with a traditional navigable water. This decision has limited protection for networks of wetlands connected to navigable waters through subsurface flow. The final rule amending the 2023 definition of WOTUS was announced on August 29, 2023, and was enacted on September 8, 2023. The court rulings and subsequent guidance provided by the USEPA and USACE discussed above are germane to the delineation of jurisdictional waters summarized in this report. They are presently the basis for determining the jurisdictional status of drainage features and wetlands of the study area.

3.3 STATE OF CALIFORNIA JURISDICTION OVER AQUATIC FEATURES

The State of California also asserts jurisdiction over drainages, wetlands, and other aquatic features. The limits of State jurisdiction differ from those of the USACE, often being more inclusive of water resources. The California Department of Fish and Wildlife (CDFW) and the RWQCB are the two state regulatory agencies responsible for implementing state regulations that identify and protect waters of the state.

CDFW has jurisdiction over the bed and bank of natural drainages, streams, and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. A "stream" subject to the jurisdiction of the CDFW has been defined as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life" (California Code of Regulations, Title 14). Activities that may substantially modify such waters through diversion or obstruction of their natural flow, change or use any material from their bed or bank, or the deposit any debris within the channel will require a Lake or Streambed Alteration Agreement. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board holds regulatory authority over activities affecting water quality of all surface water and groundwater in California ("waters of the state"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the state through the issuance of various permits and orders. Discharges into waters of the state that are also WOTUS require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a CWA Section 404 permit. Discharges into all waters of the state, even those that are not also WOTUS, require waste discharge requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one acre or more of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a WOTUS may require a NPDES permit.

4 METHODS

Prior to completing the field survey and delineation, several online resources were consulted, including the National Wetlands Inventory Wetland Mapper (United States Fish and Wildlife Service (USFWS) 2021), USEPA Waters GeoViewer (United States Environmental Protection Agency 2023), and United States Geographical Survey (USGS) National Hydrography Dataset (United States Geological Survey 2023), and historical aerial imagery and USGS topographic maps. These databases were used to generate a map of potential aquatic resources within the Project sites, which assisted in guiding the field delineation (see Appendix B). Aerial imagery and USGS topographic maps were also used to support the survey effort.

On January 29-30, 2024, a field survey of the Project sites was conducted by P&P biologist, Shaylea Stark, to investigate for the presence and extent of aquatic resources and other habitat types in the area. The survey was conducted in accordance with guidelines of the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (United States Army Corps of Engineers 2008)*, A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (Lichvar and McColley 2008)*, State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Resources Control Board 2019), and the *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (United States Army Corps of Engineers: Sacramento District 2016). Wetland data gathered from the online resources review prior to this survey, shown in the supporting maps in Appendix B, were ground-truthed to confirm or deny the accuracy of these sources, and to ensure all potential aquatic resources were investigated. The boundaries of potential jurisdictional waters were delineated with an EOS Arrow 100 Global Positioning System unit with sub-meter accuracy and an iPad with the ArcGIS Collector application in the field.

The Project sites were visually inspected for evidence of wetland hydrology and/or an OHWM, and observations for each aquatic resource were documented. Wetland hydrology was considered present when either one or more primary indicators was present, or two or more secondary indicators were present. Primary indicators include, but are not limited to, the presence of surface water and saturation. Secondary indicators of wetland hydrology include, but are not limited to, drainage patterns, water marks, drift deposits, saturation observed on aerial imagery, and a dry season water table. Indicators of the OHWM for rivers and streams can include knickpoints on the banks, water marks, and a change in the distribution of soil particle size vertically. Soils, hydrology, OHWM, and vegetation information collected within the Project sites during the field survey was entered onto USACE's Interim Draft Rapid Ordinary High-Water Mark Field Identification Data Sheet (see Appendix D).

Other areas observed outside of aquatic resources but within the Project sites were also identified and recorded.

4.1 AREAS MEETING THE TECHNICAL CRITERIA OF WATERS OF THE UNITED STATES

The USACE determines an area as a jurisdictional wetland using three characteristics which may signal water is present at least part of the year: hydrophytic vegetation, hydric soils, and wetland hydrology. An aquatic resource must include all three characteristics to be considered a wetland. Jurisdiction over rivers and streams extends to the OHWM, which the Code of Federal Regulations (CFR) refers to as the "line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris" 33 CFR 328.3(e). Wetland characteristics and indicators of

the OHWM were investigated during the field survey to determine jurisdictional aquatic resource boundaries.

Hydrophytic vegetation is considered present when more than 50% of the dominant species within the sampling area are composed of obligate, facultative wetland, and facultative species. Plants observed within the Project sites during the field survey were identified using Jepson eFlora (Jepson Flora Project (eds.) 2023), CalFlora (CalFlora: Information on California plants for education, research and conservation 2023), the United States Department of Agriculture (USDA) National Resources Conservation Service (NRCS) Plants Database (USDA, NRCS 2023), and various field guides. Jepson eFlora nomenclature was used except where it conflicted with nomenclature in the National Wetland Plant List (NWPL) (United States Army Corps of Engineers 2020), which was given priority on the data forms. The wetland indicator status of each species was obtained online from the USACE Regional Wetland Plant List for the Arid West (R. D. Lichvar 2016). The table below describes the wetland indicator plant species designated according to their frequency of occurrence in wetlands.

Table 1. Wetland Indicator Plant Species Status Ratings

Abbreviation	Indicator Status	% Occurrence in wetlands
OBL	Obligate. Occur almost always under natural conditions in wetlands.	>99
FACW	Facultative Wetland. Usually occur in wetlands but occasionally found in non-wetlands.	67-99
FAC	Facultative. Equally likely to occur in wetlands and non-wetlands.	33-67
FACU	Facultative Upland. Usually occur in non-wetlands but occasionally found in wetlands.	1-33
UPL	Upland. Occur in wetlands in another region but occur almost always under natural conditions in non-wetlands in the region specified.	<1

5 EXISTING CONDITIONS

5.1 LANDSCAPE SETTINGS

5.1.1 TOPOGRAPHY

The Canal and Creek intersection Project sites are located within sections 24 and 25 of the *Manor Slough* USGS topographic quadrangle, Township 16 north, Range 4 west. The borrow area Project site is located within sections 30 and 31 of the *Maxwell* USGS topographic quadrangle, Township 17 north, Range 3 west. See Appendix B for topographic maps showing both Project sites.

The topography of the region is relatively flat, with the foothills of the Coastal Range to the west. The Project sites are also generally flat with canal and ditch embankments located above the level of the Creek bed and surrounding agricultural fields. The site has elevations ranging from approximately 118 to 124 feet above mean sea level.

5.1.2 CLIMATE

Like most of California, the site experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 80- and 95-degrees Fahrenheit (°F). Winter temperatures are often below 60 °F during the day and rarely exceed 65 °F. On average, Colusa County receives approximately 13 inches of precipitation in the form of rain yearly, most of which occurs between November and March, (Timeanddate 2023) and the Project sites would be expected to receive similar amounts of precipitation.

5.1.3 WATERSHED

The Project sites lie within one watershed, Colusa Trough; Hydrologic Unit Code (HUC) 10: 1802010408, and within one subwatershed, Lurline Creek; HUC 12: 180201040802. The Lurline Creek Watershed receives precipitation from the north Coastal Ranges to the west, and generally flows east toward the Sacramento Valley. Four aquatic resources are present within the Project Area: the Creek, the Canal, and two irrigation ditches bordering the Canal. According to online databases including the National Hydrography Dataset and the National Wetlands Mapper, the Creek flows from the Coastal Range foothills to the west into the Colusa Trough, conveying water south into the Colusa Basin Drainage Canal, and finally into the Sacramento River, a known waters of the United States. The Canal flows from north to south, and transports irrigation water through canals in the region, finally terminating into the Sacramento River. The two irrigation ditches receive water from adjacent agricultural fields.

5.1.4 SOILS

Two soil mapping units representing two soil types were identified within the Project sites using the online NRCS Web Soil Survey mapping service and are listed below in Table 2 (see Appendix E for the full NRCS Web Soil Survey Report). The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California 19 map area. Both soils are primarily used as irrigated pastures (United States Department of Agriculture 2023).

Table 2. List of Soils Located Onsite and Their Basic Properties

Soil	Soil Map Unit	Percent of Project Area	Hydric Soil Category	Drainage	Permeability	Runoff
Capay	Clay loam, 0 percent slopes	19.2%	Predominantly Nonhydric	Moderately well drained	Low	Very low runoff
Hillgate	Clay loam, 0 to 2 percent slopes	32.6%	Predominantly Nonhydric	Well drained	Moderately low	Very ow runoff
Water	-	48.2%	-	-	-	-

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported. Neither soil types found within the Project Area were identified as hydric (United States Department of Agriculture 2023). They both predominantly consist of clay, so water holding capacity is very low. These soils would not be likely to hold water long enough to develop anaerobic or wetland conditions.

6 RESULTS

The current major land use of the area was observed to be agricultural for farming and irrigation. The results from the aquatic resources database review prior to the field survey, summarized in the wetlands map in Appendix B, showed the potential for freshwater emergent wetland and riverine resources. Three types of aquatic resources were identified and delineated within the Project sites during the field survey and are classified as riverine Creek, Canal, and irrigation ditch. The delineation map is located in Appendix A. Upland areas were observed outside of these aquatic resources. As follows are details on these resources and a summary of the results (see Table 3).

6.1 AQUATIC RESOURCES

6.1.1 LURLINE CREEK

The Lurline Creek aquatic resource included an approximate 0.25-acre portion of the Creek, which contained flowing water at the time of the survey. While the Creek is a naturally occurring waterway originating from the foothills of the Coastal Range, portions of it have been excavated and channelized. The portion of the Creek within the Project site was disturbed and excavated when the original Canal siphon was installed. The slopes were heavily vegetated towards the top with nearly 100 percent ground coverage. Vegetation along the upper banks of the Creek included invasive grasses, Johnson grass (*Sorghum halepense*, FACU), Himalayan blackberry (*Rubus armeniacus*, FAC), curly dock (*Rumex crispus*, FAC), common cocklebur (*Xanthium strumarium,* FAC), and horsetail (*Equisetum sp.*). Within the bed and lower portion of the channel, poison hemlock (*Conium maculatum*, FACW), common duckweed (*Lemna minor*, OBL), and broadleaf cattail (*Typha latifolia*, OBL) were observed. The clear transition in vegetative communities from mostly FAC and FACU on the upper slopes to FACW and OBL observed along the bed and banks presented the clearest indicator of the location of the OHWM.

Portions of the Creek presented complex transition zones on the banks, but two other indicators of the OHWM were distinguishable, including a break in slope and matted vegetation, leading to the determination of the OHWM location. A slight break in slope was observed, below which the slopes became steeper. Matted down vegetation was observed below the OHWM line, which provided another indicator of the extent to which water flowed. The location where the siphon and vehicle bridges crossed the Creek presented a disturbance to the normal flow of the Creek, which could have altered the elevation of the OHWM at this specific location. Therefore, this particular indicator was not given much weight due to the man-made alterations in the channel. The most weight was given to the change in vegetation type and matted down vegetation. Photos of these observations can be found in Appendix C.

6.1.2 GLENN-COLUSA CENTRAL CANAL

The Glenn-Colusa Central Canal is a concrete-lined channel that flows from north to south within the Project sites and contained water at the time of the survey. Due to the very steep slopes, the Canal was not delineated in the field. The Canal was completely absent of vegetation, and in some areas, the slopes were stabilized by rock riprap. Water lines on the slopes were observed, but there were no other indicators of an OHWM. The Canal was bordered by two artificial levees that had dirt access roads on the top of each one. Within the Project area, the Canal is siphoned to flow beneath the Creek.

Online databases show the Canal originating from the Sacramento River, flowing through a series of canals and troughs delivering irrigation water to the service district. It is classified as riverine in the National Wetlands Inventory (USFWS 2022) but is either cement-lined or dirt-lined in its entirety, and solely used for irrigation purposes. The Canal was not excavated within a naturally occurring waterway and is not a relocated tributary but terminates back into the Sacramento River. Because the slopes were steep, there was only one indicator of an OHWM, and the sole purpose is to distribute irrigation water, the Canal was not delineated.

6.1.3 IRRIGATION/DRAINAGE DITCHES

Two irrigation/drainage ditches were observed within the Project sites area. The first ditch was located west of the Canal and south of the siphon and Creek. The second ditch was located just east of the Canal at the location of the borrow site. Vegetation found within both ditches included invasive grasses, broadleaf cattail (OBL), milk thistle (NI), bristly oxtongue (*Helminthotheca echioides*, FAC), watercress (*Nasturtium officinale*, OBL), stinging nettle (*Urtica dioica*, FAC), Himalayan blackberry (FAC), common duckweed (OBL), curly dock (FAC), mustard species, and poison hemlock (FACW). Common duckweed, poison hemlock, broadleaf cattail, and watercress were located in the bed and lower banks of the ditches. The predominantly wetland species composition transitioned into more of an upland species community, including Himalayan blackberry and curly dock,, which indicated the estimated boundary of the OHWM. Surface water was present within both ditches, and pipelines were constructed within the steep banks, draining water from the surrounding orchards and fields into the ditches. Soil texture could not be assessed due to the steep slopes. Ultimately, because these channels have been wholly excavated to drain the surrounding agricultural fields, they would qualify as an exclusion under the definition of a water of the United States and activities altering these channels would not be regulated under Section 404 of the CWA.

Table 3. Aquatic Resources Delineated Within the Project Sites

Aquatic Resource	Cowardin Code	Area (acres)	Linear Feet	Coordinates
Lurline Creek	R4SBCx*	0.25	240	39.217072, -122.254166
Unnamed irrigation ditch	R4SBCx*	0.03	110	39.216903, -122.253948
Borrow site ditch	R2AB3Hx**	2.6	3970	39.289256, -122.244285

** R4SBCx – Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated*
*** R5UBFx – Riverine, Lower Perennial, Aquatic bed, Rooted vascular, Permanently flooded, Excavated*

6.2 UPLAND AREAS

Human activities have disturbed upland areas within and outside of the Project Area. Upland areas were observed outside of the aquatic resources, but within the Project sites boundary, and included dirt roads and ruderal areas. The dirt roads were mainly devoid of vegetation. Outside of the top of bank of the Creek, ruderal areas were vegetated with invasive grasses, which provided substantial coverage. The areas immediately surrounding the Creek and Canal, but outside of the Project Area, were made up entirely of rice fields, orchards, and agricultural fields. Vegetation observed in the upland areas include common groundsel (*Senecio vulgaris*, FACU), milk thistle (*Silybum marianum*, NI), redstem filaree (*Erodium cicutarium*, NI), common sow-thistle (*Sonchus oleraceus*, UPL), great mullein (*Verbascum Thapsus*, UPL), Johnson grass (*Sorghum halepense*, FACU), poison hemlock (*Conium maculatum*, FACW), white horehound (*Marrubium vulgare*, FACU), cheese weed mallow (*Malva parviflora*, NI), and Shepherd's-purse (*Capsella bursa-pastoris*, FACU). Although signs of hydrology were observed within the rice fields (standing water, surface soil cracks), land excavated to maintain water for the purposes of rice growing qualifies as an exclusion in the definition of a water of the United States, and these areas were not delineated.

6.3 SUMMARY

The Lurline Creek OHWM was delineated based on hydrologic indicators, including break of slope and matted down vegetation, and vegetative indicators, including a change in species composition along the banks. The Creek is a naturally occurring waterway, despite being altered and channelized in some portions.

The Creek has a downstream connection to the Sacramento River, which may characterize it as an a(3) tributary to a known water of the United States.

The Canal was built to receive water from the Sacramento River and distribute it through the network of irrigation ditches within the GCID service area. The Canal is routinely maintained by the district, so no vegetation grows on its dirt lined banks. Water stains were present on the steep slopes and water was present during the field survey, but no other hydrologic indicators were observed. The Canal was constructed for the sole purpose of irrigation. Although there is a connection to the Sacramento River downstream, the Canal could fit the definition of an irrigation ditch, exempt from regulation by USACE.

The two ditches delineated within the Project area have been excavated within uplands to convey irrigation and drainage water. While there is evidence of an OHWM based on hydrophytic vegetation and the presence of surface water, these ditches were constructed solely for agricultural purposes and would be exempt from regulation by the USACE.

The USACE has the sole authority to determine the jurisdictional status of waters on any given project site. If the USACE disclaims jurisdiction over the Creek or the Canal, RWQCB under the Porter-Cologne Water Quality Control Act and the CDFW under Section 1602 of the California Fish and Game Code may still take jurisdiction and regulate activities within the water bodies.

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APPENDIX

Appendix A: Aquatic Resources Delineation Maps

Delineation of Wetlands and Other Waters of the U.S. for Glenn-Colusa Irrigation District, Lurline Check Siphon Replacement

Legend

- Map Reference Point
- Underground Culvert
- Survey Area Boundary (7.6 ac)
- Creek OHWM within Survey boundary (0.25 ac)
- Ditch OHWM within Survey boundary (0.03 ac)

N

0 50 100 200

Feet

Coordinate System: NAD83 State Plane, Zone 2
Projection: Lambert Conformal
Datum: NAD 1983
1 inch = 100 feet

Created on 2/14/2024

Made in accordance with the
Updated Map and Drawing Standards
for the South Pacific Division Regulatory
Program, as amended on February 10, 2016, by:

Benjamin Toews, Associate GIS Specialist
455 W Fir Ave
Clovis. CA. 93611

Delineation of Wetlands and Other Waters of the U.S. for Glenn-Colusa Irrigation District, Lurline Check Siphon Replacement

Legend

- Map Reference Point
- Survey Area Boundary (7.6 ac)
- OHWM - Borrow site ditch within survey boundary (2.6 ac)

N

0 125 250 500

Feet

Coordinate System: NAD83 State Plane, Zone 2
Projection: Lambert Conformal
Datum: NAD 1983
1 inch = 250 feet

Created on 2/14/2024

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on February 10, 2016, by:

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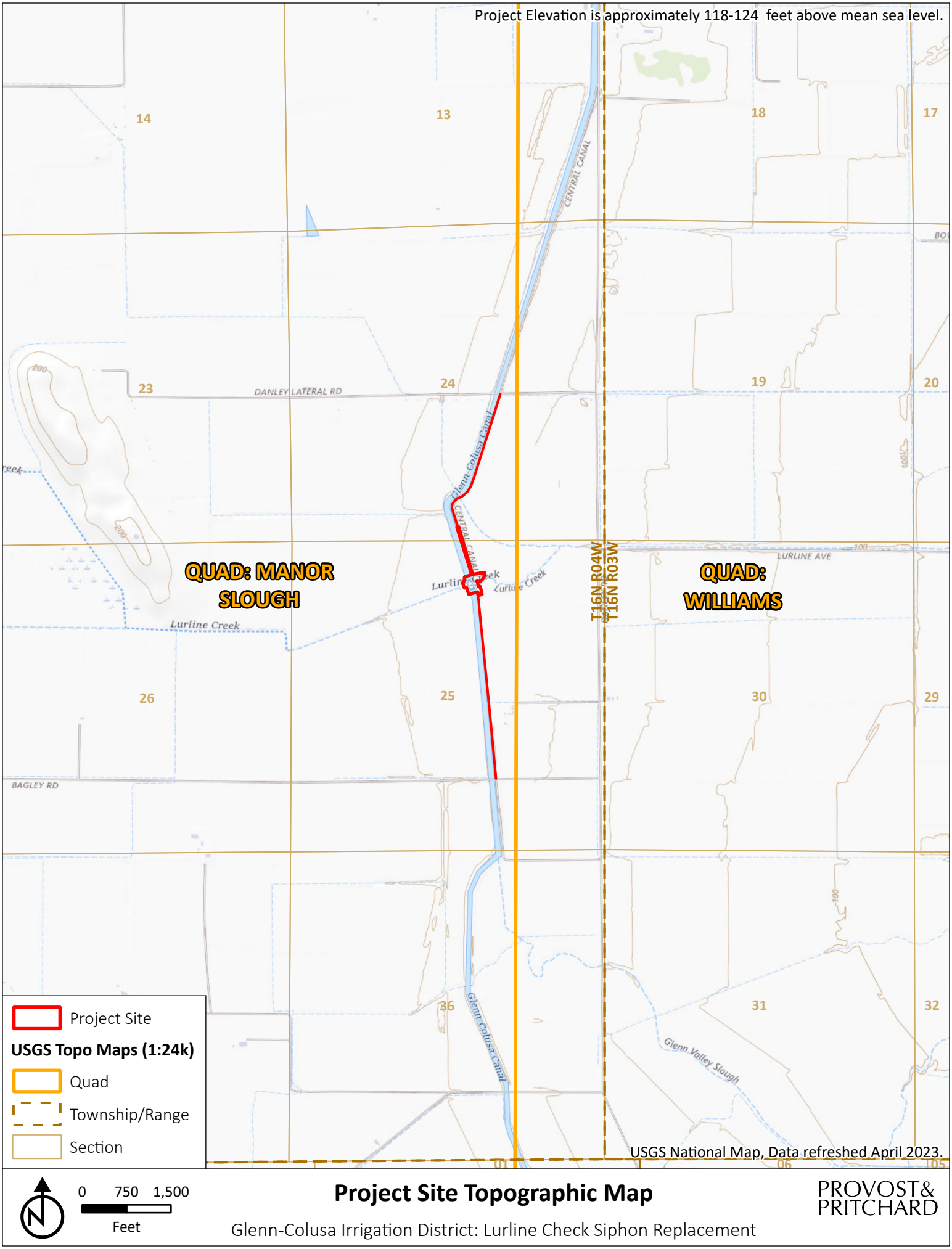
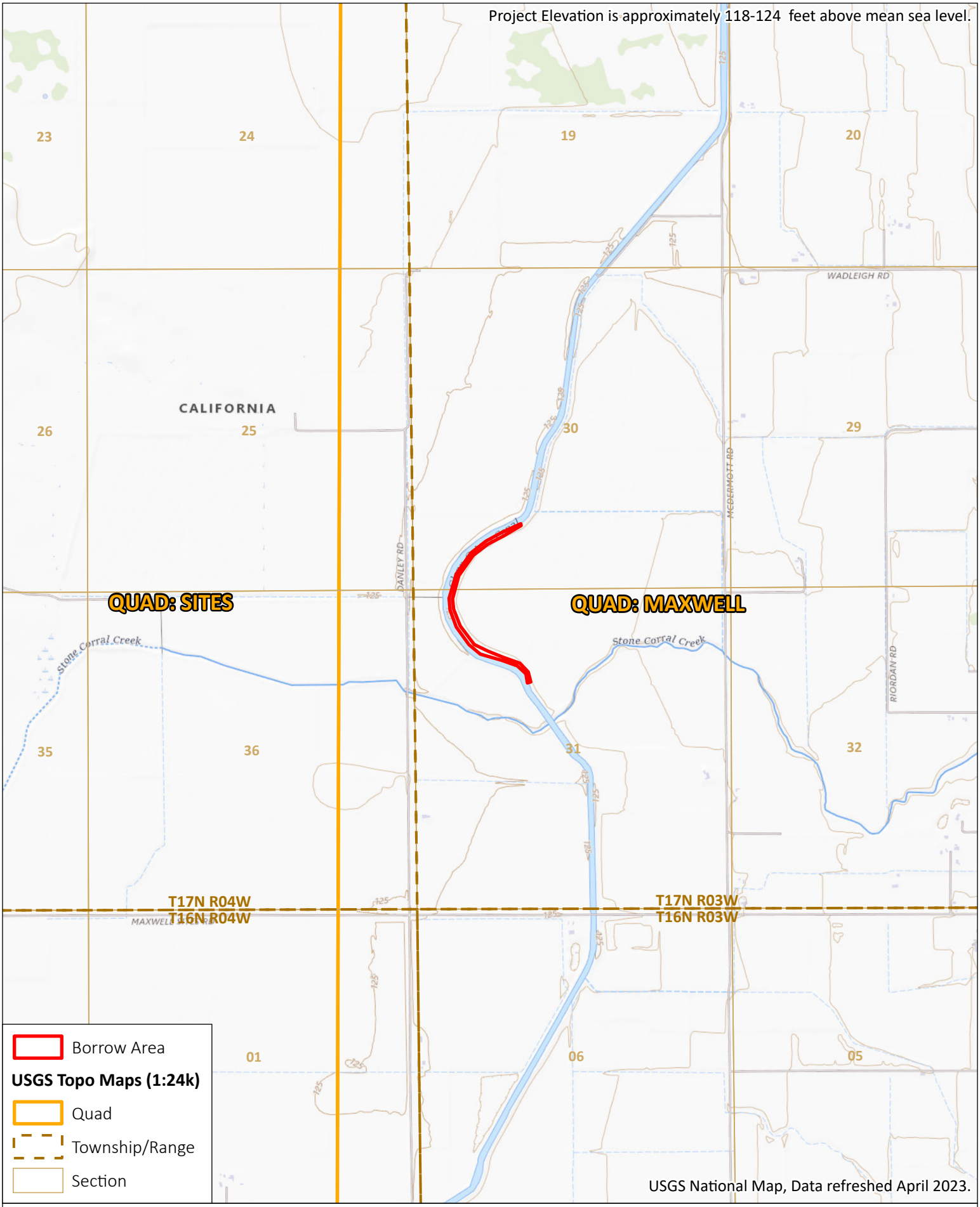
Appendix B: Supporting Maps



Project Site Topographic Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

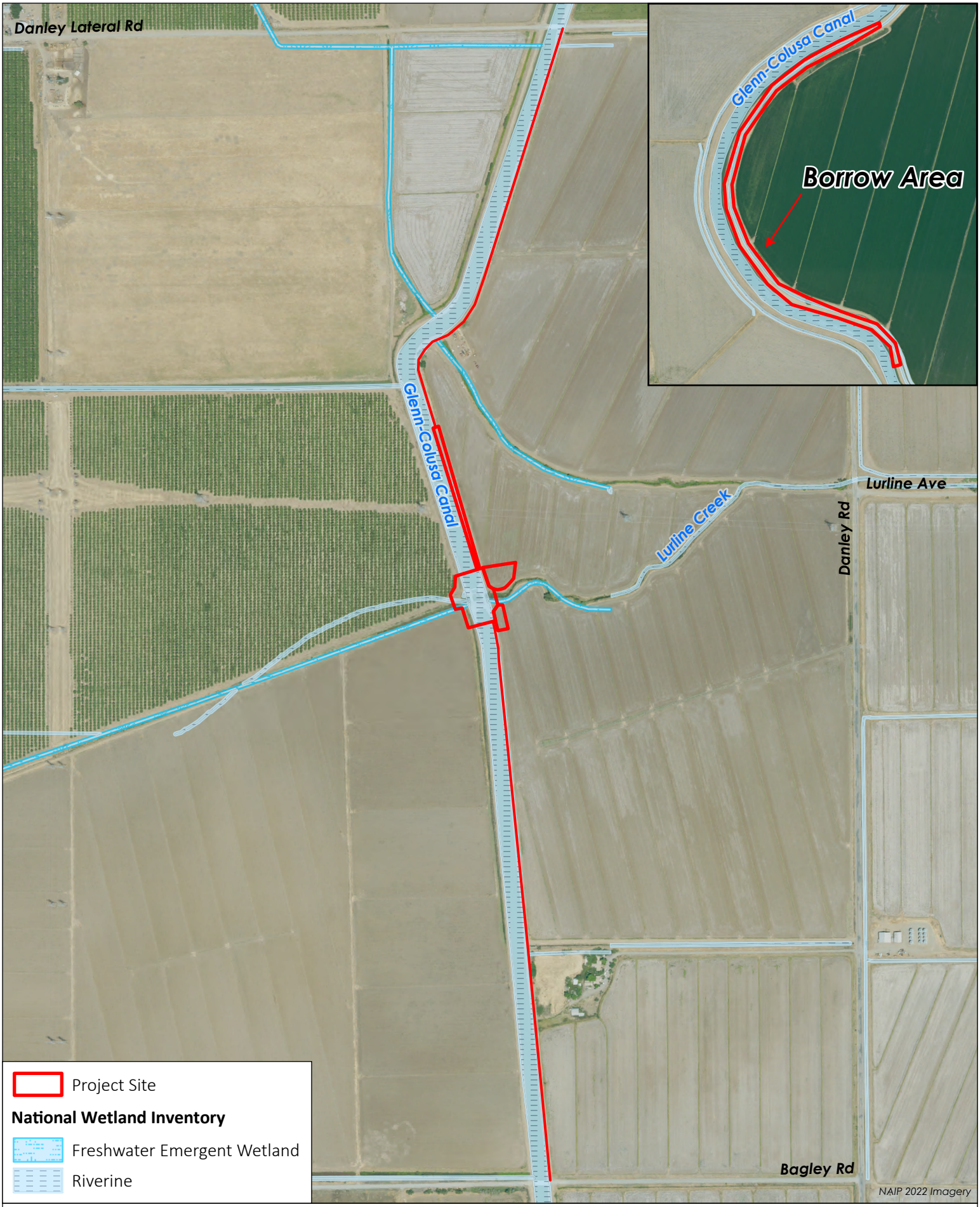
PROVOST& PRITCHARD



Borrow Area Topographic Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

PROVOST& PRITCHARD



Wetlands Map

Glenn-Colusa Irrigation District: Lurline Check Siphon Replacement

PROVOST& PRITCHARD

Appendix C: Photo Pages

Photograph 1

View of Lurline Creek on the east side of the Glenn-Colusa Central Canal siphon structure. Seen in the background are the rice and agricultural fields immediately surrounding the Creek.

Photograph 2

View of Lurline Creek and the vehicle bridge crossing where the siphon is located on the Glenn-Colusa Central Canal.

Photograph 3

View of Lurline Creek on the west side of the Glenn-Colusa Central Canal. It is bordered on the left by an inundated rice field, and on the right by an orchard. The slopes are almost entirely vegetated, with invasive grasses above the top of bank.

Photograph 4

View of the Lurline Creek crossing over the siphon and between the two vehicle bridges

Photograph 5

View of the downstream side of the Canal. The banks are unvegetated, steep, and stabilized with riprap in some portions. Dirt access roads border both sides of the Canal.

Photograph 6

View of the drainage ditch on the west side of the Canal. The slopes are steep and heavily vegetated.

Photograph 7

View of the south bank of Lurline Creek on the west side of the Canal crossing. The OHWM indicators can be observed from the matted, bent vegetation in the orientation of Creek flow. The OHWM was delineated at the line where vegetation was unaltered as a result of water flow.

Photograph 8

View of Lurline Creek upstream of the siphon and access bridges. The debris and wrack line behind the bridge supports provided an approximate location of the OHWM, although alteration to the natural flow of the channel in this area may make this indicator an inaccurate representation.

Photograph 9

View of the drainage ditch delineated within the borrow site. The OHWM was distinguished from the change in vegetation density and species.

Photograph 10

View of the access road at the borrow location. The drainage ditch has been excavated just east of the access road.

Appendix D: OHWM Data Sheets

U.S. Army Corps of Engineers (USACE)

INTERIM DRAFT RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

Form Approved -
OMB No. 0710-0025
Expires: 01-31-2025

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 **minutes** per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #:	Site Name: Borrow Site Ditch	Date and Time: 1/29/2024, 2:10PM
Location (lat/long): 39.288493, -122.243549	Investigator(s): S. Stark	

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- [ ] gage data
- [ ] LiDAR
- [ ] geologic maps
- [ ] climatic data
- [x] satellite imagery
- [ ] land use maps
- [ ] aerial photos
- [x] topographic maps
- [x] Other: Online databases

Describe land use and flow conditions from online resources.
Were there any recent extreme events (floods or drought)?
The ditch receives runoff and there are pipelines directing water from agricultural fields into the ditch.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Ditch has been excavated, and vegetation has grown on the steep slopes. A man-made dirt access road was constructed, separating the ditch from the Glenn-Colusa Canal. Top of bank very easily discernible.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- [x] **Break in slope:** x
  - [x] *on the bank:* x
  - [ ] *undercut bank:*
  - [ ] *valley bottom:*
  - [ ] Other: _____
- [ ] **Shelving:**
  - [ ] *shelf at top of bank:*
  - [ ] *natural levee:*
  - [ ] *man-made berms or levees:*
  - [ ] *other berms:* _____
- [ ] **Channel bar:**
  - [ ] *shelving (berms) on bar:*
  - [ ] *unvegetated:*
  - [ ] *vegetation transition (go to veg. indicators)*
  - [ ] *sediment transition (go to sed. indicators)*
  - [ ] *upper limit of deposition on bar:*
- [ ] **Instream bedforms and other bedload transport evidence:**
  - [ ] *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [ ] *bedforms (e.g., pools, riffles, steps, etc.):*
- [ ] *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*
- [ ] **Secondary channels:**

Sediment indicators

- [ ] **Soil development:**
- [ ] **Changes in character of soil:**
- [ ] **Mudcracks:**
- [ ] **Changes in particle-sized distribution:**
  - [ ] *transition from* _____ to _____
  - [ ] *upper limit of sand-sized particles*
  - [ ] *silt deposits:*

Vegetation Indicators

- [x] **Change in vegetation type and/or density:** x

  Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

  - [ ] *vegetation absent to:*
  - [ ] *moss to:*
  - [x] *forbs to:* graminoids
  - [ ] *graminoids to:*
  - [ ] *woody shrubs to:*
  - [ ] *deciduous trees to:*
  - [ ] *coniferous trees to:*
- [ ] **Vegetation matted down and/or bent:**
- [ ] **Exposed roots below intact soil layer:**

Ancillary indicators

- [ ] **Wracking/presence of organic litter:**
- [ ] **Presence of large wood:**
- [ ] **Leaf litter disturbed or washed away:**
- [ ] **Water staining:**
- [ ] **Weathered clasts or bedrock:**

Other observed indicators? Describe:

Aquatic/wetland vegetation species within the ditch, pipelines from surrounding agricultural fields conveying water into ditch

Project ID #: _____

Step 4 Is additional information needed to support this determination? ☐ Yes ☒ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

Change in composition of vegetation species at OHWM line. Slight break in slope at OHWM. OHWM very difficult to distinguish, indicators not easily observed.

Additional observations or notes

East bank has been constructed to be lower in elevation than the west bank.

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
9	View of access road and adjacent borrow site ditch
10	View within borrow site ditch, showing vegetation communities and transitions

OHWM Field Identification Datasheet Instructions and Field Procedure

Step 1 Site overview from remote and online resources **Complete Step 1 prior to site visit.**

Online Resources: Identify what information is available for the site. Check boxes on datasheet next to the resources used to assess this site.

a. gage data
b. aerial photos
c. satellite imagery
d. LiDAR
e. topographic maps
f. geologic maps
g. land use maps
h. climatic data (precipitation and temperature)

Landscape context: Use the online resources to put the site in the context of the surrounding landscape.

a. **Note on the datasheet under Step 1:**
   i. Overall land use and change if known
   ii. Recent extreme events if known (e.g., flood, drought, landslides, debris flows, wildfires)
b. Consider the following to inform weighting of evidence observed during field visit.
   i. What physical characteristics are likely to be observed in specific environments?
   ii. Was there a recent flood or drought? Are you expecting to see recently formed or obscured indicators?
   iii. How will land use affect specific stream characteristics? How natural is the hydrologic regime? How stable has the landscape been over the last year, decade, century?

Step 2 Site conditions during the field assessment (assemble evidence)

a. Identify the assessment area.
b. Walk up and down the assessment area noting all the potential OHWM indicators.
c. Note broad trends in channel shape, vegetation, and sediment characteristics.
   i. Is this a single thread or multi-thread system? Is this a stream-wetland complex?
   ii. Are there any secondary and/or floodplain channels?
   iii. Are there obvious man-made alterations to the system?
   iv. Are there man-made (e.g., bridges, dams, culverts) or natural structures (e.g., bedrock outcrops, Large Wood jams) that will influence or control flow?
d. Look for signs of recurring fluvial action.
   i. Where does the flow converge on the landscape?
   ii. Are there signs of fluvial action (sediment sorting, bedforms, etc.) at the convergence zone?
e. Look for indicators on both banks. If the opposite bank is not accessible, then look across the channel at the bank.
f. **In Step 2 of the datasheet** describe any adjacent land use or flow conditions that may influence interpretation of each line of evidence.
   i. What land use and flow conditions may be affecting your ability to observe indicators at the site?
   ii. What recent extreme events may have caused changes to the site and affected your ability to observe indicators?

Step 3a List evidence

Assemble evidence by checking the boxes next to each line of evidence:

a. If needed, use a separate scratch datasheet to check boxes next to possible indicators, or check boxes of possible indicators in pencil and use pen for final decision.
b. If using fillable form, then follow the instructions for filling in the fillable form.

Context is important when assembling evidence. For instance, pool development may be an indicator of interest on the bed of a dry stream, but may not be a useful indicator to take note of in a flowing stream. On the other hand, if the pool is found in a secondary channel adjacent to the main channel, it could provide a line of evidence for a minimum elevation of high flows. Therefore, consider the site context when deciding which indicators provide evidence for identifying the OHWM. Explain reasoning in Step 5.

Questions to consider while making observations and listing evidence at a site:

Geomorphic indicators	**Sediment and soil indicators**	**Vegetation Indicators**	**Ancillary indicators**
Where are the breaks in slope?	Where does evidence of soil formation appear?	Where are the significant transitions in vegetation species, density, and age?	Is there organic litter present?
Are there identifiable banks?		Is there vegetation growing on the channel bed?	
Is there an easily identifiable top of bank?	Are there mudcracks present?	If no, how long does it take for the non-tolerant vegetation to establish relative to how often flows occur in the channel?	Is there any leaf litter disturbed or washed away?
Are the banks actively eroding?			
Are the banks undercut?	Is there evidence of sediment sorting by grain size?	Where are the significant transitions in vegetation?	Is there large wood deposition?
Are the banks armored?			
Is the channel confined by the surrounding hillslopes?		Is the vegetation tolerant of flowing water?	Is there evidence of water staining?
Are there natural or man-made berms and levees?		Has any vegetation been flattened by flowing water?	
Are there fluvial terraces?			
Are there channel bars?			

Are the following features of fluvial transport present?

Evidence of erosion: obstacle marks, scour, armoring
Bedforms; riffles, pools, steps, knickpoints/headcuts
Evidence of deposition: imbricated clasts, gravel sheets, etc.

In some cases, it may be helpful to explain why an indicator was NOT at the OHWM elevation, but found above or below. It can also be useful to note if specific indicators (e.g., vegetation) are NOT present. For instance, note if the site has no clear vegetation zonation.

Step 3b **Weight each line of evidence and weigh body of evidence**

Weight each indicator by considering its importance based upon:

a. Relevance:

i. Is this indicator left by low, high, or extreme flows?

Tips on how to assess the indicator relative to type of flow:

Consider the elevation of the indicator relative to the channel bed. What is the current flow level based on season or nearby gages? Consider the elevation of the indicator relative to the current flow. If the stream is currently at baseflow and indicator is adjacent to that, then it is likely a low flow indicator. The difference between high and extreme flow indicators can sometimes be difficult to determine.

***Landscape context from Step 1 can help determine the relevance, strength, and reliability of the indicators observed in the field.**

***Information in Chapter 2 of the OHWM field manual provides information on specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.**

ii. Did recent extreme events and/or land use affect this indicator?

1. Recent floods may have left many extreme flow indicators, or temporarily altered channel form. Other resources will likely be needed to support any OHWM identification at this site. Field evidence of the OHWM may have to wait for the site to recover from the recent flood.
2. Droughts may cause field evidence of OHWM to be obscured, because there has been an extended time since the last high flow event. There can be overgrowth of vegetation or deposition of material from surrounding landscape that can obscure indicators.
3. Both man-made (e.g., dams, construction, mining activities, urbanization, agriculture, grazing) and natural (e.g., fires, floods, debris flows, beaver dams) disturbances can all alter how indicators are expected to appear at a site. Chapter 6 and Chapter 7 of the OHWM field manual provides specific case-studies that can help in interpreting evidence at these sites.

b. Strength:

i. Is this indicator persistent across the landscape?

1. Look up and downstream and across the channel to see if you see the same indicator at multiple locations.
2. Does the indicator occur at the same elevation as other indicators?

c. Reliability:

i. Is this indicator persistent on the landscape over time? Will this indicator still persist across seasons?

1. This can be difficult to determine for some indicators and may be specific to climatic region (in terms of persistence of vegetation) and history of land use or other natural disturbances.
2. Chapter 2, Chapter 6, and Chapter 7 of the OHWM field manual describes each indicator in detail and provides examples of areas where indicators are difficult to interpret.

d. Weigh body of evidence:

i. Combine weights: integrate the weighted line of evidence (relevance, strength, reliability) of each indicator.

ii. For each of the observed indicators, which are more heavily weighted? Where do high value indicators co-occur along the stream reach? Do they co-occur at a similar elevation along the banks relative to water surface (or channel bed if there is no water).

iii. On datasheet, select the indicators used to identify the OHWM. Information in Chapter 2 of the OHWM field manual provides descriptions of specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.

e. Take photographs of indicators and attach a log using either page 2 of datasheet or another method of logging photos.

i. Annotate photos with descriptions of indicators.

Step 4 **Is additional information needed? Are other resources needed to support the lines of evidence observed in the field?**

a. If additional resources are needed, then repeat steps 3a and 3b for the resources selected in Step 1 of assembling, weighting, and weighing evidence collected from online resources. Chapter 5 of the OHWM field manual provides information on using online resources.

b. Any data collected from online tools have strengths and weaknesses. Make sure these are clear when determining relevance, strength, and reliability of the remotely collected data. Clearly describe why other resources were needed to support the lines of evidence observed in the field, as well as the relevance, strength, and reliability of the supporting data and/or resources.

c. Attach any remote data and data analysis to the datasheet.

Step 5 **Describe rationale for location of OHWM:**

a. Why do the combination of indicators represent the OHWM?

b. If there are multiple possibilities for the OHWM, explain why there are two (or more) possibilities. Include any relevant discussion on why specific indicators were not included in the final decision.

c. If needed, add additional site notes on page 2 of the datasheet under Step 5.

U.S. Army Corps of Engineers (USACE)

INTERIM DRAFT RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

Form Approved -
OMB No. 0710-0025
Expires: 01-31-2025

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 **minutes** per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #:	Site Name: West Ditch	Date and Time: 1/30/2024, 10:00AM
Location (lat/long): 39.216812, -122.253923	Investigator(s): S. Stark	

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- [ ] gage data
- [ ] climatic data
- [ ] aerial photos
- [ ] LiDAR
- [x] satellite imagery
- [x] topographic maps
- [ ] geologic maps
- [ ] land use maps
- [x] Other: Online databases

Describe land use and flow conditions from online resources. Were there any recent extreme events (floods or drought)?

Lurline Creek receives water from the foothills to the west. Agricultural runoff also drains into this Creek.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Creek has been channelized east of the Glenn-Colusa Canal. A siphon allows the Canal to flow under the Creek. Vehicle bridges, the siphon, and associated structures have been constructed within and over the Creek.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- [x] **Break in slope:** x
  - [x] *on the bank:* x
  - [ ] *undercut bank:*
  - [ ] *valley bottom:*
  - [ ] Other: _____
- [ ] **Shelving:**
  - [ ] *shelf at top of bank:*
  - [ ] *natural levee:*
  - [ ] *man-made berms or levees:*
  - [ ] *other berms:* _____
- [ ] **Channel bar:**
  - [ ] *shelving (berms) on bar:*
  - [ ] *unvegetated:*
  - [ ] *vegetation transition (go to veg. indicators)*
  - [ ] *sediment transition (go to sed. indicators)*
  - [ ] *upper limit of deposition on bar:*
- [ ] **Instream bedforms and other bedload transport evidence:**
  - [ ] *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [ ] *bedforms (e.g., pools, riffles, steps, etc.):*
- [ ] *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*
- [ ] **Secondary channels:**

Sediment indicators

- [ ] **Soil development:**
- [ ] **Changes in character of soil:**
- [ ] **Mudcracks:**
- [ ] **Changes in particle-sized distribution:**
  - [ ] *transition from* _____ to _____
  - [ ] *upper limit of sand-sized particles*
  - [ ] *silt deposits:*

Vegetation Indicators

- [x] **Change in vegetation type and/or density:** x

  Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

  - [ ] *vegetation absent to:*
  - [ ] *moss to:*
  - [ ] *forbs to:* graminoids
  - [x] *graminoids to:* woody shrubs
  - [ ] *woody shrubs to:*
  - [ ] *deciduous trees to:*
  - [ ] *coniferous trees to:*
- [ ] **Vegetation matted down and/or bent:**
- [ ] **Exposed roots below intact soil layer:**

Ancillary indicators

- [x] **Wracking/presence of organic litter:** b
- [ ] **Presence of large wood:**
- [ ] **Leaf litter disturbed or washed away:**
- [ ] **Water staining:**
- [ ] **Weathered clasts or bedrock:**

Other observed indicators? Describe:

Aquatic/wetland vegetation species within the ditch, pipelines from surrounding agricultural fields conveying water into ditch

Project ID #: _____

Step 4 Is additional information needed to support this determination? ☐ Yes ☒ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

Change in composition of vegetation species at OHWM line. Slight break in slope

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
6	Representative view of vegetation coverage and composition in ditch

OHWM Field Identification Datasheet Instructions and Field Procedure

Step 1 Site overview from remote and online resources **Complete Step 1 prior to site visit.**

Online Resources: Identify what information is available for the site. Check boxes on datasheet next to the resources used to assess this site.

a. gage data
b. aerial photos
c. satellite imagery
d. LiDAR
e. topographic maps
f. geologic maps
g. land use maps
h. climatic data (precipitation and temperature)

Landscape context: Use the online resources to put the site in the context of the surrounding landscape.

a. **Note on the datasheet under Step 1:**
   i. Overall land use and change if known
   ii. Recent extreme events if known (e.g., flood, drought, landslides, debris flows, wildfires)
b. Consider the following to inform weighting of evidence observed during field visit.
   i. What physical characteristics are likely to be observed in specific environments?
   ii. Was there a recent flood or drought? Are you expecting to see recently formed or obscured indicators?
   iii. How will land use affect specific stream characteristics? How natural is the hydrologic regime? How stable has the landscape been over the last year, decade, century?

Step 2 Site conditions during the field assessment (assemble evidence)

a. Identify the assessment area.
b. Walk up and down the assessment area noting all the potential OHWM indicators.
c. Note broad trends in channel shape, vegetation, and sediment characteristics.
   i. Is this a single thread or multi-thread system? Is this a stream-wetland complex?
   ii. Are there any secondary and/or floodplain channels?
   iii. Are there obvious man-made alterations to the system?
   iv. Are there man-made (e.g., bridges, dams, culverts) or natural structures (e.g., bedrock outcrops, Large Wood jams) that will influence or control flow?
d. Look for signs of recurring fluvial action.
   i. Where does the flow converge on the landscape?
   ii. Are there signs of fluvial action (sediment sorting, bedforms, etc.) at the convergence zone?
e. Look for indicators on both banks. If the opposite bank is not accessible, then look across the channel at the bank.
f. **In Step 2 of the datasheet** describe any adjacent land use or flow conditions that may influence interpretation of each line of evidence.
   i. What land use and flow conditions may be affecting your ability to observe indicators at the site?
   ii. What recent extreme events may have caused changes to the site and affected your ability to observe indicators?

Step 3a List evidence

Assemble evidence by checking the boxes next to each line of evidence:

a. If needed, use a separate scratch datasheet to check boxes next to possible indicators, or check boxes of possible indicators in pencil and use pen for final decision.
b. If using fillable form, then follow the instructions for filling in the fillable form.

Context is important when assembling evidence. For instance, pool development may be an indicator of interest on the bed of a dry stream, but may not be a useful indicator to take note of in a flowing stream. On the other hand, if the pool is found in a secondary channel adjacent to the main channel, it could provide a line of evidence for a minimum elevation of high flows. Therefore, consider the site context when deciding which indicators provide evidence for identifying the OHWM. Explain reasoning in Step 5.

Questions to consider while making observations and listing evidence at a site:

Geomorphic indicators	**Sediment and soil indicators**	**Vegetation Indicators**	**Ancillary indicators**
Where are the breaks in slope?	Where does evidence of soil formation appear?	Where are the significant transitions in vegetation species, density, and age?	Is there organic litter present?
Are there identifiable banks?		Is there vegetation growing on the channel bed?	
Is there an easily identifiable top of bank?	Are there mudcracks present?	If no, how long does it take for the non-tolerant vegetation to establish relative to how often flows occur in the channel?	Is there any leaf litter disturbed or washed away?
Are the banks actively eroding?			
Are the banks undercut?	Is there evidence of sediment sorting by grain size?	Where are the significant transitions in vegetation?	Is there large wood deposition?
Are the banks armored?			
Is the channel confined by the surrounding hillslopes?		Is the vegetation tolerant of flowing water?	Is there evidence of water staining?
Are there natural or man-made berms and levees?		Has any vegetation been flattened by flowing water?	
Are there fluvial terraces?			
Are there channel bars?			

Are the following features of fluvial transport present?

Evidence of erosion: obstacle marks, scour, armoring
Bedforms; riffles, pools, steps, knickpoints/headcuts
Evidence of deposition: imbricated clasts, gravel sheets, etc.

In some cases, it may be helpful to explain why an indicator was NOT at the OHWM elevation, but found above or below. It can also be useful to note if specific indicators (e.g., vegetation) are NOT present. For instance, note if the site has no clear vegetation zonation.

Step 3b **Weight each line of evidence and weigh body of evidence**

Weight each indicator by considering its importance based upon:

a. Relevance:

i. Is this indicator left by low, high, or extreme flows?

Tips on how to assess the indicator relative to type of flow:

Consider the elevation of the indicator relative to the channel bed. What is the current flow level based on season or nearby gages? Consider the elevation of the indicator relative to the current flow. If the stream is currently at baseflow and indicator is adjacent to that, then it is likely a low flow indicator. The difference between high and extreme flow indicators can sometimes be difficult to determine.

***Landscape context from Step 1 can help determine the relevance, strength, and reliability of the indicators observed in the field.**

***Information in Chapter 2 of the OHWM field manual provides information on specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.**

ii. Did recent extreme events and/or land use affect this indicator?

1. Recent floods may have left many extreme flow indicators, or temporarily altered channel form. Other resources will likely be needed to support any OHWM identification at this site. Field evidence of the OHWM may have to wait for the site to recover from the recent flood.
2. Droughts may cause field evidence of OHWM to be obscured, because there has been an extended time since the last high flow event. There can be overgrowth of vegetation or deposition of material from surrounding landscape that can obscure indicators.
3. Both man-made (e.g., dams, construction, mining activities, urbanization, agriculture, grazing) and natural (e.g., fires, floods, debris flows, beaver dams) disturbances can all alter how indicators are expected to appear at a site. Chapter 6 and Chapter 7 of the OHWM field manual provides specific case-studies that can help in interpreting evidence at these sites.

b. Strength:

i. Is this indicator persistent across the landscape?

1. Look up and downstream and across the channel to see if you see the same indicator at multiple locations.
2. Does the indicator occur at the same elevation as other indicators?

c. Reliability:

i. Is this indicator persistent on the landscape over time? Will this indicator still persist across seasons?

1. This can be difficult to determine for some indicators and may be specific to climatic region (in terms of persistence of vegetation) and history of land use or other natural disturbances.
2. Chapter 2, Chapter 6, and Chapter 7 of the OHWM field manual describes each indicator in detail and provides examples of areas where indicators are difficult to interpret.

d. Weigh body of evidence:

i. Combine weights: integrate the weighted line of evidence (relevance, strength, reliability) of each indicator.

ii. For each of the observed indicators, which are more heavily weighted? Where do high value indicators co-occur along the stream reach? Do they co-occur at a similar elevation along the banks relative to water surface (or channel bed if there is no water).

iii. On datasheet, select the indicators used to identify the OHWM. Information in Chapter 2 of the OHWM field manual provides descriptions of specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.

e. Take photographs of indicators and attach a log using either page 2 of datasheet or another method of logging photos.

i. Annotate photos with descriptions of indicators.

Step 4 **Is additional information needed? Are other resources needed to support the lines of evidence observed in the field?**

a. If additional resources are needed, then repeat steps 3a and 3b for the resources selected in Step 1 of assembling, weighting, and weighing evidence collected from online resources. Chapter 5 of the OHWM field manual provides information on using online resources.

b. Any data collected from online tools have strengths and weaknesses. Make sure these are clear when determining relevance, strength, and reliability of the remotely collected data. Clearly describe why other resources were needed to support the lines of evidence observed in the field, as well as the relevance, strength, and reliability of the supporting data and/or resources.

c. Attach any remote data and data analysis to the datasheet.

Step 5 **Describe rationale for location of OHWM:**

a. Why do the combination of indicators represent the OHWM?

b. If there are multiple possibilities for the OHWM, explain why there are two (or more) possibilities. Include any relevant discussion on why specific indicators were not included in the final decision.

c. If needed, add additional site notes on page 2 of the datasheet under Step 5.

U.S. Army Corps of Engineers (USACE)

INTERIM DRAFT RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

Form Approved -
OMB No. 0710-0025
Expires: 01-31-2025

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 **minutes** per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #:	Site Name: Lurline Creek	Date and Time: 1/30/2024, 8:30AM
Location (lat/long): 39.217099, -122.254089	Investigator(s): S. Stark	

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- [ ] gage data
- [ ] climatic data
- [ ] aerial photos
- [ ] LiDAR
- [x] satellite imagery
- [x] topographic maps
- [ ] geologic maps
- [ ] land use maps
- [x] Other: Online databases

Describe land use and flow conditions from online resources. Were there any recent extreme events (floods or drought)?

Lurline Creek receives water from the foothills to the west. Agricultural runoff also drains into this Creek. Bridge and siphon through creek disturbs normal flow.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Creek has been channelized east of the Glenn-Colusa Canal. A siphon allows the Canal to flow under the Creek. Vehicle bridges, the siphon, and associated structures have been constructed within and over the Creek.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- [x] **Break in slope:** x
  - [x] *on the bank:* x
  - [ ] *undercut bank:*
  - [ ] *valley bottom:*
  - [ ] Other: _____
- [ ] **Shelving:**
  - [ ] *shelf at top of bank:*
  - [ ] *natural levee:*
  - [ ] *man-made berms or levees:*
  - [ ] *other berms:* _____
- [ ] **Channel bar:**
  - [ ] *shelving (berms) on bar:*
  - [ ] *unvegetated:*
  - [ ] *vegetation transition (go to veg. indicators)*
  - [ ] *sediment transition (go to sed. indicators)*
  - [ ] *upper limit of deposition on bar:*
- [ ] **Instream bedforms and other bedload transport evidence:**
  - [ ] *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [ ] *bedforms (e.g., pools, riffles, steps, etc.):*
- [ ] *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*
- [ ] **Secondary channels:**

Sediment indicators

- [ ] **Soil development:**
- [ ] **Changes in character of soil:**
- [ ] **Mudcracks:**
- [ ] **Changes in particle-sized distribution:**
  - [ ] *transition from* _____ to _____
  - [ ] *upper limit of sand-sized particles*
  - [ ] *silt deposits:*

Vegetation Indicators

- [x] **Change in vegetation type and/or density:** a

  Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

  - [ ] *vegetation absent to:*
  - [ ] *moss to:*
  - [ ] *forbs to:*
  - [x] *graminoids to:* woody shrubs
  - [ ] *woody shrubs to:*
  - [ ] *deciduous trees to:*
  - [ ] *coniferous trees to:*
- [x] **Vegetation matted down and/or bent:** b
- [ ] **Exposed roots below intact soil layer:**

Ancillary indicators

- [x] **Wracking/presence of organic litter:** b
- [ ] **Presence of large wood:**
- [ ] **Leaf litter disturbed or washed away:**
- [ ] **Water staining:**
- [ ] **Weathered clasts or bedrock:**

Other observed indicators? Describe:

Project ID #: _____

Step 4 Is additional information needed to support this determination? ☐ Yes ☒ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

Drastic change in composition of vegetation species at OHWM line. Slight break in slope, matted down vegetation below OHWM. Sediment deposits around bridge supports.

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
1	View of the midline of Lurline Creek facing east
2	View of the midline of Lurline Creek facing west
3	Another view of midline of Lurline Creek facing west
4	View of Lurline Creek flowing over siphon
7	View of the vegetation transition on the south Creek bank
8	View of the debris/wrack line on bridge supports

OHWM Field Identification Datasheet Instructions and Field Procedure

Step 1 Site overview from remote and online resources **Complete Step 1 prior to site visit.**

Online Resources: Identify what information is available for the site. Check boxes on datasheet next to the resources used to assess this site.

a. gage data
b. aerial photos
c. satellite imagery
d. LiDAR
e. topographic maps
f. geologic maps
g. land use maps
h. climatic data (precipitation and temperature)

Landscape context: Use the online resources to put the site in the context of the surrounding landscape.

a. **Note on the datasheet under Step 1:**
   i. Overall land use and change if known
   ii. Recent extreme events if known (e.g., flood, drought, landslides, debris flows, wildfires)
b. Consider the following to inform weighting of evidence observed during field visit.
   i. What physical characteristics are likely to be observed in specific environments?
   ii. Was there a recent flood or drought? Are you expecting to see recently formed or obscured indicators?
   iii. How will land use affect specific stream characteristics? How natural is the hydrologic regime? How stable has the landscape been over the last year, decade, century?

Step 2 Site conditions during the field assessment (assemble evidence)

a. Identify the assessment area.
b. Walk up and down the assessment area noting all the potential OHWM indicators.
c. Note broad trends in channel shape, vegetation, and sediment characteristics.
   i. Is this a single thread or multi-thread system? Is this a stream-wetland complex?
   ii. Are there any secondary and/or floodplain channels?
   iii. Are there obvious man-made alterations to the system?
   iv. Are there man-made (e.g., bridges, dams, culverts) or natural structures (e.g., bedrock outcrops, Large Wood jams) that will influence or control flow?
d. Look for signs of recurring fluvial action.
   i. Where does the flow converge on the landscape?
   ii. Are there signs of fluvial action (sediment sorting, bedforms, etc.) at the convergence zone?
e. Look for indicators on both banks. If the opposite bank is not accessible, then look across the channel at the bank.
f. **In Step 2 of the datasheet** describe any adjacent land use or flow conditions that may influence interpretation of each line of evidence.
   i. What land use and flow conditions may be affecting your ability to observe indicators at the site?
   ii. What recent extreme events may have caused changes to the site and affected your ability to observe indicators?

Step 3a List evidence

Assemble evidence by checking the boxes next to each line of evidence:

a. If needed, use a separate scratch datasheet to check boxes next to possible indicators, or check boxes of possible indicators in pencil and use pen for final decision.
b. If using fillable form, then follow the instructions for filling in the fillable form.

Context is important when assembling evidence. For instance, pool development may be an indicator of interest on the bed of a dry stream, but may not be a useful indicator to take note of in a flowing stream. On the other hand, if the pool is found in a secondary channel adjacent to the main channel, it could provide a line of evidence for a minimum elevation of high flows. Therefore, consider the site context when deciding which indicators provide evidence for identifying the OHWM. Explain reasoning in Step 5.

Questions to consider while making observations and listing evidence at a site:

Geomorphic indicators	**Sediment and soil indicators**	**Vegetation Indicators**	**Ancillary indicators**
Where are the breaks in slope?	Where does evidence of soil formation appear?	Where are the significant transitions in vegetation species, density, and age?	Is there organic litter present?
Are there identifiable banks?		Is there vegetation growing on the channel bed?	
Is there an easily identifiable top of bank?	Are there mudcracks present?	If no, how long does it take for the non-tolerant vegetation to establish relative to how often flows occur in the channel?	Is there any leaf litter disturbed or washed away?
Are the banks actively eroding?			
Are the banks undercut?	Is there evidence of sediment sorting by grain size?	Where are the significant transitions in vegetation?	Is there large wood deposition?
Are the banks armored?			
Is the channel confined by the surrounding hillslopes?		Is the vegetation tolerant of flowing water?	Is there evidence of water staining?
Are there natural or man-made berms and levees?		Has any vegetation been flattened by flowing water?	
Are there fluvial terraces?			
Are there channel bars?			

Are the following features of fluvial transport present?

Evidence of erosion: obstacle marks, scour, armoring
Bedforms; riffles, pools, steps, knickpoints/headcuts
Evidence of deposition: imbricated clasts, gravel sheets, etc.

In some cases, it may be helpful to explain why an indicator was NOT at the OHWM elevation, but found above or below. It can also be useful to note if specific indicators (e.g., vegetation) are NOT present. For instance, note if the site has no clear vegetation zonation.

Step 3b **Weight each line of evidence and weigh body of evidence**

Weight each indicator by considering its importance based upon:

a. Relevance:

i. Is this indicator left by low, high, or extreme flows?

Tips on how to assess the indicator relative to type of flow:

Consider the elevation of the indicator relative to the channel bed. What is the current flow level based on season or nearby gages? Consider the elevation of the indicator relative to the current flow. If the stream is currently at baseflow and indicator is adjacent to that, then it is likely a low flow indicator. The difference between high and extreme flow indicators can sometimes be difficult to determine.

***Landscape context from Step 1 can help determine the relevance, strength, and reliability of the indicators observed in the field.**

***Information in Chapter 2 of the OHWM field manual provides information on specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.**

ii. Did recent extreme events and/or land use affect this indicator?

1. Recent floods may have left many extreme flow indicators, or temporarily altered channel form. Other resources will likely be needed to support any OHWM identification at this site. Field evidence of the OHWM may have to wait for the site to recover from the recent flood.
2. Droughts may cause field evidence of OHWM to be obscured, because there has been an extended time since the last high flow event. There can be overgrowth of vegetation or deposition of material from surrounding landscape that can obscure indicators.
3. Both man-made (e.g., dams, construction, mining activities, urbanization, agriculture, grazing) and natural (e.g., fires, floods, debris flows, beaver dams) disturbances can all alter how indicators are expected to appear at a site. Chapter 6 and Chapter 7 of the OHWM field manual provides specific case-studies that can help in interpreting evidence at these sites.

b. Strength:

i. Is this indicator persistent across the landscape?

1. Look up and downstream and across the channel to see if you see the same indicator at multiple locations.
2. Does the indicator occur at the same elevation as other indicators?

c. Reliability:

i. Is this indicator persistent on the landscape over time? Will this indicator still persist across seasons?

1. This can be difficult to determine for some indicators and may be specific to climatic region (in terms of persistence of vegetation) and history of land use or other natural disturbances.
2. Chapter 2, Chapter 6, and Chapter 7 of the OHWM field manual describes each indicator in detail and provides examples of areas where indicators are difficult to interpret.

d. Weigh body of evidence:

i. Combine weights: integrate the weighted line of evidence (relevance, strength, reliability) of each indicator.

ii. For each of the observed indicators, which are more heavily weighted? Where do high value indicators co-occur along the stream reach? Do they co-occur at a similar elevation along the banks relative to water surface (or channel bed if there is no water).

iii. On datasheet, select the indicators used to identify the OHWM. Information in Chapter 2 of the OHWM field manual provides descriptions of specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.

e. Take photographs of indicators and attach a log using either page 2 of datasheet or another method of logging photos.

i. Annotate photos with descriptions of indicators.

Step 4 **Is additional information needed? Are other resources needed to support the lines of evidence observed in the field?**

a. If additional resources are needed, then repeat steps 3a and 3b for the resources selected in Step 1 of assembling, weighting, and weighing evidence collected from online resources. Chapter 5 of the OHWM field manual provides information on using online resources.

b. Any data collected from online tools have strengths and weaknesses. Make sure these are clear when determining relevance, strength, and reliability of the remotely collected data. Clearly describe why other resources were needed to support the lines of evidence observed in the field, as well as the relevance, strength, and reliability of the supporting data and/or resources.

c. Attach any remote data and data analysis to the datasheet.

Step 5 **Describe rationale for location of OHWM:**

a. Why do the combination of indicators represent the OHWM?

b. If there are multiple possibilities for the OHWM, explain why there are two (or more) possibilities. Include any relevant discussion on why specific indicators were not included in the final decision.

c. If needed, add additional site notes on page 2 of the datasheet under Step 5.

Appendix E: NRCS Soils Report

United States Department of Agriculture

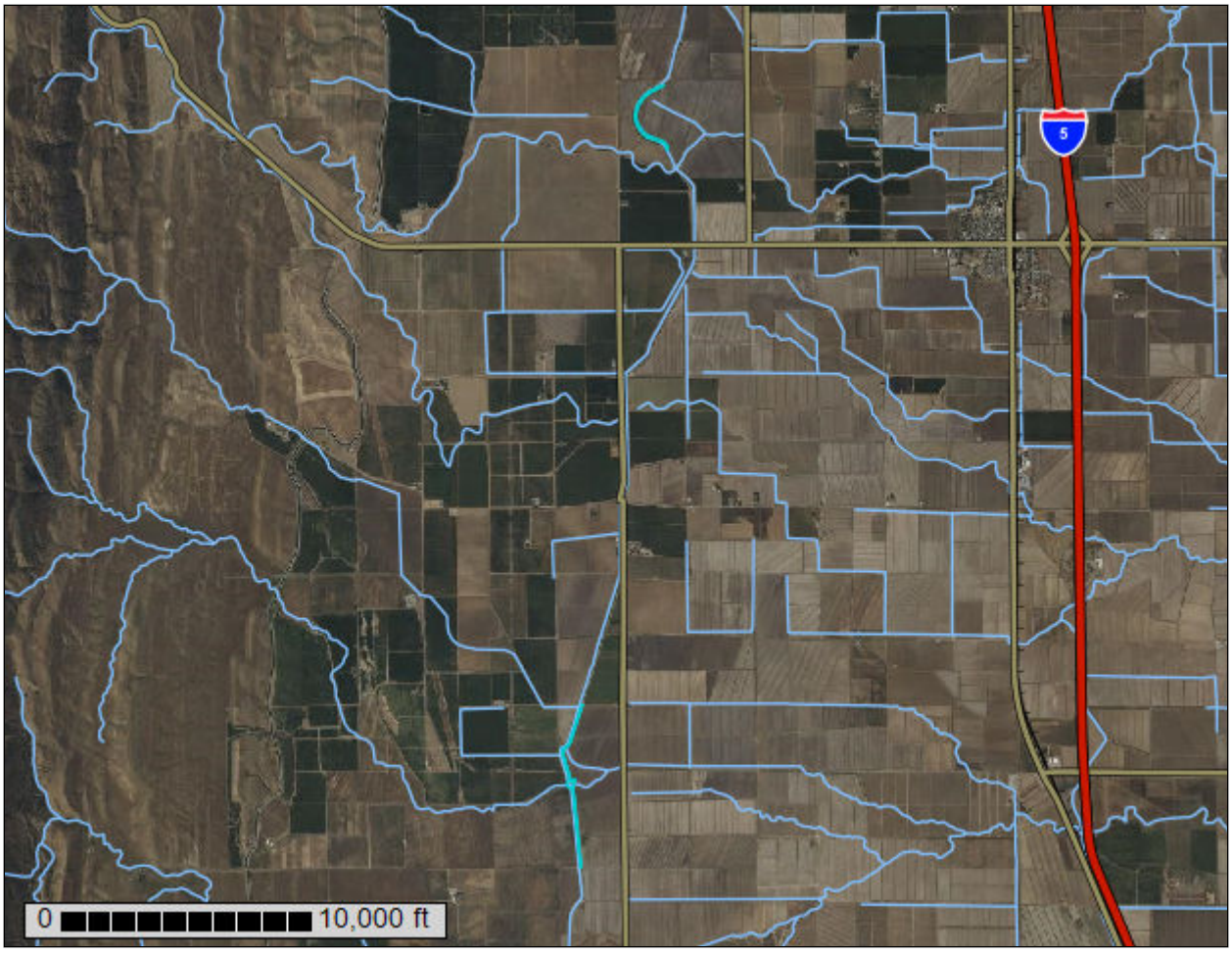
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Colusa County, California

Lurline Check and Replacement Structure Project



January 31, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

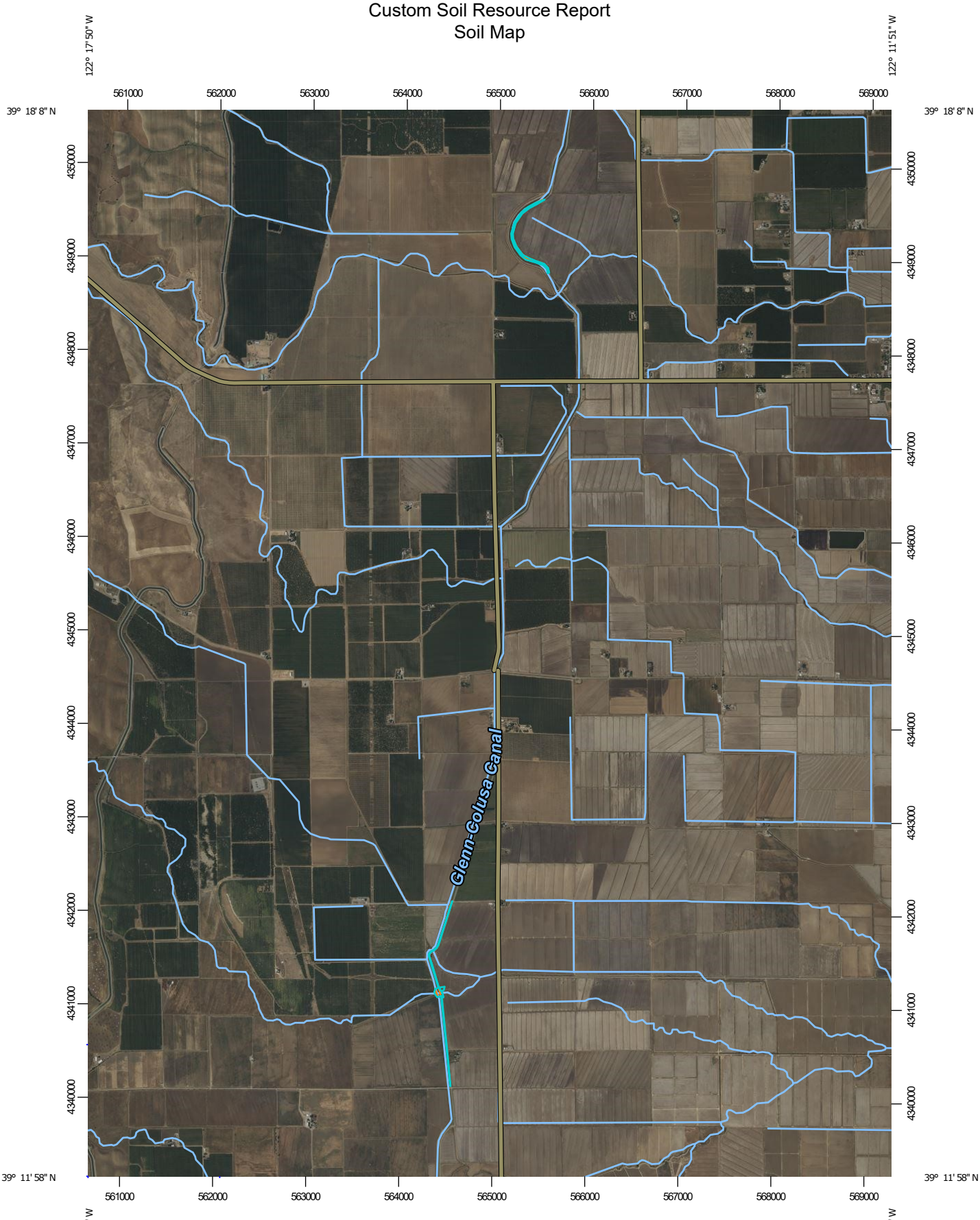
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Colusa County, California
Survey Area Data: Version 19, Aug 28, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 7, 2022—May 31, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102	Capay clay loam, 0 percent slopes, low precip, MLRA 17	2.0	19.2%
144	Hillgate clay loam, 0 to 2 percent slopes	3.4	32.6%
652	Water	4.9	48.2%
Totals for Area of Interest		**10.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Colusa County, California

102—Capay clay loam, 0 percent slopes, low precip, MLRA 17

Map Unit Setting

National map unit symbol: 2xc8x
Elevation: 50 to 190 feet
Mean annual precipitation: 18 to 20 inches
Mean annual air temperature: 62 to 62 degrees F
Frost-free period: 312 to 323 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Capay, clay loam, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Capay, Clay Loam

Setting

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 15 inches: clay loam
A - 15 to 33 inches: clay loam
Bss1 - 33 to 39 inches: clay
Bss2 - 39 to 46 inches: clay
Bkss - 46 to 64 inches: clay

Properties and qualities

Slope: 0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 39 to 60 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 1 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R017XY901CA - Clayey Basin Group

Hydric soil rating: No

Minor Components

Capay, clay

Percent of map unit: 5 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R017XY901CA - Clayey Basin Group
Hydric soil rating: No

Unnamed

Percent of map unit: 2 percent
Landform: Channels on basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Capay, clay loam, occasionally flooded

Percent of map unit: 1 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Westfan, loam

Percent of map unit: 1 percent
Landform: Alluvial fans
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Willows, silty clay

Percent of map unit: 1 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

144—Hillgate clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hh9d
Elevation: 130 to 450 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 225 to 250 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hillgate, clay loam, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hillgate, Clay Loam

Setting

Landform: Fan remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 10 inches: clay loam
ABt - 10 to 19 inches: clay loam
Bt - 19 to 50 inches: clay
C - 50 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 19 inches to abrupt textural change
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.06 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s

Hydrologic Soil Group: C
Ecological site: R017XY905CA - Dry Alluvial Fans and Terraces
Hydric soil rating: No

Minor Components

Capay, clay loam
Percent of map unit: 10 percent
Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R017XY901CA - Clayey Basin Group
Hydric soil rating: No

Arand, very gravelly sandy loam
Percent of map unit: 3 percent
Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Riverwash
Percent of map unit: 1 percent
Landform: Channels
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Unnamed
Percent of map unit: 1 percent
Landform: Channels
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

652—Water

Map Unit Composition
Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

References

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Appendix F: Vascular Plant List

Genus	Scientific Name	Common Name	Wetland Indicator Status
Rumex	Rumex crispus	curly dock	FAC
Sorghum	Sorghum halepense	Johnson grass	FACU
Rubus	Rubus armeniacus	Himalayan blackberry	FAC
Conium	Conium maculatum	poison hemlock	FACW
Lemna	Lemna minor	common duckweed	OBL
Typha	Typha latifolia	broadleaf cattail	OBL
Xanthium	Xanthium strumarium	common cocklebur	FAC
Equisetum	Equisetum sp.	horsetail	-
Senecio	Senecio vulgaris	common groundsel	FACU
Silybum	Silybum marianum	milk thistle	NI
Lupinus	Lupinus sp.	lupine	-
Brassica	Brassica sp.	mustard	-
Erodium	Erodium cicutarium	redstem filaree	NI
Sonchus	Sonchus oleraceus	common sow-thistle	UPL
Verbascum	Verbascum thapsus	great mullein	FACU
Marrubium	Marrubium vugare	white horehound	FACU
Malva	Malva parviflora	cheese weed mallow	NI
Capsella	Capsella bursa-pastoris	shepherd's purse	FACU
Picris	Helminthotheca echioides	bristly oxtongue	FAC
Nasturtium	Nasturtium officinale	watercress	OBL
Urtica	Urtica dioica	stinging nettle	FAC
Oryza	Oryza sativa	rice	OBL

OBL = occurs in aquatic resources > 99% of time
FACW = occurs in aquatic resources 67-99% of time
FAC = occurs in aquatic resources 34-66% of time
FACU = occurs in aquatic resources 1-33% of time
UPL = occurs in uplands > 99% of time
NI = indicator status not known in this region
~ = unsure as to FAC or FACU

APPENDIX F: NMFS EFH MAPPER

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 39º 13' 2" N, Longitude = 123º 44' 47" W
Decimal Degrees: Latitude = 39.217, Longitude = -122.254

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

No additional Essential Fish Habitats (EFH) were identified at the report location.

Pacific Salmon EFH

Link	HUC Name	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
	Sacramento-Stone Corral	Chinook Salmon	All	Pacific	Pacific Coast Salmon Plan

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. ****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**
Pacific Coastal Pelagic Species, Jack Mackerel, Pacific (Chub) Mackerel, Pacific Sardine, Northern Anchovy - Central Subpopulation, Northern Anchovy - Northern Subpopulation, **Pacific Highly Migratory Species**, Bigeye Thresher Shark - North Pacific,

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. ****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**
Bluefin Tuna - Pacific, Dolphinfish (Dorado or Mahimahi) - Pacific, Pelagic Thresher Shark - North Pacific, Swordfish - North Pacific

Appendix C: Cultural Resources Memo

PROVOST&PRITCHARD
CONSULTING GROUP

455 W Fir Ave • Clovis, CA 93611 • (559) 449-2700
www.provostandpritchard.com

CULTURAL MEMORANDUM

To:	File Provost & Pritchard Consulting Group
From:	Kyler Dill, Provost & Pritchard Assistant Planner
Subject:	Cultural Resources Records Search for the Lurline Check and Siphon Structure Replacement Project, located in Colusa County, CA
Date:	May 20, 2024

COMMENTS:

Introduction

This technical memo summarizes our review of potential cultural and historical resources for the Glenn-Colusa Irrigation District's proposed Lurline Check and Siphon Structure Replacement Project (Project) and evaluates potential Project-related impacts to those resources.

This memo addresses historic properties including any prehistoric or historic districts, sites, buildings, structures, or objects that are eligible for or already listed in the National Register of Historic Places (NRHP) and cultural resources including any artifacts, records, and remains (surface or subsurface) that are related to and located within the Project area. Additionally, it identifies any Native American Tribal Cultural Resources known to be located in the Project area.

Project Description

Glenn-Colusa Irrigation District (District) proposes to construct and replace the existing Lurline check and siphon structure in the same approximate location along the Central Canal. The check and siphon structure would be a poured-in-place concrete structure. The Project site or Area of Potential Effect (APE), which includes the structure footprint, construction staging areas, access, and a borrow area, is approximately 7.6 acres. The new check and siphon structure would be situated at Canal Mile Post 49.95 according to the District map. The proposed Project would primarily involve lands within or immediately along the Central Canal. The construction staging areas would be located within APN 014-280-009.

Regulatory Requirements

Federal

The Federal Emergency Management Agency (FEMA) will address any necessary compliance with National Environmental Policy Act (NEPA). Compliance with the National Register of Historic Places (NHPA) and other federal laws is provided.

State

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, State, and federal agencies, cultural resource professionals, Native American Tribes, researchers, and the public.

Local

The Project site is located within Colusa County, California. Colusa County addresses Archaeological, Paleontological, Cultural, and Historical Preservation in the goals, policies, and standards of the County's General Plan.[1]

General Plan Objectives and Policies

The General Plan identifies policies to protect local resources and are provided below. These standards must be met before the County can approve any project.

5. CONSERVATION ELEMENT

Goal CON-3: Conserve and protect cultural and historical resources.

Policy CON 3-1
Require a cultural and archaeological survey prior to approval of any project which would require excavation in an area that is sensitive for cultural or archaeological resources. If significant cultural or archaeological resources, including historic and prehistoric resources, are identified, appropriate measures shall be implemented, such as documentation and conservation, to reduce adverse impacts to the resource.

Policy CON 3-2
Require all development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

a) If construction or grading activities result in the discovery of significant historic or prehistoric archaeological artifacts or unique paleontological resources, all work within 100 feet of the discovery shall cease, the County Department of Planning and Building shall be notified, the resources shall be examined by a qualified archaeologist, paleontologist, or historian for appropriate protection and preservation measures; and work may only resume when appropriate protections are in place and have been approved by the County Department of Planning and Building.
b) If human remains are discovered during any ground disturbing activity, work shall stop until the County Coroner and County Department of Planning and Building have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when appropriate measures have been taken and approved by the County Department of Planning and Building.

Policy CON 3-3
Encourage and cooperate with cities, special districts, State and federal agencies in acknowledging and preserving the County's cultural heritage, historical and archaeological structures, sites and landmarks.

Policy CON 3-4
Encourage voluntary landowner efforts to protect cultural resources consistent with applicable State law.

Policy CON 3-5
Work with Native American representatives to identify and appropriately address, through avoidance or mitigation, impacts to Native American cultural resources and sacred sites during the development review process.

Policy CON 3-6
Encourage Native American tribes to consult with the County prior to approval and development of new projects that may impact County resources, facilities, and the environment.

Policy CON 3-7
Consistent with State local and tribal intergovernmental consultation requirements such as SB18, the County shall consult with Native American tribes that may be interested in proposed new development and land use policy changes.

[1] Colusa County General Plan: https://countyofcolusa.org/DocumentCenter/View/2722/Conservation-Element_Colusa_Final?bidId=

Policy CON 3-8
Encourage the voluntary identification, conservation, and re-use of historical structures, properties, and sites with special and recognized historic, architectural, or aesthetic value.

Study Methodology

First, a review was conducted of State and local databases for the presence of archaeological or architectural resources listed or historic resources eligible for listing on the NRHP or applicable state registries. Second, a cultural resources Records Search and a Native American Heritage Commission Sacred Lands Search was also performed, and a summary of this research is outlined below.

California Historical Resources Information System (CHRIS) - Records Search

As stated above, the OHP contracts with the CHRIS's regional ICs to maintain information regarding historical resources inventory, and provides the data to local, State, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. A records search request was submitted to the regional Northwest California Information Center (NCIC) at California State University, Sonoma in January of 2024 to access this database and research whether or not any cultural or historical resources are known in the Project area. A response letter from NCIC, dated March 8, 2024, was received with the results of the requested records and database search (see Attachment A).

The results of the CHRIS records search include known and recorded historic or cultural resources sites, inventory and excavation reports filed with the NCIC office, and a culmination of resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. The following is a summary of the results from this records search.

- There has been one previous cultural resource study completed within the Project area: S-S-43683.
- There are no recorded resources within the Project area, and it is not known if any exist there.
- The State Office of Historic Preservation Built Environment Resources Directory (OHP BERD), which includes listings of the California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and the National Register of Historic Places, lists one recorded structure within or adjacent to the proposed GCID Lurline Structure Project area, a portion of Glenn-Colusa Irrigation District Main Canal (OTIS # 658365) with a status code of 6Y, meaning this resource is Determined ineligible for the National Register (NR) by consensus through Section 106 process – Not evaluated for the California Register (CR) or local listing.

Native American Heritage Commission - Sacred Lands File Search

The California Native American Heritage Commission (NAHC), created in statute in 1976 (Chapter 1332, Statutes of 1976), is a nine-member body whose members are appointed by the Governor. The NAHC identifies, catalogs, and protects Native American cultural resources, ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act, among many other powers and duties.

The NAHC in Sacramento was contacted in January 2024 to perform a search of the Sacred Lands File (SLF) to determine if any Native American resources have been recorded in the immediate Project area. The response letter dated February 14, 2024, confirms there are no known records associated with the Project (see Attachment B). 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. The NAHC also provided a list of Native American tribes who may also have knowledge of cultural resources in the area. To provide a greater understanding beyond the results of the SLF, it is customary to reach out to local tribes during the CEQA process to further identify any potential impacts to cultural resources. Below is a list of local tribes that were notified of the proposed Project activities, as CEQA is required.

1. *Cachil Dehe Band of Wintun Indians of the Colusa Indian Community, Jennie Mitchum, Cultural Preservation Director*
2. *Cachil Dehe Band of Wintun Indians of the Colusa Indian Community, Wayne Mitchum Jr., Chairman*
3. *Cortina Rancheria – Kletsel Dehe Band of Indians, Charlie Wright, Chairperson*
4. *Estom Yumeka Maidu Tribe of the Enterprise Rancheria, Glenda Nelson, Chairperson*
5. *Grindstone Rancheria of Wintun-Wailaki, Ronald Kirk, Chairperson*
6. *Paskenta Band of Nomlaki Indians, Andrew Alejandre, Chairperson*
7. *Paskenta Band of Nomlaki Indians, Laverne Bill, THPO*
8. *Yocha Dehe Wintun Nation, Anthony Roberts, Chairperson*
9. *Yocha Dehe Wintun Nation, James Kinter, Tribal Secretary*
10. *Yocha Dehe Wintun Nation, Yvonne Perkins, THPO, Cultural Resources Chairman*
11. *Yocha Dehe Wintun Nation, Leland Kinter, Tribal Treasurer*

Outreach letters and follow-up emails were sent to tribal organizations using the NAHC list to further identify Native American interests and concerns in the Project area. A response was received from the Yocha Dehe Wintun Nation Tribe April 12, 2024 stating that while there are no known cultural resources near the Project site, they are requesting a Cultural Awareness Training take place prior to any ground disturbing activities. No other responses were received from any other tribes. Mitigation Measure TCR-1 was incorporated into the Project, see below.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have been determined to have statewide historical significance and must be approved by the County Board of Supervisors or the City Council, recommended by the State Historical Resources Commission, and designated by the Director of California State Parks. A determination of statewide significance is listed in the California Register of Historical Resources (CRHR), and an identification plaque is posted on-site.

The State Office of Historic Preservation Built Environment Resources Directory (OHP BERD), which includes listings of the California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and the National Register of Historic Places, lists one recorded structure within or adjacent to the proposed GCID Lurline Structure Project area, a portion of Glenn-Colusa Irrigation District Main Canal (OTIS # 658365) with a status code of 6Y, meaning this resource is Determined ineligible for the National Register (NR) by consensus through Section 106 process – Not evaluated for the California Register (CR) or local listing. In addition to these inventories, the NWIC base maps show no recorded buildings or structures within the Project area.

Summary of findings

The Project area includes the Central Canal and agricultural lands in the Glenn-Colusa Irrigation District service area, located in Colusa County. It is expected that the area around the existing Central Canal has had continuous ground disturbing activities while the existing lands were being farmed. At the time of these previous activities, cultural resources were not uncovered. Additionally, results of the official Record Search and Sacred Lands Search did not identify any historical or cultural resources within the Project area. Based on the due diligence research it is unlikely that there would be any impacts to historical or cultural resources due to Project activities. However, if an unanticipated discovery were to occur during ground disturbance activities, the following mitigation measures have been incorporated into the proposed Project.

The proposed Project includes standard practices to avoid or minimize cultural resources impacts and would be required to follow all applicable federal, State, and local requirements set for archaeologic resource recovery. In the unlikely event that an archaeological resource is uncovered during the construction of this proposed Project, all construction activities would cease, and a qualified archaeologist would be contacted to assess the uncovered resource. Additionally, in accordance with Health and Safety Code Section 7050.5 and Public Resource Code Section 5097.98, if human remains were uncovered, construction activities would cease, and the Colusa County Coroner would be contacted.

TCR-1

- (Cultural Awareness Training): Prior to construction or any ground disturbing activities, a Cultural Awareness Training Program shall be provided to all construction managers and construction personnel prior to commencing ground disturbance work at the Project site. The training shall be prepared and conducted by a qualified archaeologist to the satisfaction of the District. The training shall be a length of time adequate to explain applicable statues, regulations, enforcement provisions; the prehistoric and historic environmental setting and context, local tribal groups; show sample artifacts; and what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction. The training may be discontinued for new workers to the site when ground disturbance is completed. Construction personnel shall not be permitted to operate equipment within the construction area unless they have attended the training. A list of the names of all personnel who attended the training, and copies of the signed acknowledgement forms shall be submitted to the District for their review and approval.

If you have any further questions, please contact:

Kyler Dill, Assistant Planner
Provost & Pritchard Consulting Group
Phone: (559) 636-1166
Email: kdill@ppeng.com

Attachment A: CHRIS Record Search Results
Attachment B: NAHC Sacred Lands File Search Results and Tribal Outreach Letters
Attachment C: Response Letter from the Yocha Dehe Wintun Nation Tribe Dated April 12, 2024

Attachment A: CHRIS Record Search Results

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
1400 Valley House Drive, Suite 210
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
https://nwic.sonoma.edu

March 8, 2024 NWIC File No.: 23-1054

Kyler Dill
Provost & Pritchard Consulting Group
3387 Bodero Lane
Chico, CA 95973

Re: Record search results for the proposed Glenn-Colusa Irrigation District - Lurline Check and Replacement Structure Project [GCID Lurline Structure]

Dear Kyler Dill:

Per your request received by our office on the 30th of January, 2024, a records search was conducted for the above referenced project by reviewing pertinent Northwest Information Center (NWIC) base maps that reference cultural resources records and reports, historic-period maps, and literature for Colusa County. Please note that use of the term cultural resources includes both archaeological resources and historical buildings and/or structures.

The Glenn-Colusa Irrigation District proposes to construct and replace the Lurline check and siphon structure in the approximate existing location. The check and siphon structure would be a poured-in-place concrete structure. The Project site, which includes the structure footprint, construction staging areas, access, and a borrow area, is approximately 7.6 acres. The new check and siphon structure would be located west of Delaney Road where Lurline Creek crosses Central Canal in Colusa County, situated at Canal Mile Post 49.95 according to the District map, T16N R04W Sections 24, 25. The borrow area is situated north of the proposed check and siphon structure on the bank of the Central Canal and is located within T17N R03W Sections 30, 31. The Project would primarily involve lands within or immediately along the Central Canal. The construction stages areas would be within APN 014-280-009.

Review of the information at our office indicates that there has been one larger cultural resource study that includes approximately 20% of the GCID Lurline Structure project area (Davey et al 2007: S-S-43683). This GCID Lurline Structure project area contains no recorded archaeological resources. The State Office of Historic Preservation Built Environment Resources Directory (OHP BERD), which includes listings of the California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and the National Register of Historic Places, lists one recorded structure within or adjacent to the proposed GCID Lurline Structure project area, a portion of Glenn-Colusa Irrigation District Main Canal (OTIS # 658365) with a status code of 6Y, meaning this resource is Determined ineligible for the National Register (NR) by consensus through Section 106 process – Not evaluated for the California Register (CR) or local listing. In addition to these inventories, the NWIC base maps show no recorded buildings or structures within the proposed GCID Lurline Structure project area.

At the time of Euroamerican contact, the Native Americans that lived in the area were speakers of the Patwin language, which is part of the Southern Wintuan language family (Johnson 1978:350). There are no Native American resources within or adjacent to the proposed GCID Lurline Structure project area that are referenced in the ethnographic literature (Barrett 1908).

Based on an evaluation of the environmental setting and features associated with known sites, Native American resources in this part of Colusa County have been found near intermittent and perennial watercourses, and in areas near the hill to valley interface. The GCID Lurline Structure project areas; the Borrow area and Siphon Structure areas are both within Colusa County along portions of the Glenn-Colusa Canal. The Borrow area is located approximately two and one half miles west of the Town of Maxwell, approximately two hundred meters north of Stone Corral Creek, with the Siphon Structure area approximately four and one half miles southwest of the Town of Maxwell in and around its confluence with Lurline Creek. Aerial maps indicate a levee road and adjacent Canal and planted fields at the Borrow area, and the same including an orchard, a plow and planted field and the confluence of Lurline Creek and its adjacent roads. Given the similarity of these environmental factors, there is a moderate to high potential for unrecorded Native American resources to be within the proposed GCID Lurline Structure project area.

Review of historical literature and maps indicated historic-period activity within the GCID Lurline Structure project area. The 1906 Maxwell USGS 15-minute topographic quadrangle depicts a portion of the Central Irrigation Canal within and adjacent to the Borrow portion of the project area. With this information in mind, there is a moderate to high potential for unrecorded historic-period archaeological resources to be within the proposed GCID Lurline Structure project area.

The 1952 Maxwell and 1961 Wilbur Springs USGS 15-minute topographic quadrangles depict the Glenn Colusa Canal with adjacent levee roads within the GCID Lurline Structure project area. If present, these unrecorded structures meet the Office of Historic Preservation's minimum age standard that buildings, structures, and objects 45 years or older may be of historical value.

RECOMMENDATIONS:

1) There is a moderate to high potential for Native American archaeological resources and a moderate to high potential for historic-period archaeological resources to be within the project area. However, due to the previous disturbance of the area from the construction of the Glenn-Colusa [Irrigation] Canal and adjacent levee roads and planted fields, there is a low potential for Native American and/or historic-period archaeological resources to be within the GCID Lurline Structure project areas, and further study is not recommended at this time.

2) If archaeological resources are encountered **during construction,** work should be temporarily halted in the vicinity of the discovered materials and workers should avoid altering the materials and their context until a qualified professional archaeologist has evaluated the situation and provided appropriate recommendations. Project personnel should not collect cultural resources. Native American resources include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic-period resources include stone or adobe foundations or

walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

3) It is recommended that any identified cultural resources be recorded on DPR 523 historic resource recordation forms, available online from the Office of Historic Preservation's website: https://ohp.parks.ca.gov/?page_id=28351

4) We recommend the lead agency contact the local Native American tribe(s) regarding traditional, cultural, and religious heritage values. For a complete listing of tribes in the vicinity of the project, please contact the Native American Heritage Commission at 916/373-3710.

5) The proposed GCID Lurline Structure project area contains a portion of one recorded structure included in the OHP BERD, Glenn-Colusa Irrigation District Main Canal (OTIS # 658365). In addition, if the proposed project area contains structures [levee and roads] that meet the minimum age requirement, prior to commencement of project activities, it is recommended that these resources be assessed by a professional familiar with the architecture and history of Colusa County. Please refer to the list of consultants who meet the Secretary of Interior's Standards at http://www.chrisinfo.org.

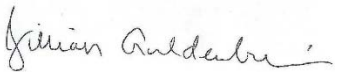
6) Review for possible historic-period buildings or structures has included only those sources listed in the attached bibliography and should not be considered comprehensive.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation 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 California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

Thank you for using our services. Please contact this office if you have any questions, (707) 588-8455.

Sincerely,



Jillian Guldenbrein
Researcher

LITERATURE REVIEWED

In addition to archaeological maps and site records on file at the Northwest Information Center of the Historical Resources Information System, the following literature was reviewed:

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**Note that the Office of Historic Preservation's *Historic Properties Directory* includes National Register, State Registered Landmarks, California Points of Historical Interest, and the California Register of Historical Resources as well as Certified Local Government surveys that have undergone Section 106 review.

Attachment B: NAHC Sacred Lands File Search Results and Tribal Outreach Letters

NATIVE AMERICAN HERITAGE COMMISSION

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

February 14, 2024

Kyler Dill
Provost & Pritchard

***Via Email to*: kdill@ppeng.com**

Re: Glenn-Colusa Irrigation District - Lurline Check and Replacement Structure Project, Colusa County

Dear Mr. Dill:

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: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

PROVOST&PRITCHARD
CONSULTING GROUP

3387 Bodero Ln • Chico, CA 95973 • (866) 776-6200
www.provostandpritchard.com

March 6, 2024

Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
Jennie Mitchum, Cultural Preservation Director
3730 Highway 45
Colusa, CA, 95932

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Jennie Mitchum, Cultural Preservation Director:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

The Glenn-Colusa Irrigation District proposes to construct and replace the Lurline check and siphon structure in the approximate existing location. The structure would be a poured-in-place concrete structure. The Project site comprises approximately 7.6 acres, comprising the structure footprint, construction staging areas, access, and a borrow pit. Construction would be located west of Delaney Road where Lurline Creek crosses Central Canal in Colusa County and situated at Canal Mile Post 49.95 according to the District map. The borrow pit, accounting for 5.2 of the 7.6 acres, would be north of the construction site along the bank of the Central Canal (T17N R03W Sections 31,32).

Provost and Pritchard Consulting Group has requested a records search of the California Historic Resources Information System from the Northwest Information Center at Sonoma State University to identify any cultural resources within or adjacent to the proposed Project area. A search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed with negative results. The NAHC provided your name and address as a tribal contact that is culturally affiliated to the proposed Project area. If you have any information that you wish to share or have questions or would like more information about the Project, please do not hesitate to contact me by phone (559) 449-2700, email (kdillppeng.com), or send a letter to my attention. I would appreciate any information you might provide to assist us with our inventory efforts.

Be assured that any locations of archaeological sites, cemeteries, or sacred places will be treated confidentially, as required by law, and not disclosed in any document available to the general public.

Sincerely,

Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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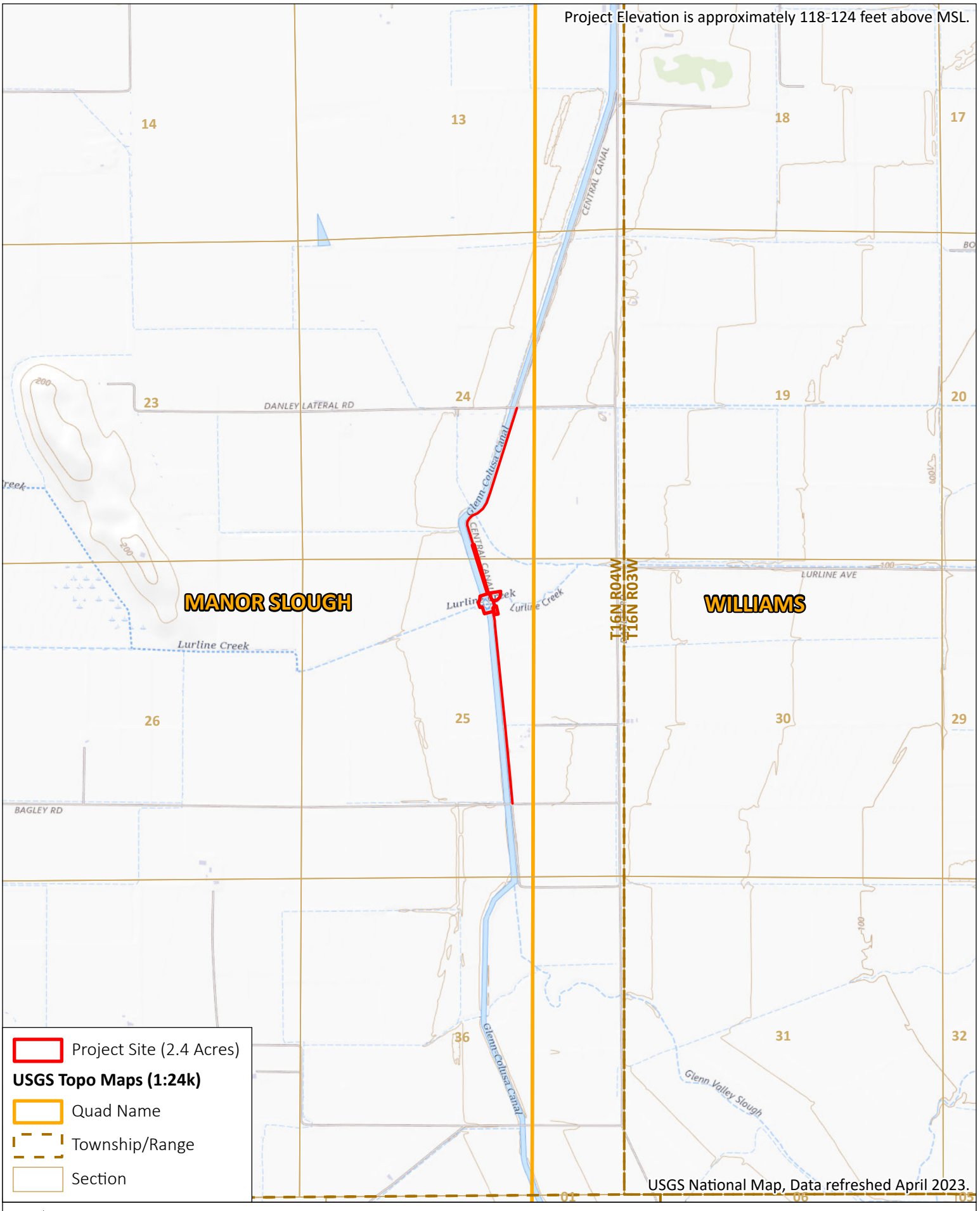
Miles

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

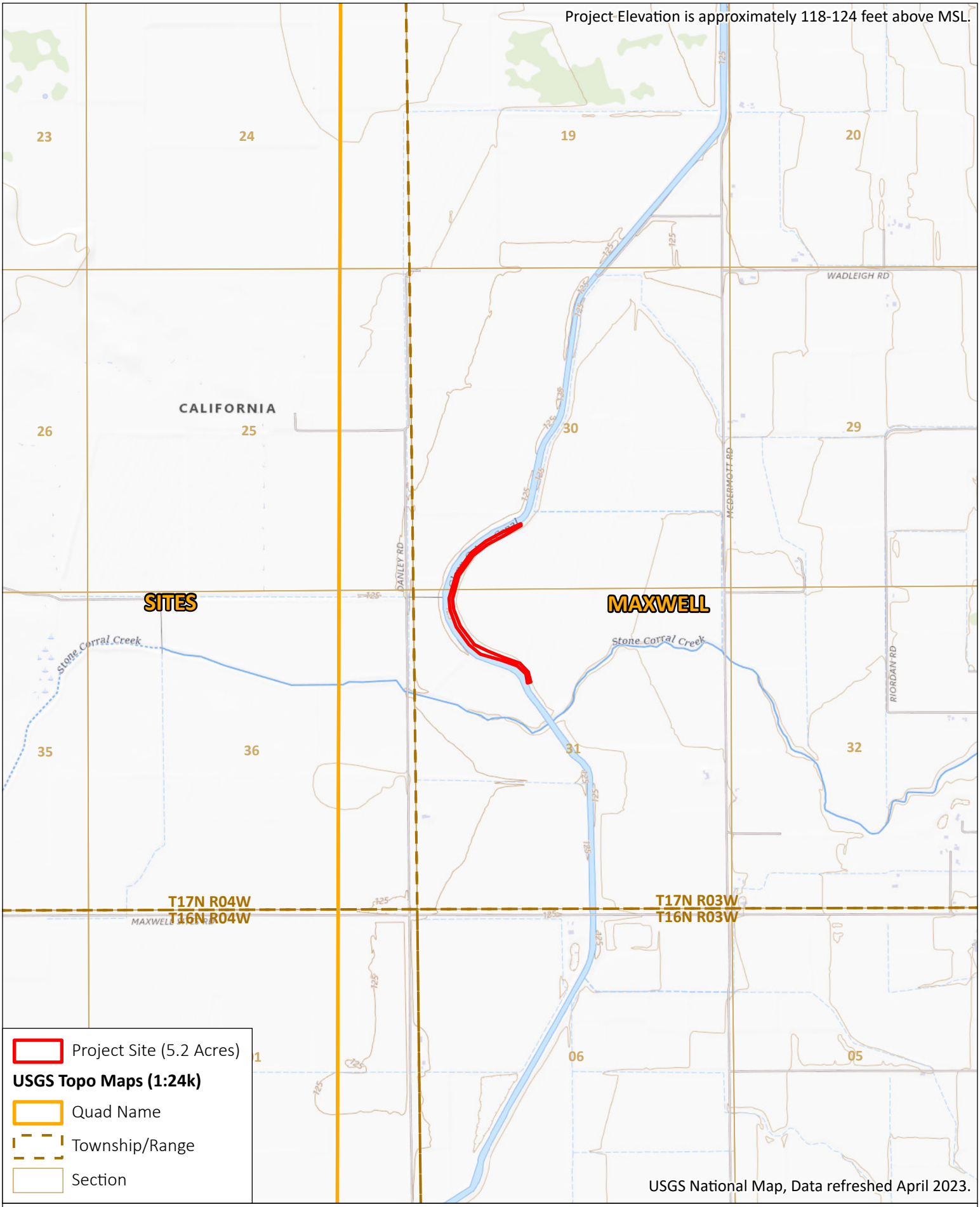
PROVOST& PRITCHARD



Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD



Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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March 6, 2024

Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
Wayne Mitchum Jr., Chairman
3730 Highway 45
Colusa, CA, 95932

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Wayne Mitchum Jr., Chairman:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

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Sincerely,

Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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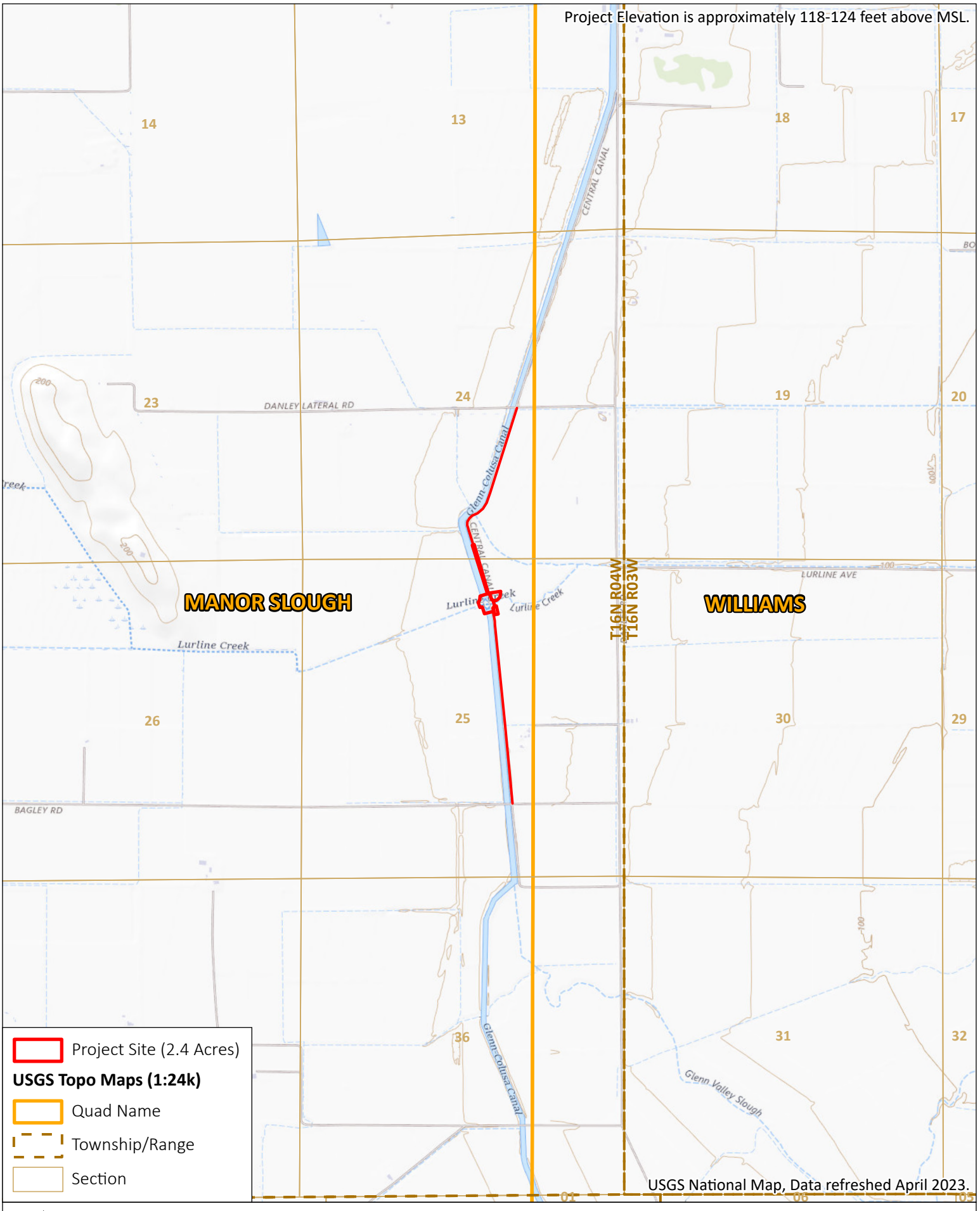
Miles

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

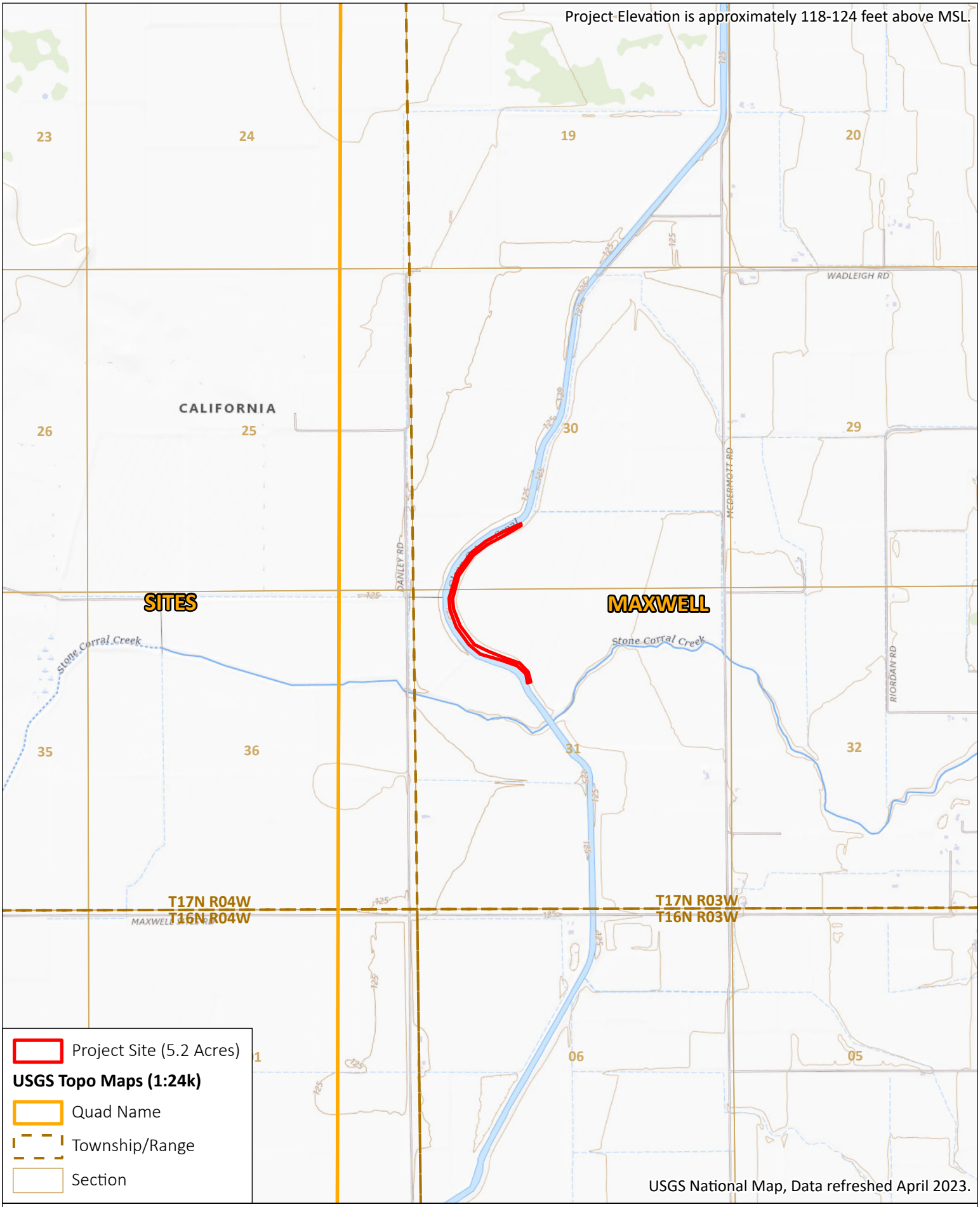
PROVOST& PRITCHARD



Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD



Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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March 6, 2024

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

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Charlie Wright, Chairperson:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

The Glenn-Colusa Irrigation District proposes to construct and replace the Lurline check and siphon structure in the approximate existing location. The structure would be a poured-in-place concrete structure. The Project site comprises approximately 7.6 acres, comprising the structure footprint, construction staging areas, access, and a borrow pit. Construction would be located west of Delaney Road where Lurline Creek crosses Central Canal in Colusa County and situated at Canal Mile Post 49.95 according to the District map. The borrow pit, accounting for 5.2 of the 7.6 acres, would be north of the construction site along the bank of the Central Canal (T17N R03W Sections 31,32).

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Sincerely,

Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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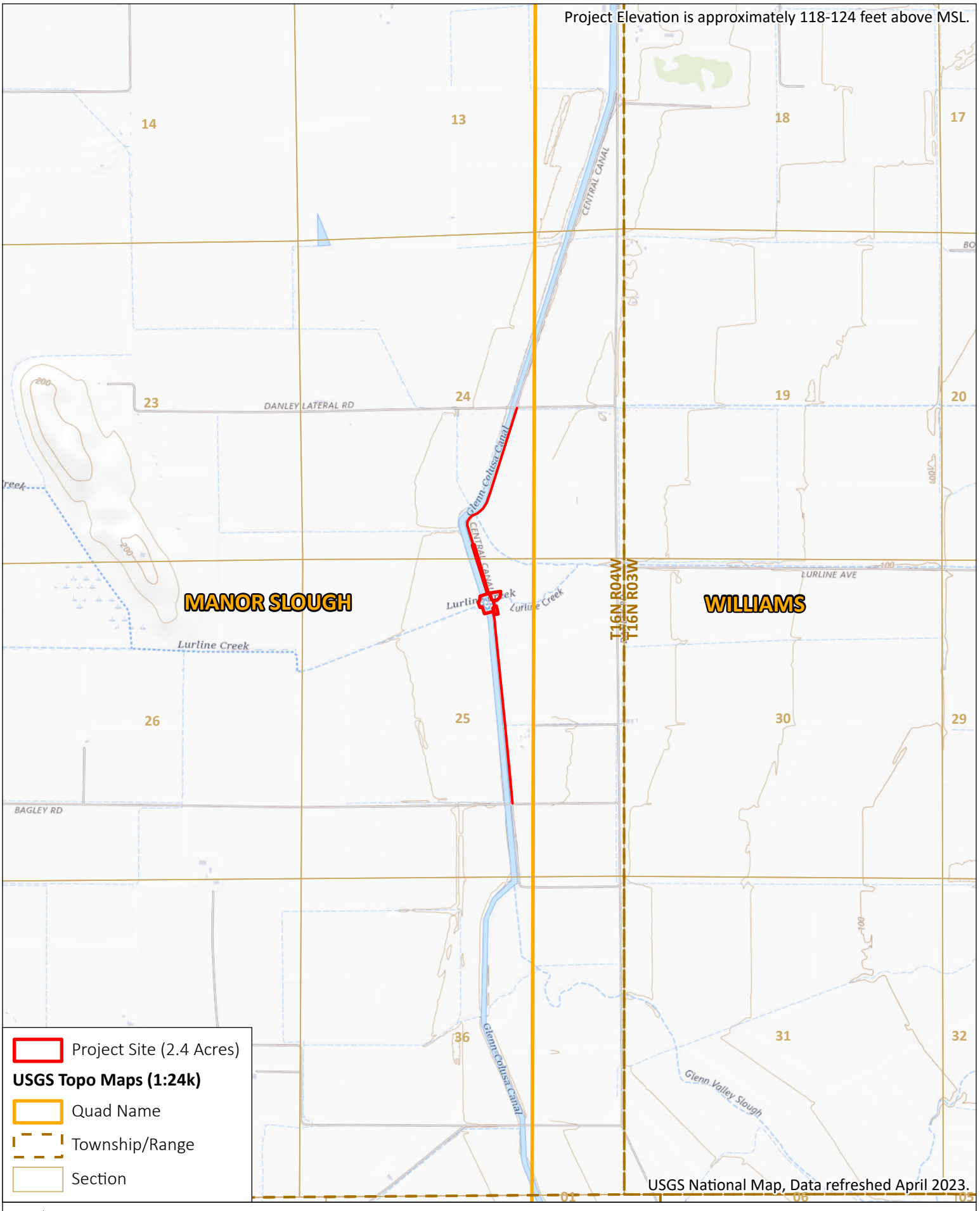
Miles

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD



Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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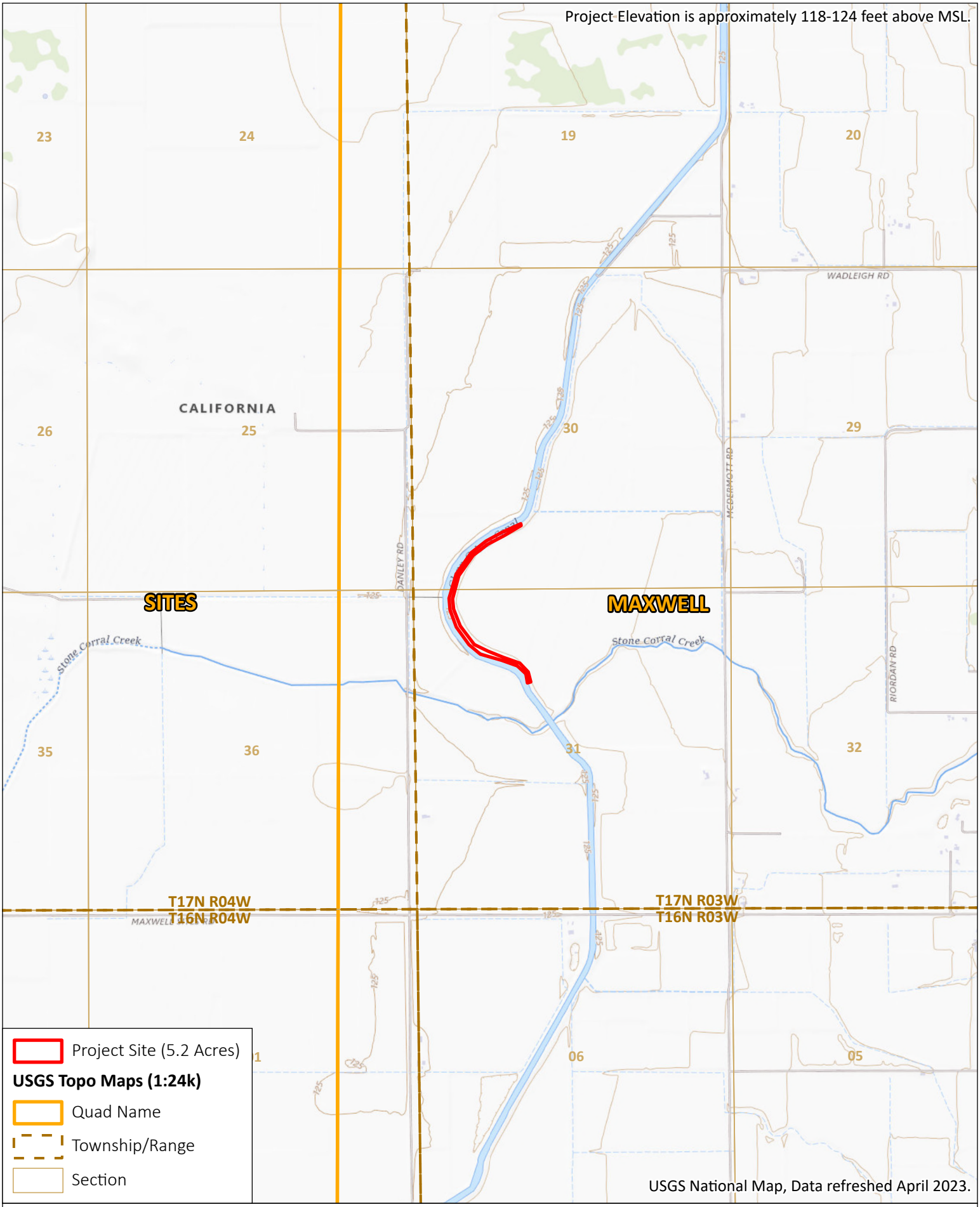

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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March 6, 2024

Estom Yumeka Maidu Tribe of the Enterprise Rancheria
Glenda Nelson, Chairperson
2133 Monte Vista Avenue
Oroville, CA, 95966

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Glenda Nelson, Chairperson:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

The Glenn-Colusa Irrigation District proposes to construct and replace the Lurline check and siphon structure in the approximate existing location. The structure would be a poured-in-place concrete structure. The Project site comprises approximately 7.6 acres, comprising the structure footprint, construction staging areas, access, and a borrow pit. Construction would be located west of Delaney Road where Lurline Creek crosses Central Canal in Colusa County and situated at Canal Mile Post 49.95 according to the District map. The borrow pit, accounting for 5.2 of the 7.6 acres, would be north of the construction site along the bank of the Central Canal (T17N R03W Sections 31,32).

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Sincerely,

Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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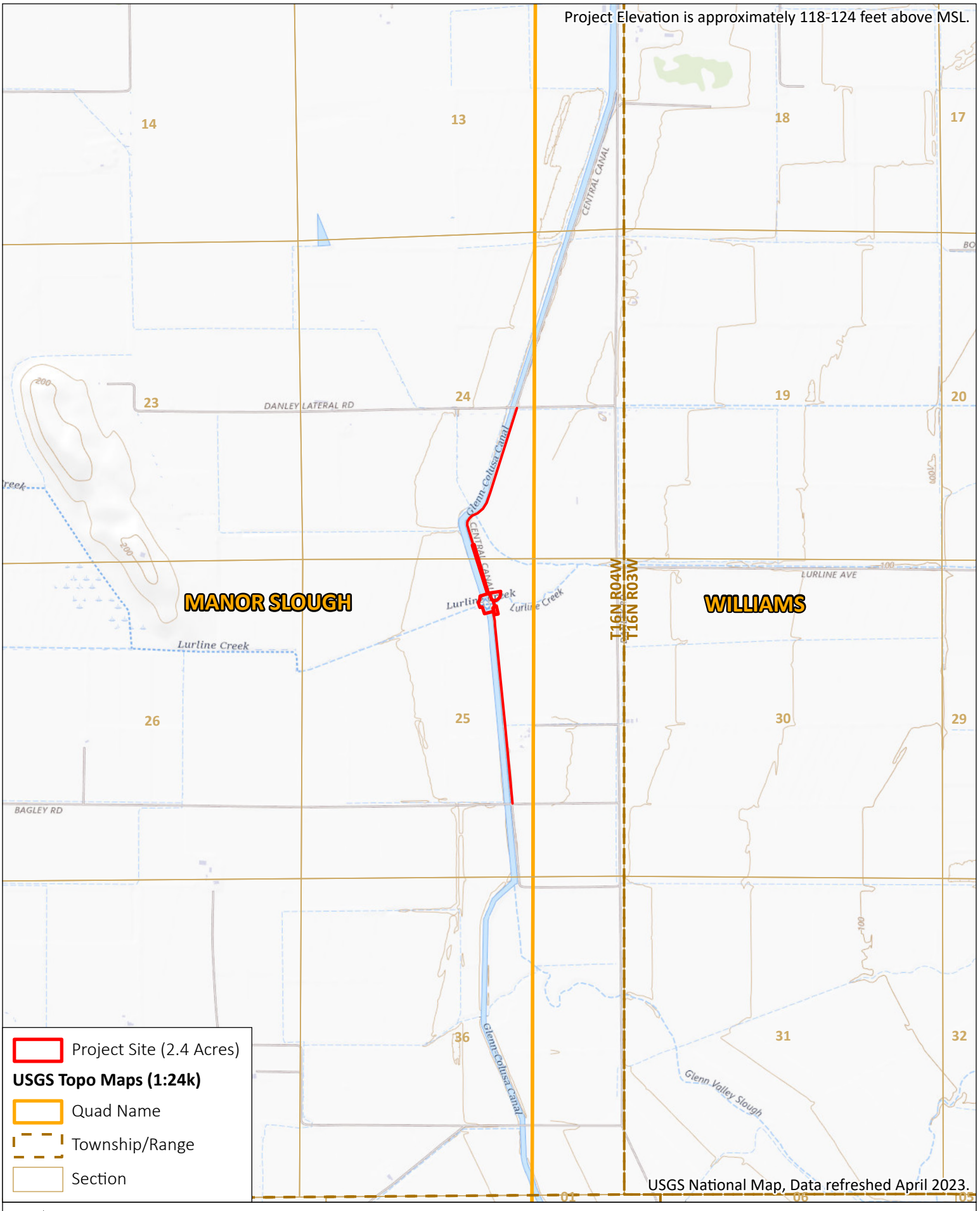
Miles

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD



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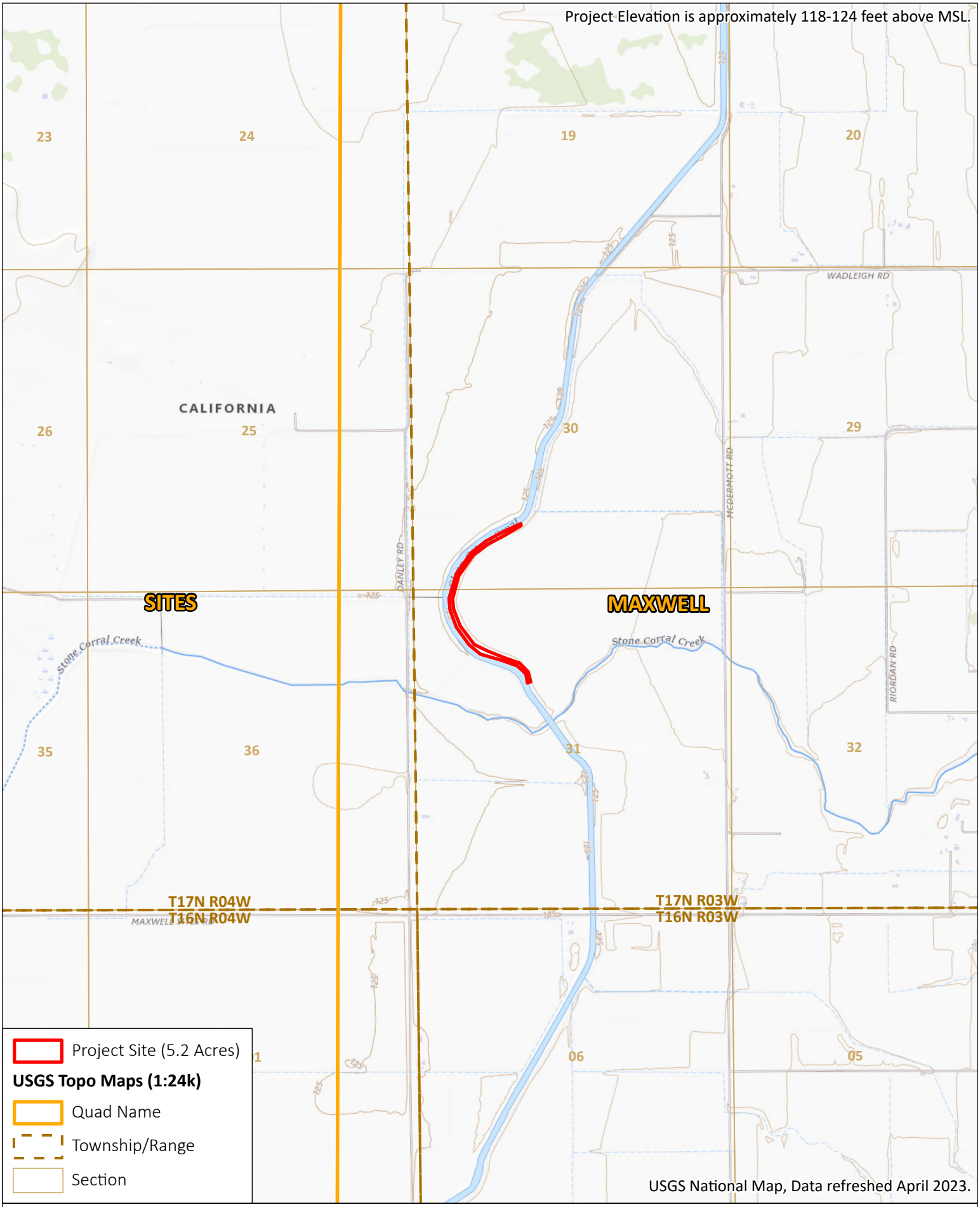

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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www.provostandpritchard.com

March 6, 2024

Grindstone Rancheria of Wintun-Wailaki
Ronald Kirk, Chairperson
P.O. Box 63
Elk Creek, CA, 95939

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Ronald Kirk, Chairperson:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

The Glenn-Colusa Irrigation District proposes to construct and replace the Lurline check and siphon structure in the approximate existing location. The structure would be a poured-in-place concrete structure. The Project site comprises approximately 7.6 acres, comprising the structure footprint, construction staging areas, access, and a borrow pit. Construction would be located west of Delaney Road where Lurline Creek crosses Central Canal in Colusa County and situated at Canal Mile Post 49.95 according to the District map. The borrow pit, accounting for 5.2 of the 7.6 acres, would be north of the construction site along the bank of the Central Canal (T17N R03W Sections 31,32).

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Sincerely,

Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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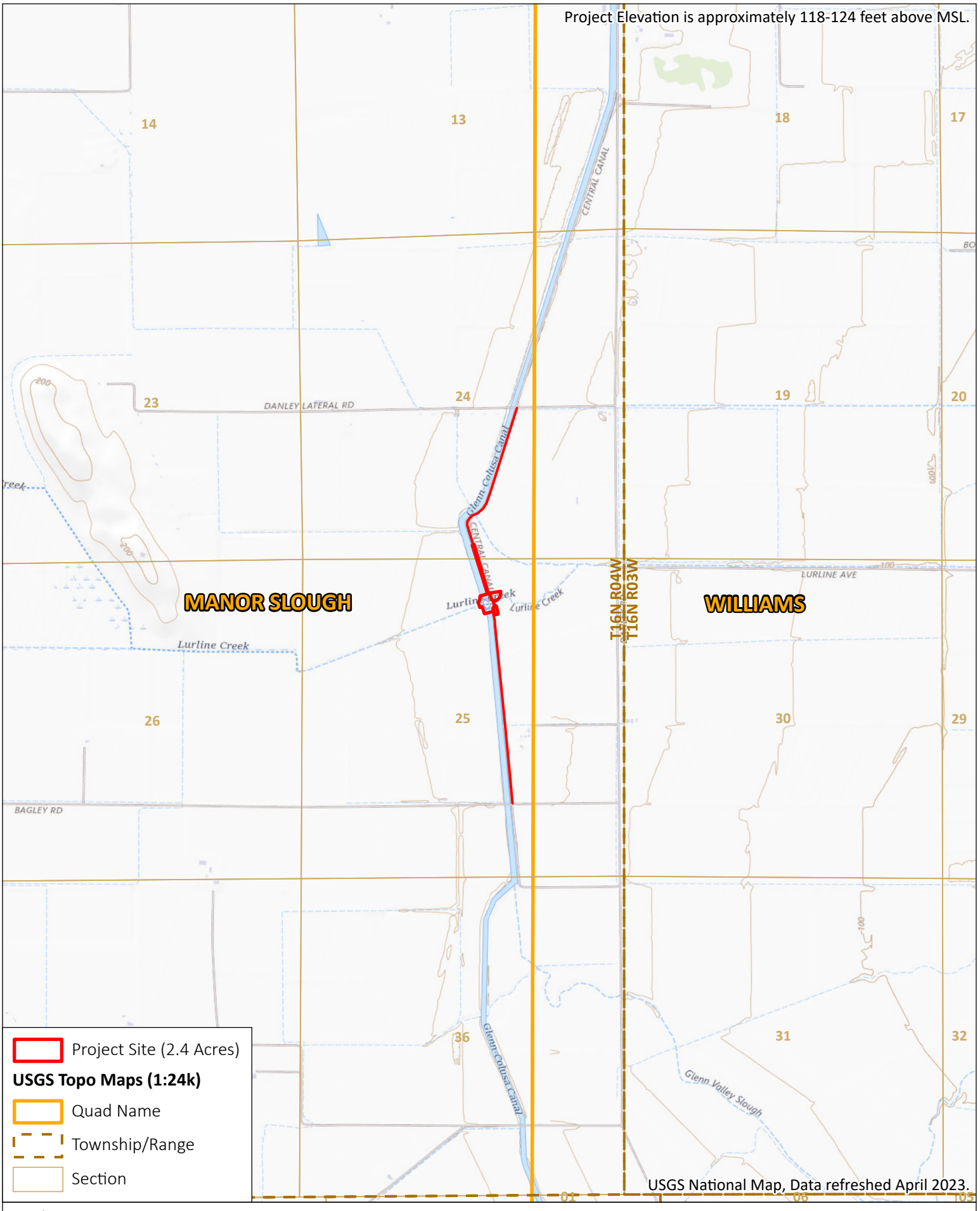
Miles

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD



Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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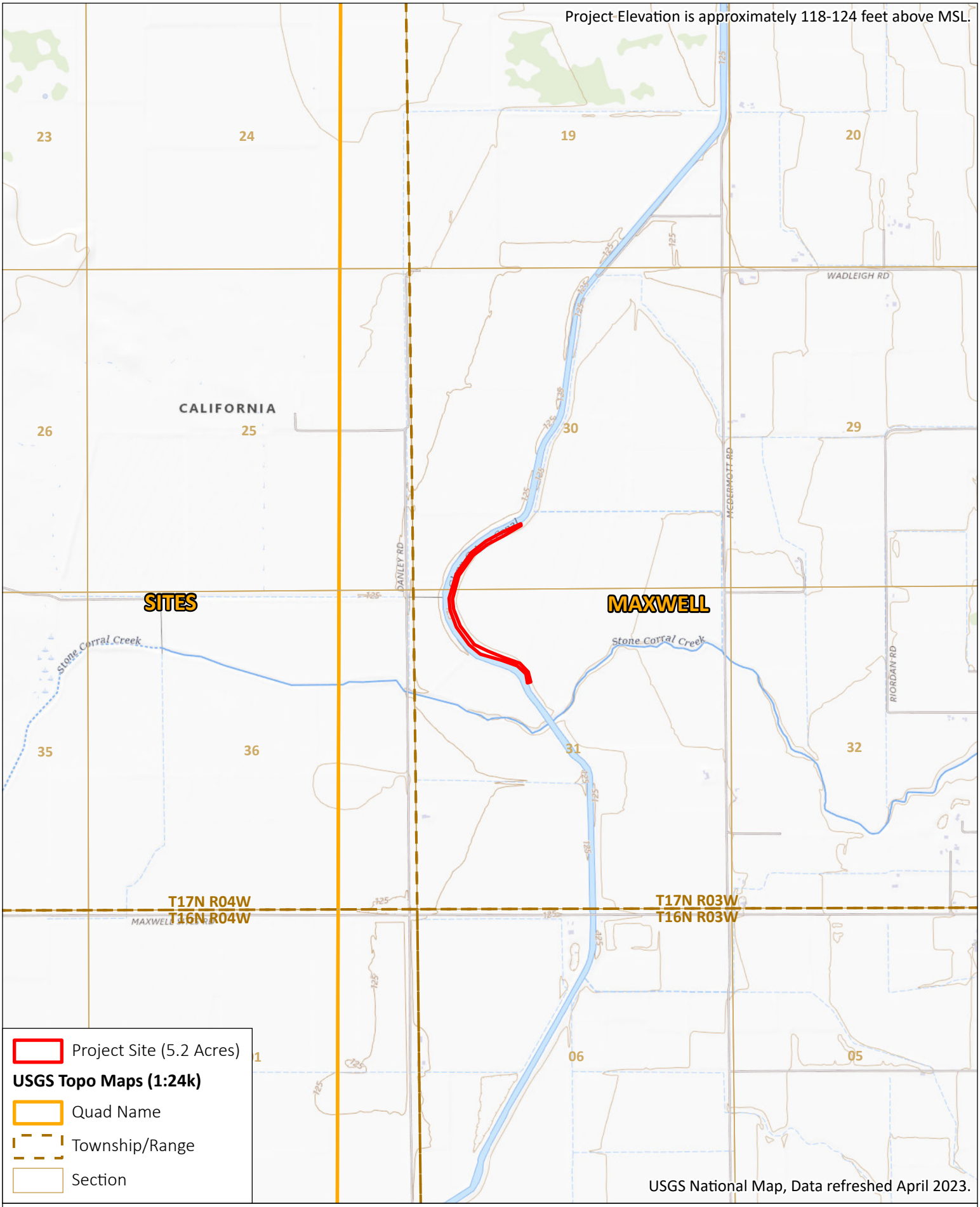

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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www.provostandpritchard.com

March 6, 2024

Paskenta Band of Nomlaki Indians
Andrew Alejandre, Chairperson
22580 Olivewood Avenue
Corning, CA, 96021

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Andrew Alejandre, Chairperson:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

The Glenn-Colusa Irrigation District proposes to construct and replace the Lurline check and siphon structure in the approximate existing location. The structure would be a poured-in-place concrete structure. The Project site comprises approximately 7.6 acres, comprising the structure footprint, construction staging areas, access, and a borrow pit. Construction would be located west of Delaney Road where Lurline Creek crosses Central Canal in Colusa County and situated at Canal Mile Post 49.95 according to the District map. The borrow pit, accounting for 5.2 of the 7.6 acres, would be north of the construction site along the bank of the Central Canal (T17N R03W Sections 31,32).

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Sincerely,

Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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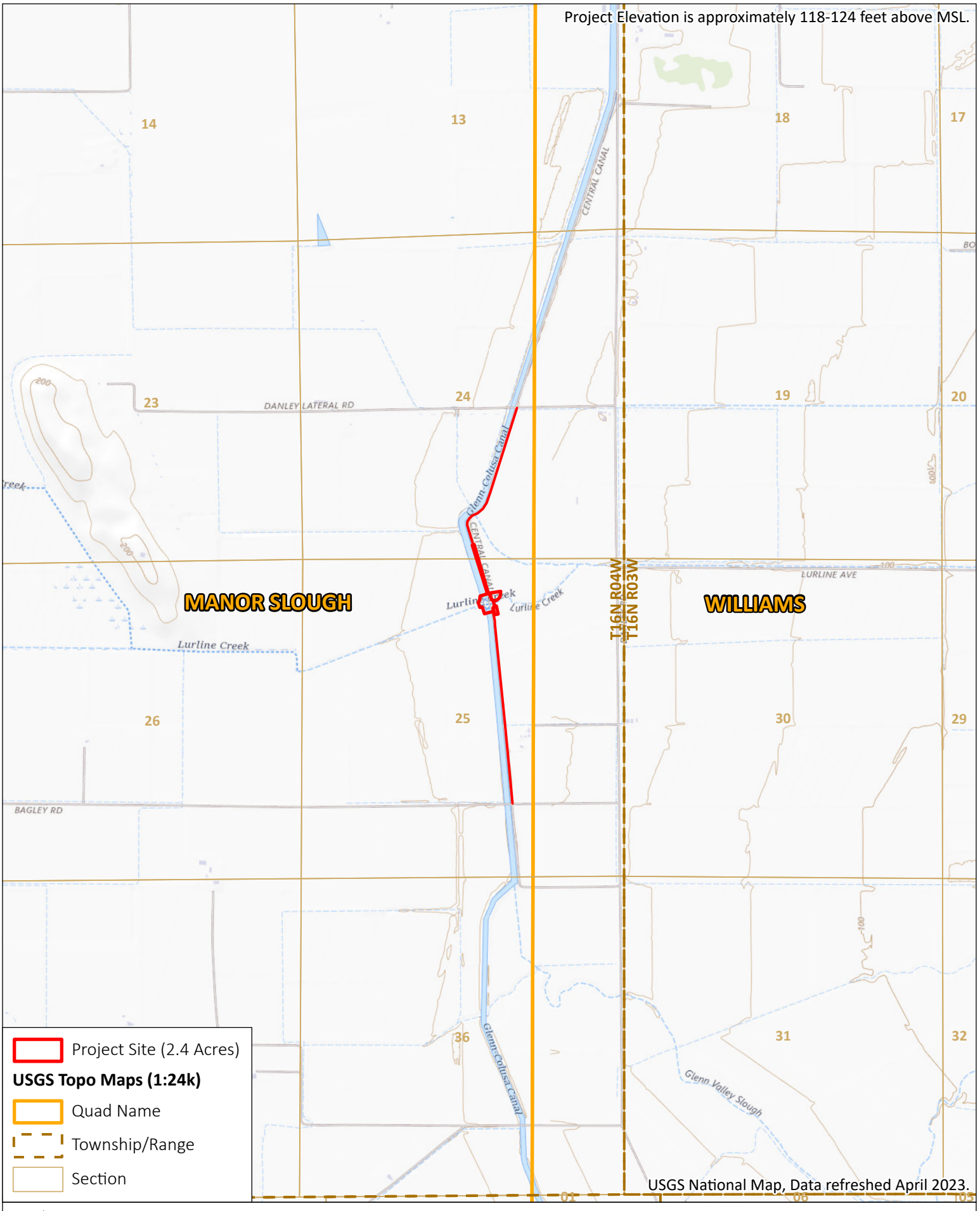
Miles

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD



Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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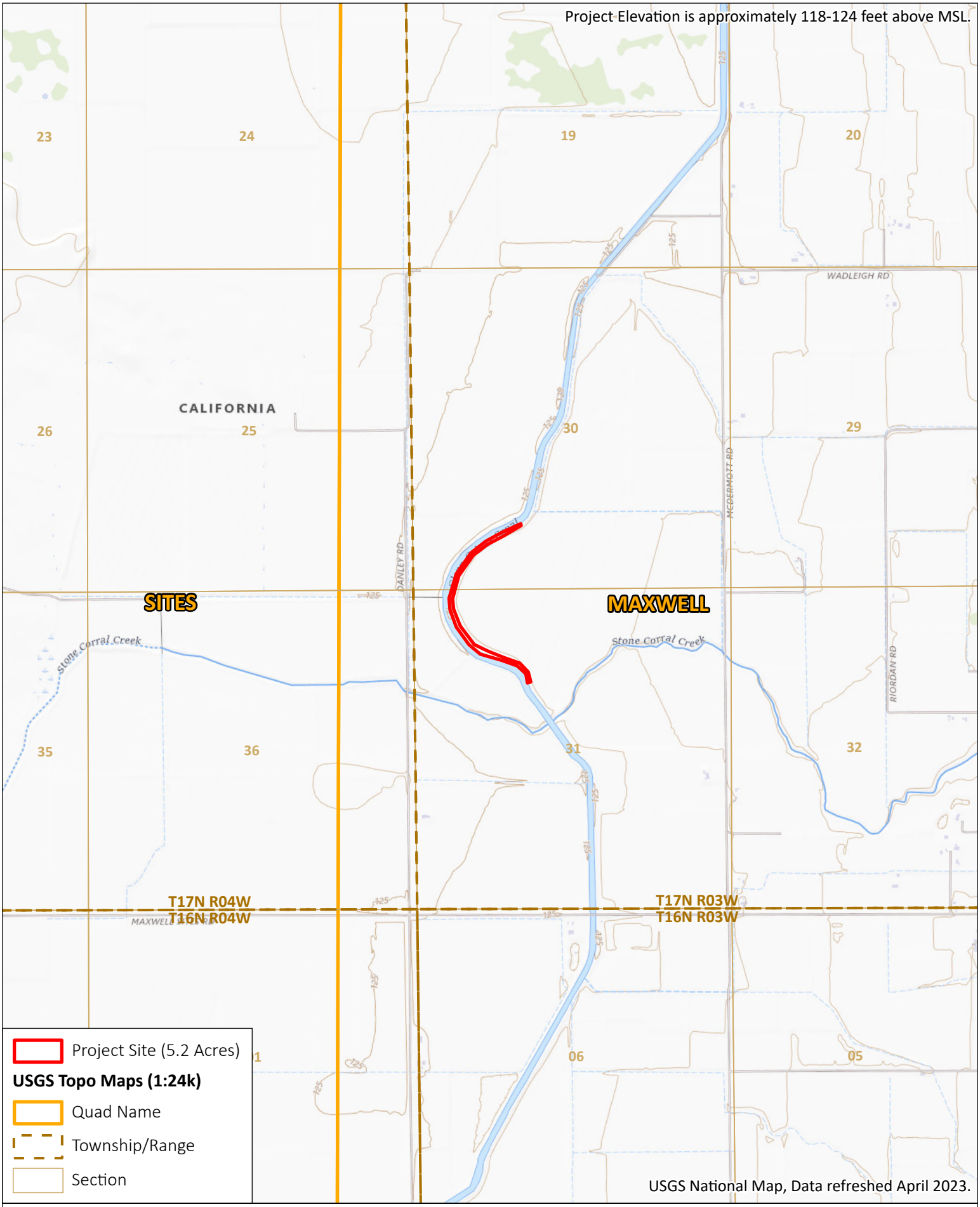

Glenn-Colusa Irrigation District

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www.provostandpritchard.com

March 6, 2024

Paskenta Band of Nomlaki Indians
Laverne Bill, THPO
22580 Olivewood Avenue
Corning, CA, 96021

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Laverne Bill, THPO:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

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Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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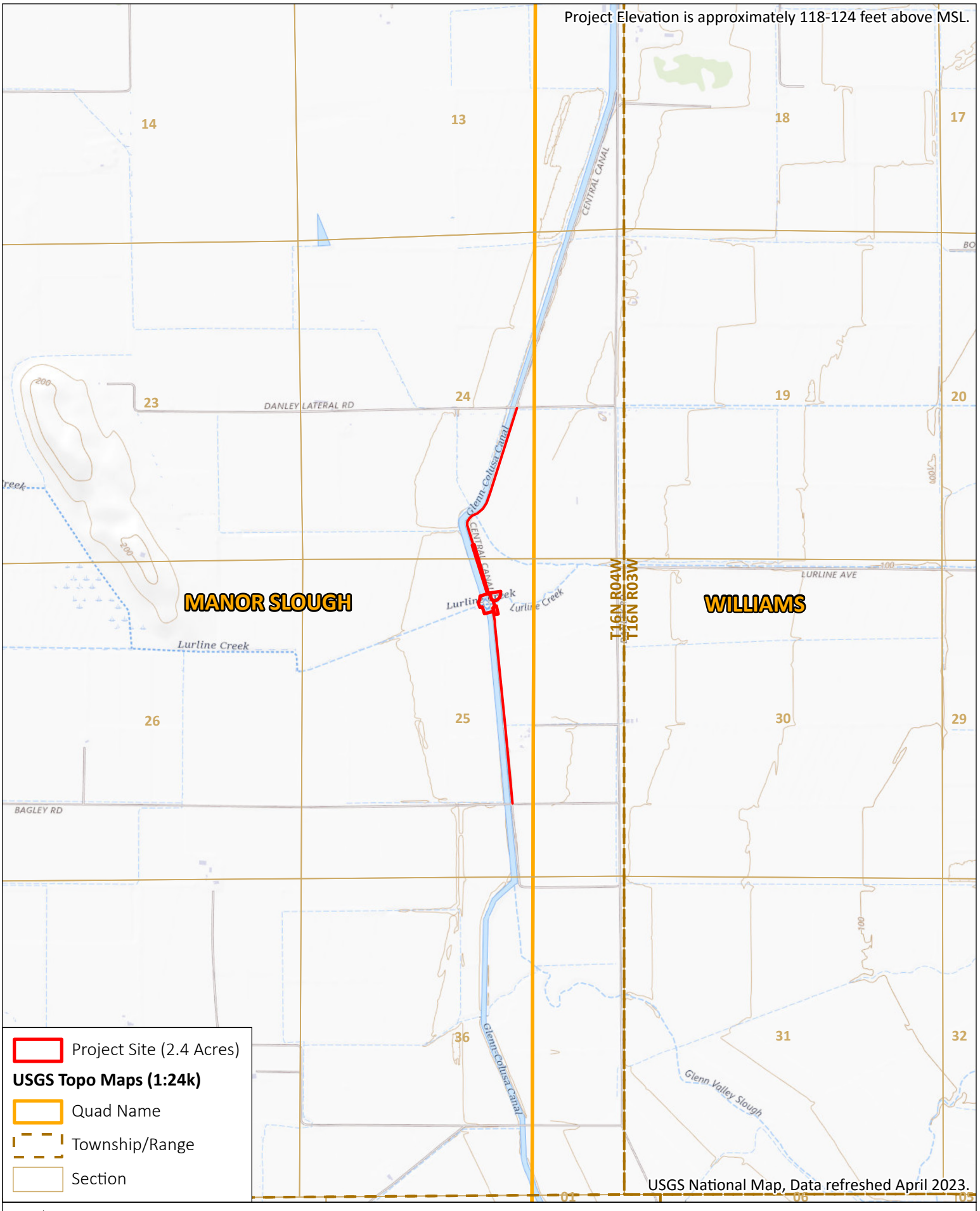

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Lurline Check & Siphon Replacement

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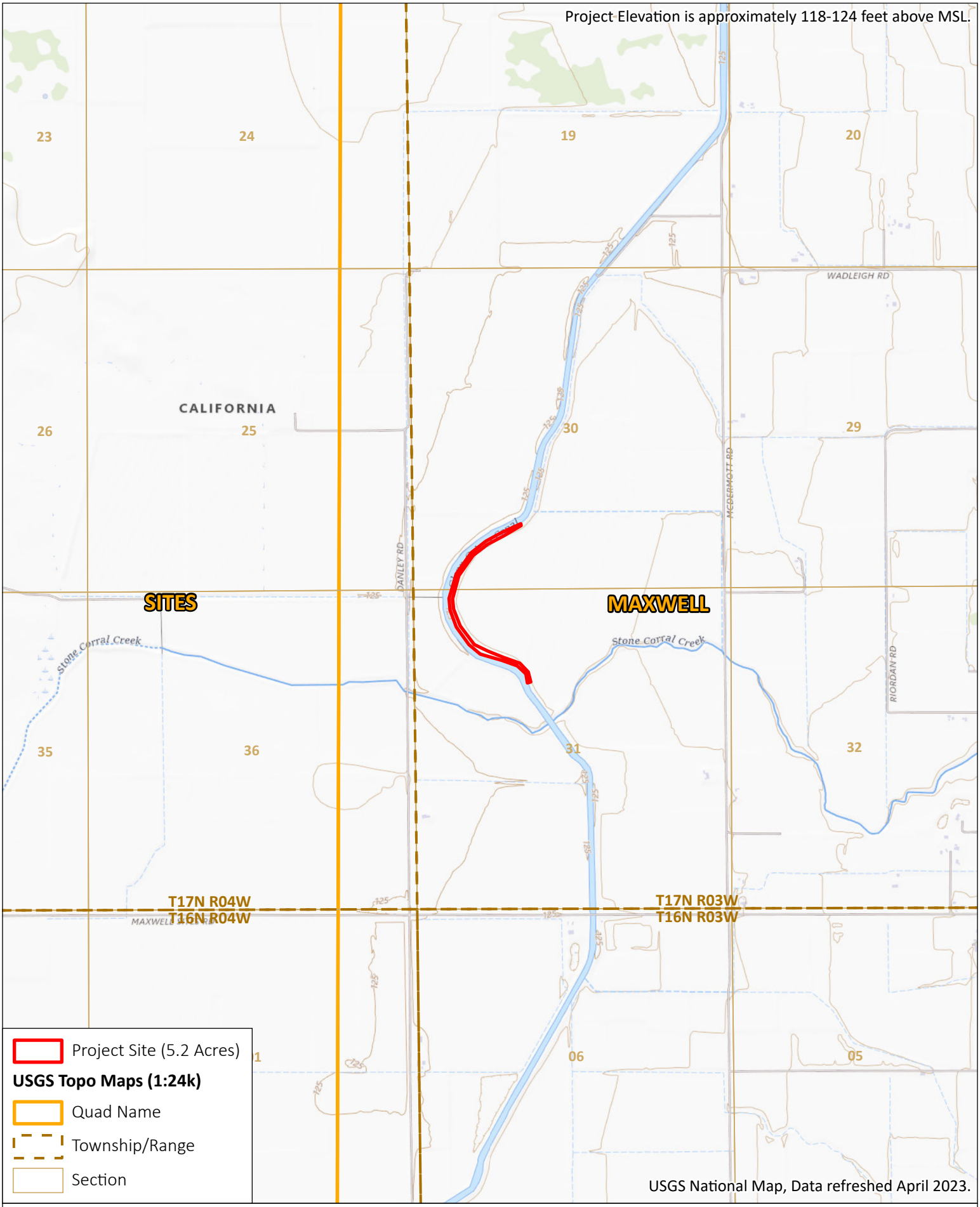

Glenn-Colusa Irrigation District

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CONSULTING GROUP

3387 Bodero Ln • Chico, CA 95973 • (866) 776-6200
www.provostandpritchard.com

March 6, 2024

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

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Anthony Roberts, Chairperson:

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Encl.: Topo Maps; APE Maps

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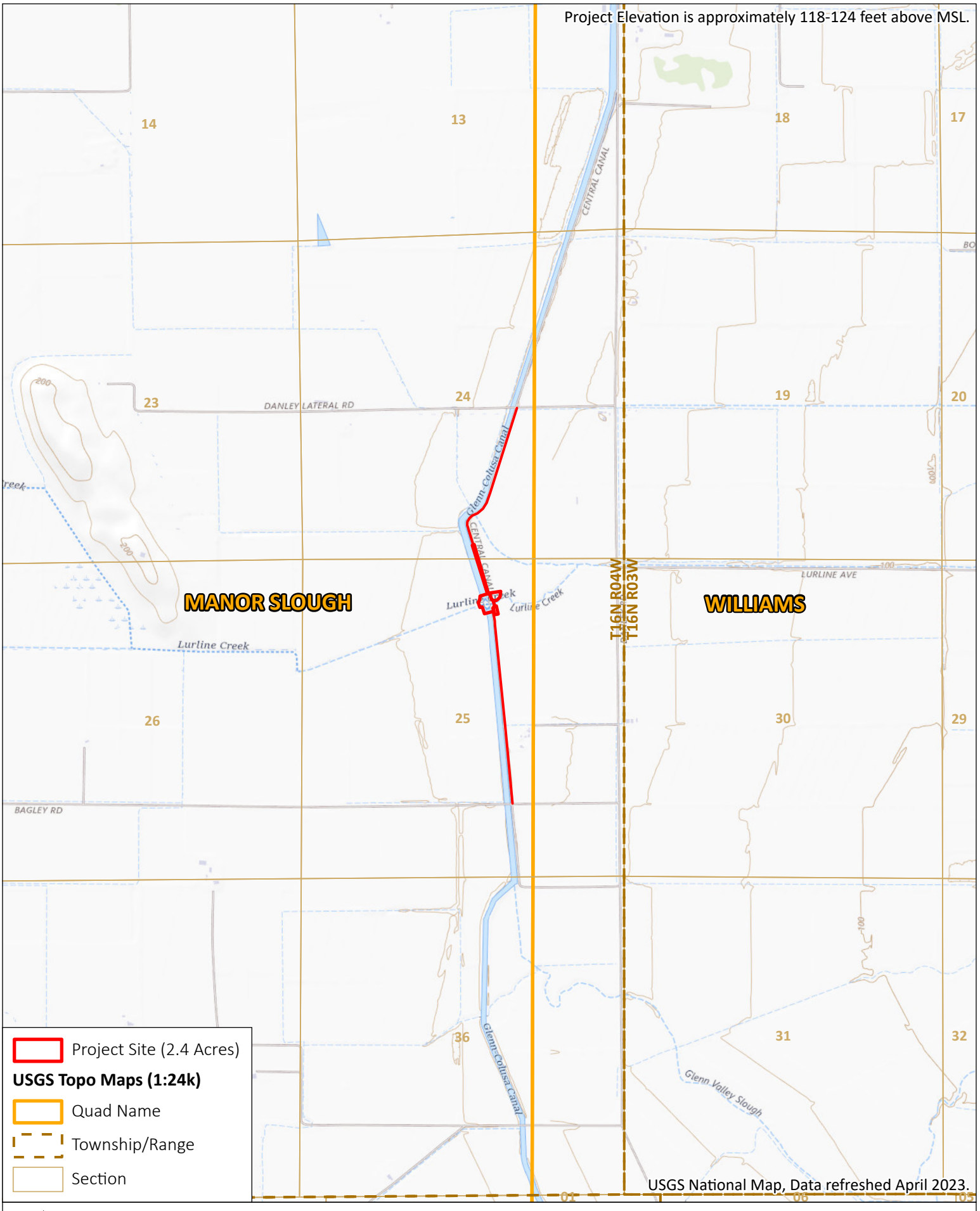
Miles

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

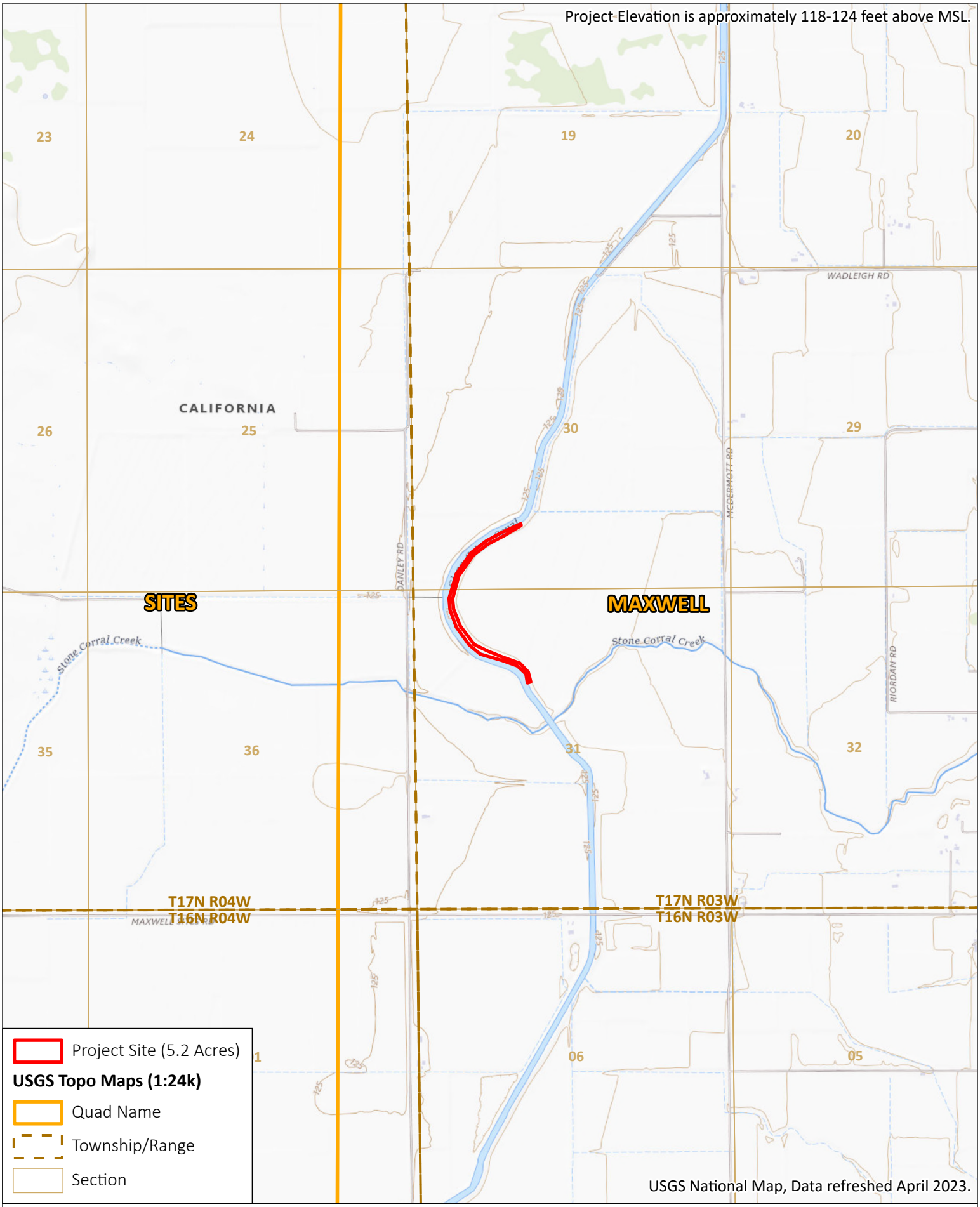
PROVOST& PRITCHARD



Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD



Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD

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CONSULTING GROUP

3387 Bodero Ln • Chico, CA 95973 • (866) 776-6200
www.provostandpritchard.com

March 6, 2024

Yocha Dehe Wintun Nation
James Kinter, Tribal Secretary
P.O. Box 18
Brooks, CA, 95606

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear James Kinter, Tribal Secretary:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

The Glenn-Colusa Irrigation District proposes to construct and replace the Lurline check and siphon structure in the approximate existing location. The structure would be a poured-in-place concrete structure. The Project site comprises approximately 7.6 acres, comprising the structure footprint, construction staging areas, access, and a borrow pit. Construction would be located west of Delaney Road where Lurline Creek crosses Central Canal in Colusa County and situated at Canal Mile Post 49.95 according to the District map. The borrow pit, accounting for 5.2 of the 7.6 acres, would be north of the construction site along the bank of the Central Canal (T17N R03W Sections 31,32).

Provost and Pritchard Consulting Group has requested a records search of the California Historic Resources Information System from the Northwest Information Center at Sonoma State University to identify any cultural resources within or adjacent to the proposed Project area. A search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed with negative results. The NAHC provided your name and address as a tribal contact that is culturally affiliated to the proposed Project area. If you have any information that you wish to share or have questions or would like more information about the Project, please do not hesitate to contact me by phone (559) 449-2700, email (kdillppeng.com), or send a letter to my attention. I would appreciate any information you might provide to assist us with our inventory efforts.

Be assured that any locations of archaeological sites, cemeteries, or sacred places will be treated confidentially, as required by law, and not disclosed in any document available to the general public.

Sincerely,

Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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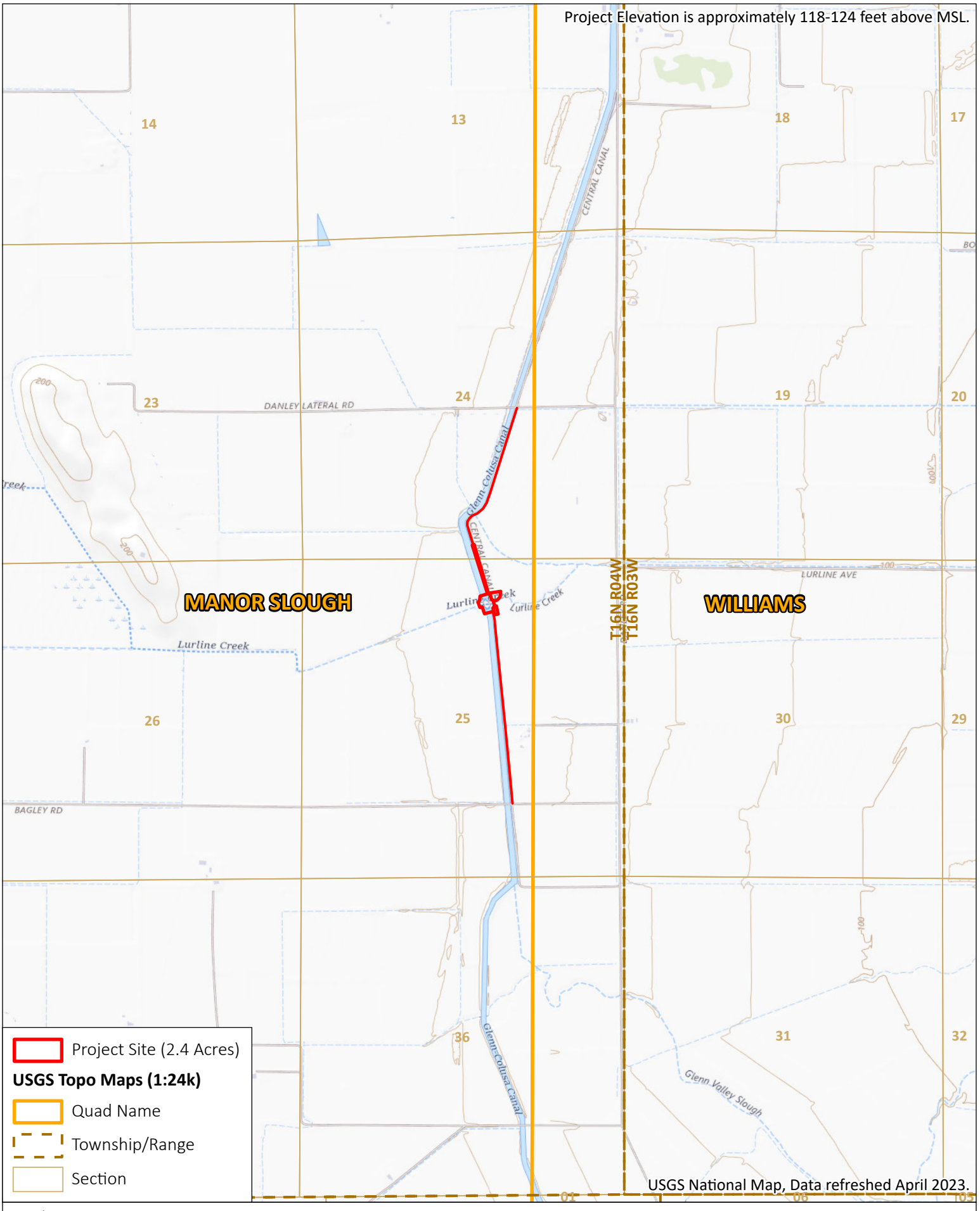
Miles

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD



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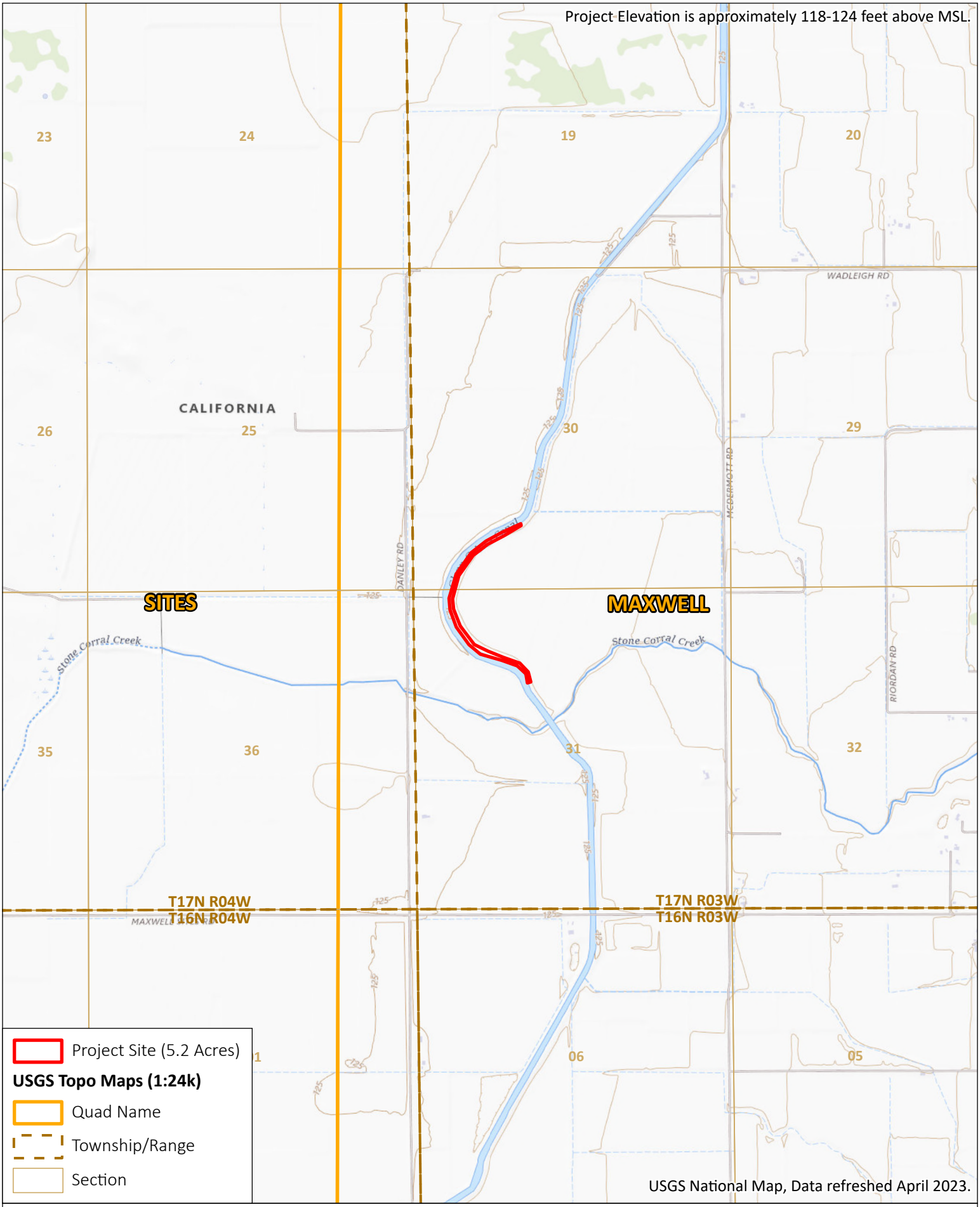

Glenn-Colusa Irrigation District

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March 6, 2024

Yocha Dehe Wintun Nation
Yvonne Perkins, THPO, Cultural Resources Chairman
P.O. Box 18
Brooks, CA, 95606

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Yvonne Perkins, THPO, Cultural Resources Chairman:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

The Glenn-Colusa Irrigation District proposes to construct and replace the Lurline check and siphon structure in the approximate existing location. The structure would be a poured-in-place concrete structure. The Project site comprises approximately 7.6 acres, comprising the structure footprint, construction staging areas, access, and a borrow pit. Construction would be located west of Delaney Road where Lurline Creek crosses Central Canal in Colusa County and situated at Canal Mile Post 49.95 according to the District map. The borrow pit, accounting for 5.2 of the 7.6 acres, would be north of the construction site along the bank of the Central Canal (T17N R03W Sections 31,32).

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Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

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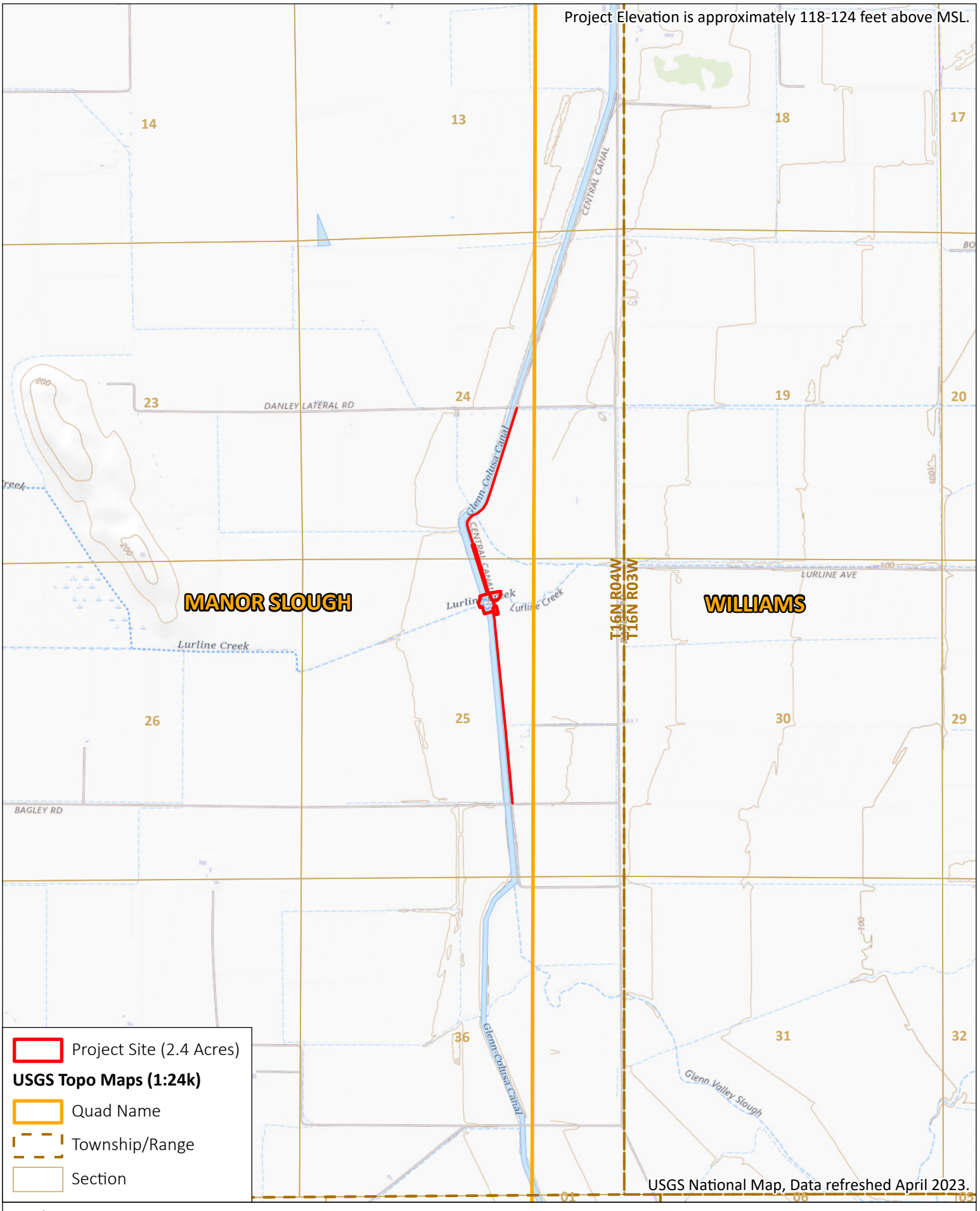

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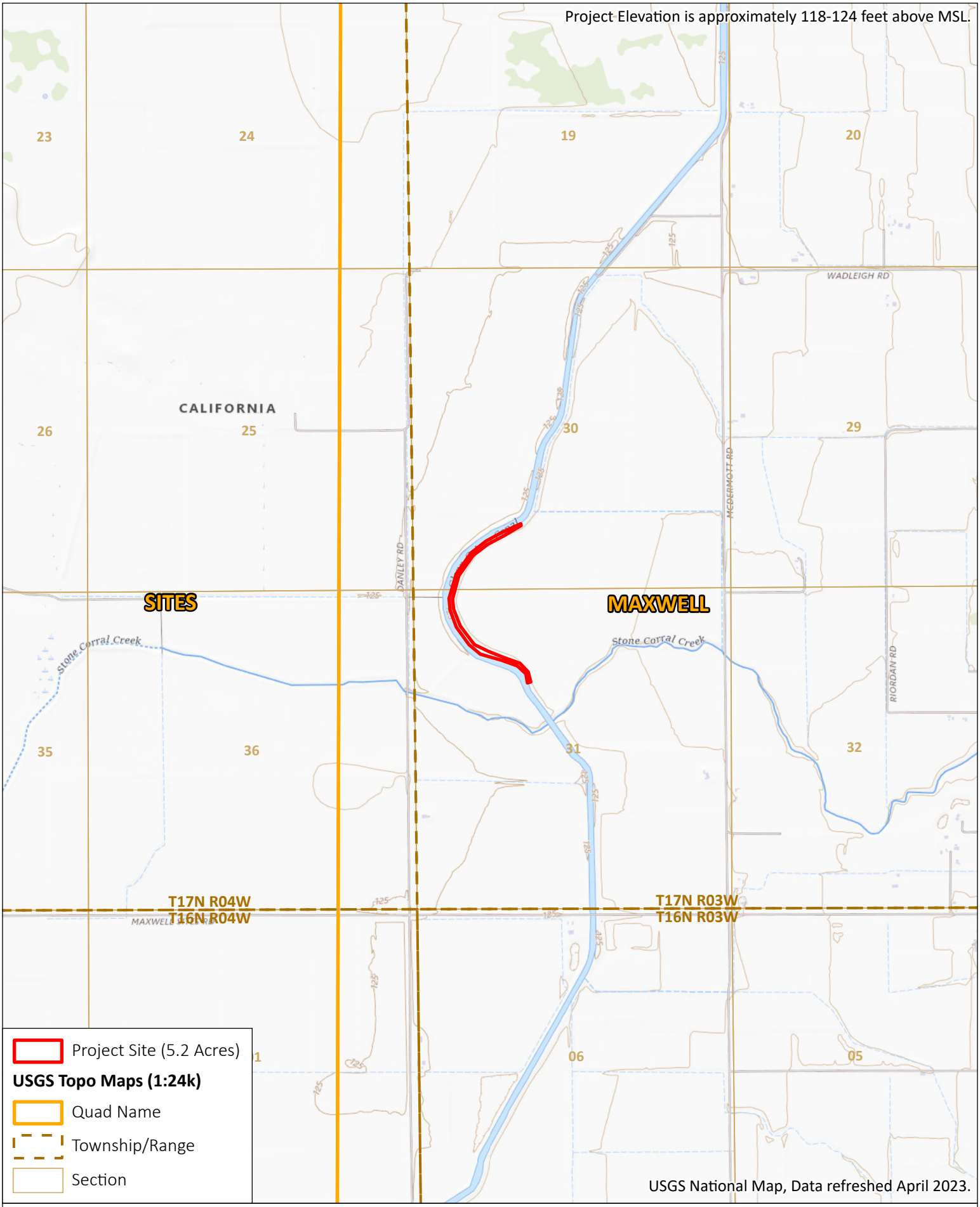

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www.provostandpritchard.com

March 6, 2024

Yocha Dehe Wintun Nation
Leland Kinter, Tribal Treasurer
P.O. Box 18
Brooks, CA, 95606

SUBJECT: Notification for Glenn-Colusa Irrigation District – Lurline Check and Replacement Structure Project in Colusa County, CA.

Dear Leland Kinter, Tribal Treasurer:

Provost and Pritchard Consulting Group is providing cultural resources services in support of the Glenn-Colusa Irrigation District Lurline Check and Replacement Structure Project.

The Glenn-Colusa Irrigation District proposes to construct and replace the Lurline check and siphon structure in the approximate existing location. The structure would be a poured-in-place concrete structure. The Project site comprises approximately 7.6 acres, comprising the structure footprint, construction staging areas, access, and a borrow pit. Construction would be located west of Delaney Road where Lurline Creek crosses Central Canal in Colusa County and situated at Canal Mile Post 49.95 according to the District map. The borrow pit, accounting for 5.2 of the 7.6 acres, would be north of the construction site along the bank of the Central Canal (T17N R03W Sections 31,32).

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Sincerely,

Kyler Dill, Assistant Planner
Encl.: Topo Maps; APE Maps

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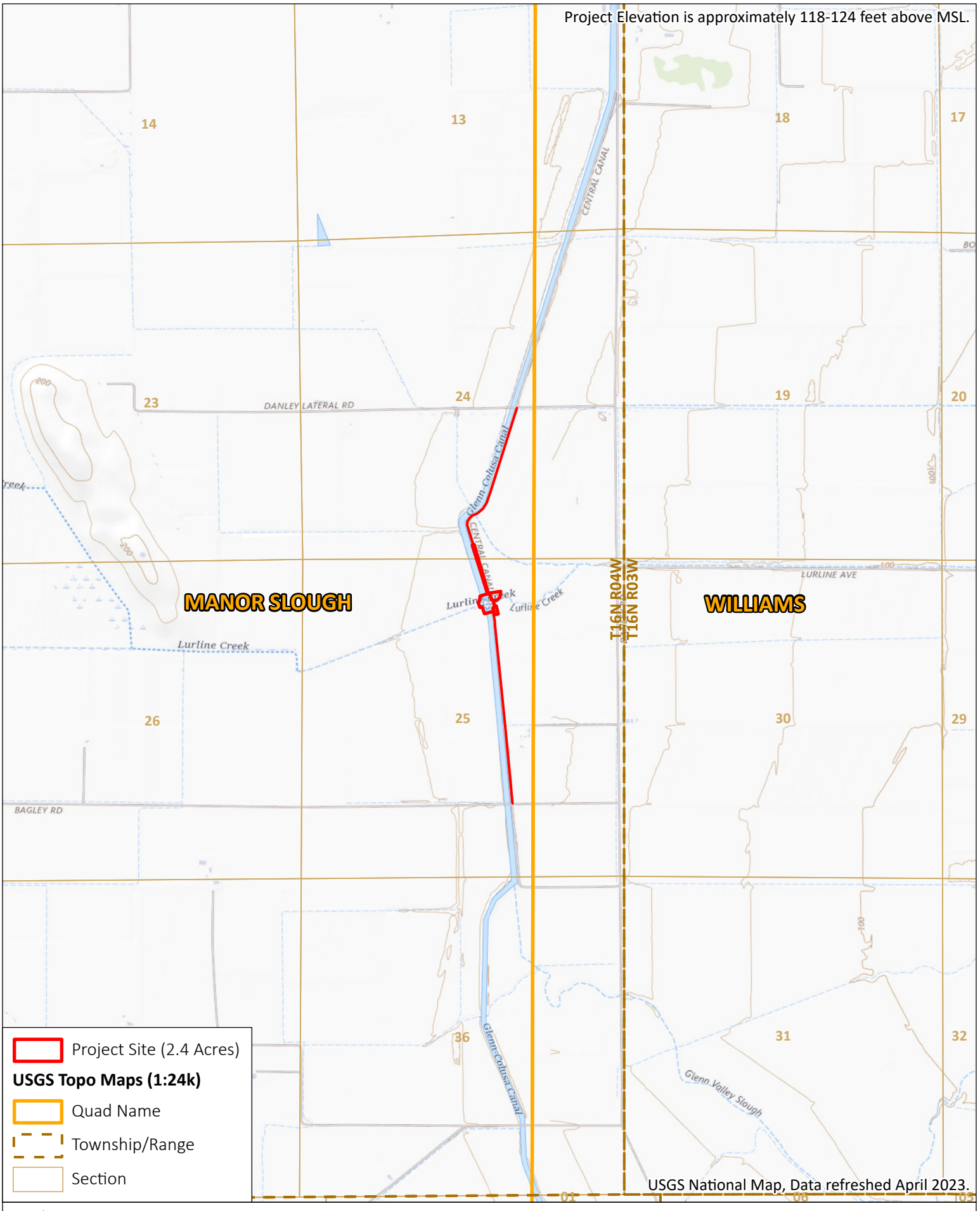

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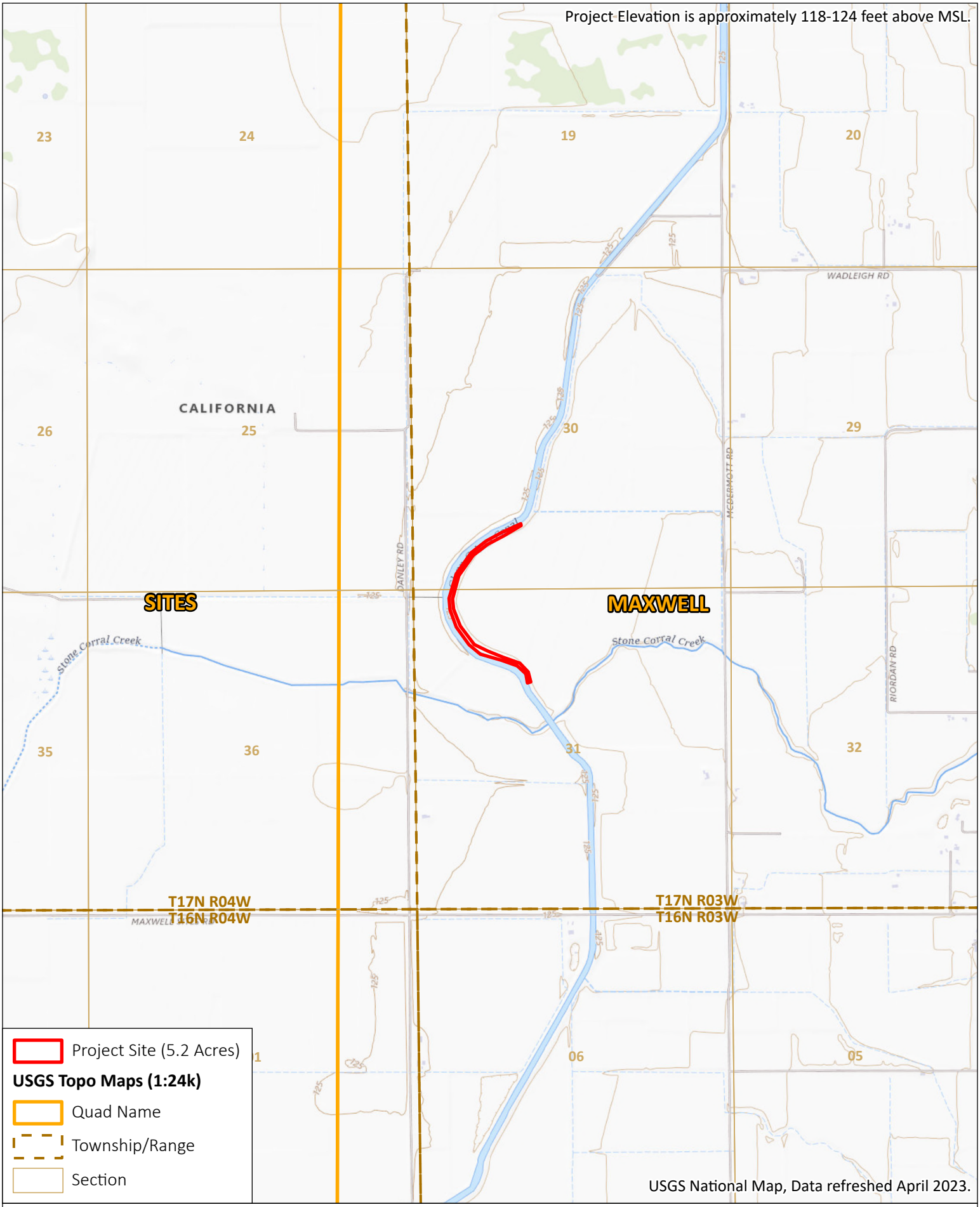

Glenn-Colusa Irrigation District

Lurline Check & Siphon Replacement

PROVOST& PRITCHARD

Attachment C: Response Letter from the Yocha Dehe Wintun Nation Tribe Dated April 12, 202

YOCHA DEHE
CULTURAL RESOURCES

April 12, 2024

Provost & Pritchard Consulting Group
Attn: Kyler Dill, Assistant Planner
3387 Bodero Lane
Chico, CA 95973

RE: Glenn-Colusa Lurline Check and Replacement Structure Project YD-03122023-02

Dear Mr. Dill:

Thank you for your project notification letter dated, March 6, 2024, regarding cultural information on or near the proposed Glenn-Colusa Lurline Check and Replacement Structure Project. We appreciate your effort to contact us and wish to respond.

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

Based on the information provided, Yocha Dehe Wintun Nation is not aware of any known cultural resources near this project site and a cultural monitor is not needed. However, we recommend cultural sensitivity training for any pre-project personnel.

To schedule cultural sensitivity training, prior to the start of the project, please contact:

CRD Administrative Staff
Yocha Dehe Wintun Nation
Office: (530) 796-3400
Email: THPO@yochadehe.gov

Please refer to identification number YD – 03122023-02 in correspondence concerning this project.

Thank you for providing us the opportunity to comment.

Sincerely,

DocuSigned by:
Yvonne Perkins
8DD0BD089ED6438...
Tribal Historic Preservation Officer